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About the Issue

Smallholder farmers suffer from inherent problems such as absence of economies of scale, access to input, technology, credit, and the market. The concern is to aggregate these smallholders and bring in economies of scale and also link them to the market. Various interventions by the government or non-government organizations have tried to aggregate smallholders. These aggregation models include cooperatives, self-help groups, commodity interest groups, farmer producer organizations, producer companies, contract farming, direct marketing, etc. Despite the promotion of these organizations, it is found that the formation of FPOs across the country is not uniform, and studies have indicated that only 25% are running successfully in a sustainable manner. There is a need to bring sustainability in the promotion and implementation of FPOs in the country.

MANAGE, in collaboration with International Society of Extension Education (INSEE), is organising "National Seminar on Comprehensive Extension Strategies for Sustainable Development of Farmer Producer Organization (FPOs): Challenges and Opportunities" during 22-24 April 2022 to address the issues and provide solutions with required policy back-up regarding factors that can contribute to sustainable development of farmer producer organizations.

The papers submitted for the seminar are being published as a special issue of the Journal of Agricultural Extension Management by MANAGE. We have received a number of papers for the seminar focusing on various themes. The present issue of the journal contains 23 papers focusing on extension strategies for mobilization of farmers, challenges faced by FPOs and opportunities for sustainability, ICT interventions for FPOs, strategies for linking FPOs to the market, management aspects, initiatives and policies related to FPOs.

I am sure that research scholars, extension professionals, FPO functionaries, academia and policy makers will find this journal issue very useful to update their knowledge and gain insights into the sustainable practices of FPOs.

(P. Chandra Shekara)

Director General, MANAGE

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CONTENT

Need a Market Facing Institutional Leadership for Growth of FPOs

Ravishankar Natarajan[1]

Abstract

High mortality and very few FPOs growing beyond the size of a small scale industry (SSI), even these are seen as an entrepreneurial success than of a farmer collective. Therefore, it is unrealistic that each of the few thousand FPOs in the country would be able to turn into business houses of some stature, with only capacity building and hand holding services by Cluster Based Business Organisations (CBBOs). Instead of every FPO going to market, the strategy proposed is to have FPOs access markets through Anchor Institutions (AI) that would be value chain specific, market-oriented and to be managed by a professional organisation. Under a Build-Operate-Train-Transfer (BOTT) model FPOs would be suppliers of quality produce, for 4 years, after the business is established, concurrently as the FPO directors are exposed to the organisation, the original promoters would transfer ownership to vendor FPOs of the state, more or less on equal basis. FPOs, just as a village milk society, would specialise in production and postharvest, while all commercial and market requirements are vested with the AI. Under the FPO policy for 10,000 FPOs by the GOI, the mandate of the CBBOs is to promote FPOs and support each of them to individually work on their business plan. The policy modification sought is to provide for the CBBOs to set up dedicated Sec 8 company as AIs to manage business strategy for specific value chains to be supported financially, under the BOTT model.

Keywords: FPO, Leadership, Anchor Institutions

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Introduction

Euphoria about Farmer Producer Organisation or Company seems to be waning rapidly, although the GOI is continuing to drive hard in creating more of these, even as most of the already established FPOs are struggling to find reasons for them to exist. NABARD, in its report (National Paper - PLP 2019-20) on issues of FPOs, has a long list such as a) lack of professional management, b) weak financials, and c) inadequate access to a range of services such as credit, market, risk mitigation, infrastructure. Essentially, it is an admission that the issues that farmers individually face are the same as their collective organisation. This assessment comes after huge efforts put in by various Resource Institutions (RI) providing capacity building services to the Directors of FPOs, in developing business plans and so on. Having said that, it is also unfair to pass judgement on such concepts before enough and all has been done to make it work; guess lots left to be done other than what has been done so far.

Learnings from Success of Cooperatives

In structuring a strategy for succeeding in building FPOs as an institution, it would be relevant to understand the operating model of co-ops in India, which has earned international acclaim for all developing countries to emulate, particularly in the dairy sector. The dairy sector under the coops, as per the recent reports (https://ncdfi.coop/about-us/), has a revenue of Rs. 4,661 Cr. in FY 2020-21, organising 172.63 lakh farmers through 1.96 lakh village milk societies. The hierarchy above the village milk societies are the district milk unions numbering 223 affiliated to 27 state level milk federations. At the national level, it is the National Cooperative Dairy Federation of India. These have evolved and come to the present state of a large business owned by farmers and managed by professionals. Some of the basic structural aspects that contributed to this level of success are noted as follows:

- Specific focus on limited value chain- Dairy and Edible Oil

- Technology applications in Production and Processing, besides mighty branding and national and international marketing
- Strong professional organisation to manage operations, setting strategic directions and Organisation systems and processes.
- Activity and responsibility at the three levels - village/district/state are clearly defined, all of them work towards a single business goal collectively

FPOs or PACs - No Different in Capabilities

It is to be noted that aggregation of farmers under an organisation is nothing new which has been happening under the co-operatives movements for many decades, and shown successful results in the dairy sector and to a large extent in credit delivery as well, however, success seems to elude FPOs.

The key difference is that the FPO is left free to decide its business domain while the co-ops are dedicated to a specific line of business such as milk, oil seed, credit and so on. This is a huge entrepreneurial challenge on the FPOs which is nothing but a group of farmers who have come together on the lure of incentives and drive from the Resource Institutions hired to form and support them. As a result, FPOs have often fancied playing trader kind of roles which is the next link in their transaction chain, setting up input distribution activity, grain aggregation and so on. Very few of them are venturing into value added products such as Atta and so on, visualising their packs as building brands little realising what it takes to fight the might of the large players. As a result, even those functioning do so in isolation without building scale necessary to be sustainable in the long run, therefore FPOs are not effectively building strength and solving the problems of the farmers.

FPO Management Bandwidth

Primary Co-op Societies handle responsibilities of production and related aspects, and all the rest is handled by the apex body building scale in operation. While for an FPO, it is required to manage the business in its

entirety from the supply chain, markets, finance and so on, the challenges have been the single most hurdle in making progress for the FPOs. Capacity building class room exercises cannot alone deliver the intended outcome of FPOs, as has been seen from the experience so far. Contents have also laid emphasis on regulatory and compliances for a company, which are usually outsourced in any company, where the owners are guided by the professional service providers. It is not unusual for businessmen to be poorly informed on the regulatory requirements, which is not an area of core competence needed to manage business other than the laws applicable for the business such as licences, etc.

Therefore, the expectation that each of the few thousand FPOs in the country would be able to identify a business domain, set strategic goals, develop plans and implement to success and generate growth is grossly unrealistic, as has been the experience. The absence of an equivalent of a state-level apex body like in the co-op sector to guide the FPOs is considered as one of the key reasons for the poor performance of the FPOs as an institution.

FPOs, Rural Entrepreneurship or Farmer Institutions Programme

A study entitled "FPO - Past, Present and Future" by Azim Premji University in March 2020, has observed that "Producer companies are dependent on promoters for identifying and evaluating business opportunities, raising capital, conceptualising and operationalising the business, compliance, basic management skills, and governance. In most FPCs we visited, there was no dedicated or professionally-trained CEO: In some cases, the board was acting as the de-facto management of the company, while in other cases, the NGO played this role. Thus, the success of the PCs depended on the business competence of their promoters and board members.

Yet, many promoters establish PCs without first conducting a sound analysis of the business opportunities and risks in the local context. They tend to underestimate the operational complexity and the cost of running a viable business and experiment with different approaches and strategies. One

promoter admitted this challenge: "This is a business, not a charity but most of our staff are not from the business side." As a result, they are unable to fully grasp the implications for operational and capital requirements, and often fail to institute strong compliance and governance processes. One promoter acknowledged that the high turnover companies are usually the ones which are self-promoted."

The observations in this report validate the reality that a handful number of FPOs that have grown beyond SSI kind of scale are attributable to the entrepreneurial success of individual entrepreneurship. For FPOs to emerge as an institution as strong as the dairy coops needs a development framework different from the present approach adopted by the GOI, an approach that mimics the way the co-ops movement succeeded in the dairy sector. Any business organisation begins with a sound business idea, evolved into a plan, backed by strong execution capabilities and which in combination makes it a bankable project to raise necessary funding. As seen from the performance of the FPOs over many years and as evidenced by the responses of farmers in the study cited above, it is clear that individual FPOs cannot deliver the scale necessary to make a significant impact in long term.

An Institutional Leadership Framework

The strategy would be value chain specific market oriented and to be managed by an Anchor Institution (AI) in alliance with FPOs as suppliers of quality produce, as per the standards and terms mutually agreed with the AI, ownership of AI to be transferred to the FPOs under a model incorporating training needed alongside the development of the business. FPOs are best left to specialise in production and post harvest, their areas of expertise, while all their commercial and market requirements are vested the AI and managed by a team of independent professional organisations responsible to deliver on a business plan for the domain defined.

Build-Operate-Train-Transfer Model

The thrust and difference in this model of FPO development are a) FPOs risks of markets and performance are collectively managed by AI, b) Equal opportunity for all FPOs to participate and benefit in the growth opportunity, c) Training is focussed and experiential, with application in actual business, and many others.

Build	• Choice of Value Chain • Develop a 4-5 year business plan for the identified domain • Establish a professional organization & management process including financial authorities
Operate	• Run the operations, establish commercial infrastructures and trade relationships • FPOs participate as aggregators and/ or as vendors • Encourage FPOs to meeting standards of inclusion & fair trade, support small farmer participation in FPOs • Scale volumes of operations to create competitive strength
Train	• Based on a rating system, identify FPOs and its directors with potential to be trained • Year 3-4- invite FPOs directors for Management Committee(s) deliberations • FPO Directors to be rotated among different functions, supported with relevant concept exposure
Transfer	• End of Year 4-5- Transfer of ownership to FPOs under a scheme of allotment • Shareholder agreement to guide relationship and ownership to be part of T & C • Management to continue to have autonomy in operations and Board to provide strategic guidance/ oversight

BOTT Model provides for delayed induction of the final beneficial owners into the company for the purpose of allowing the management to focus in the initial years on building the business, stabilise processes and systems

until a stage the business model is robust enough to expose the FPC directors, also facilitating experiential learning by the FPC directors.

Among various options of legal entities, AI is best registered under Section 8 of Companies Act 2013, as a Non-Profit Organization (NPO), which can avail benefits from State and Central Government schemes, besides and also the ease of transfer of company shares without any valuation gains by end of year 4 or 5 as the case may be.

Anchor Institution Concept under GOI FPO Policy

Under the policy for promotion of 10,000 FPOs by the GOI, implementing agencies engage several Cluster-based Business Organisations, earlier known as Resource Institutions, which are essentially NGOs or Consulting Firms. Their mandate is to promote FPOs and thereafter support each of them to individually work on their business plan, help manage all the challenges of the business for every single FPO. In preceding sections, the need for a federated approach under an anchor has been explained; the policy could provide for the CBBOs through a selection process in which the most deserving business strategy for specific value chains in 5-10 states are taken up and supported financially, under the BOTT model. Selected CBBOs would serve as the promoters of the AI, going through the BOTT stages.

In addition to this, in every state, there are several agribusiness professionals who could either be retired or those wanting to contribute to the common effort of supporting farmer organisations. Such groups of individuals could also be encouraged to participate and submit their proposals for evaluation, who could be the promoters.

Evaluation of proposals could be based on the projections of growth and absolute sales revenue, detailing of the implementation strategy, track record of the promotors in the domain, incremental earning conveyable to the participating farmers and FPOs.

Some of the State Governments have recognised the need for an AI for FPOs, rather than supporting individual efforts at building their business. MAGNET, a horticulture development project funded by ADB and implemented by MSAMB has a component of Anchor FPOs. The Government of Karnataka is in its consultative stage of developing an implementation road map for anchor institutions or anchor FPOs at district and state levels. The Government of Tamil Nadu plans to set up 50 retail shops in 5 major cities of the state, which will be stocking products of various FPOs. While the structure of the operation is still not clear; it would be a loose federation of mutual cooperation it appears.

Funding Needs

The funding needs of each of the proposals will vary with the business model and the value chain chosen. However, it can be expected that any business will need some time to generate revenues and growth, hence the business can be expected to suffer cash losses in the first two or three years depending on the business. Often it is the ability of the business to keep itself afloat through this phase which determines if it can succeed or not. This support to keep the business going would be a funding need, essentially economic viability gap funding (EVGF). Besides this, AI would also need to be funded for the requirement of initial corpus and working capital. Timely capital infusion as per the requirements of the business is critical for the success of implementation. Performance conditionalities and oversight by Government nominees on the performance of the AI could form part of the T & C of the promoters to comply with, besides the statutory audits.

Benefits of Anchor Institution and BOTT

There are multiple benefits arising from this, most important being the funds deployed result in the creation of a midsize business run by a professional organisation that can emerge bigger over a period of time. Creating capacity by way of training has only a limited impact, as the recipients of training

are often unable to convert into building business institutions, whereas, under BOTT, training along with the growth of business in terms of the resource needs are provided for. This brings in a high probability of success and sustainability. Multiplier of the funds invested in an AI makes a compelling case for the concept and model.

Widespread and equal opportunity to participate for all aspiring and target FPOs in each of the value chains managed by an AI, besides as the AI would align its business plans with the demands of the market making it possible for the FPOs and its catchment area farmers to align their production and quality with the market needs. A significant benefit would be that AI being a neutral agency managed by a professional team would support every FPO which responds to the needs of the business; hence efforts put in would be rewarded equally for every participating FPO.

AI would support inclusive participation of small farmers in the ownership and management of the FPOs, as also the AI itself which would in its final stage be owned more or less equally by the vendor FPOs. Directorship policy of the AI would be covered under the shareholder agreement to promote a healthy rotation of the directors, and also the chairmanship, which would seek to be a responsibility and service to the community rather than as a coveted position accompanied with perks. The AI board would stay apolitical and business-oriented.

Conclusion

Private capital comes in plenty into agritech startups, evidenced by their proliferation, most eloquent on improving the lives of farmers through better productivity and produce prices, however, in reality, are by and large techie middlemen looking to benefit from sourcing from the farmers at best rates for them, and farmers would remain a supplier for ever. The AI under BOTT model is a startup incubated on behalf of the farmers, being a not a profit entity, would not attract private capital, hence needs the support of public funding.

An equivalent of AMUL in the dairy sector is the need for non-dairy farmers, to help them realise the worth of their produce and not be left to the mercy of the markets. Government policy on FPO development lays entire emphasis on production centre based micro-enterprises, in addition, building macro enterprises to support the micro institutions to emerge as a strong competitive force is essential.

Farmer Producer Organization: A Potent Tool for Paradigm Shift in the Farm Sector

Shiwani Bhadwal[1] , Rajesh Kumar Thakur[2] and Virender Kumar[3]

Abstract

Since independence, Indian agriculture has progressed from chronic food scarcity to self-sufficiency. With an average holding size of 1.08 ha, approximately 86 per cent of farmers fall into small and marginal categories. Small and marginal farmers are uncompetitive in terms of getting the best value for their produce due to their fragmented holdings and disorganization. To overcome these constraints and make small holding farming a viable option, farmers need to integrate as farmer collectives. Farmer Producer Organizations (FPOs) are one of the most important institutional innovations for empowering alleviating poverty, and advancing farmers. The primary goal of FPOs is to provide farmers with a sustainable business sense and better market access. However, in order to realize their full potential, FPOs must be encouraged by policymakers and other stakeholders, as well as scaled up across the country to benefit smallholders. In addition, government and extension organizations can focus their efforts on capacity building to ensure proper operation and success of FPOs. To make available market and price data to FPOs, they must be linked with input companies, technical service providers, marketing/processing companies, etc. Besides, India's emerging market and policy concerns offer potential aggregation benefits that accrue from production to any other activity feeding into the value chain. As a result, FPO is unquestionably a powerful institutional tool for a paradigm shift in the farm sector.

Keywords: Farmer Producer Organizations, FPOs

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Introduction

Indian agriculture has come a long way since independence, from overcoming chronic food scarcity to achieving self-sufficiency in food grain production. Currently, agriculture employs 45 per cent of the workforce (MoSPI 2018-2019), while its share in the Gross Domestic Product (GDP) is 19.9 per cent in 2020-21, at constant (2011-12) prices (Economic Survey 2020-21). Around 86.21 per cent of farmers fall under small and marginal categories with an average land-holding size of 1.08 ha (Agriculture Census 2015-16). The fragmented holdings and disorganization of small and marginal farmers render them uncompetitive in getting the best value of their produce. The lower scale of operations, poor access to cheaper credit, inadequate access to market information, inadequate farming and extension services, low level of technology adoption, lack of capital and poor business skills, inadequate storage and transport facilities are the key concerns related to small farm holders (Dev 2005, NABARD 2018).

The future of the Indian farmer depends on rejuvenating the entire process of the agriculture production cycle along with upgrading the quality of products while maintaining cost competitiveness. A variety of approaches have emerged over the years to address this issue. The very first approach was agricultural cooperatives under the Co-operative Credit Societies Act, 1904, further modified as the 1912 Cooperative Societies Act, facilitating the formation of cooperative societies other than credit. With several modifications over the years, the Multi-State Cooperative Societies Act 2002 came, which was extended to the whole of India. However, the experience with cooperatives points to many limitations, amid few successful exceptions in the field of dairy farming. Lack of financial resources, inefficient management, untimely payments to farmers, inadequate credit facilities, the predominance of vested interests, undue government interference are some reasons for the poor performance of cooperatives in the country (Singh 2016).

Origin

With economic liberalization, policymakers and cooperative sector leaders started to rethink how to reorganize producer organizations, to make them more market-oriented and infuse professionalism in them. Hence, the Indian Companies Act, 1956, was amended in 2002-03 on the recommendations of Y.K. Alagh Committee with a provision for setting up Farmer Producer Companies, primarily to address the challenges faced by the small and marginal farmers, paving a way for the integration of farming with business.

The Department of Agriculture and Cooperation (DAC), launched a pilot programme for promoting member-based Farmer Producer Organizations (FPOs) during 2011-12, in partnership with state governments. The result was such that more than 3.00 lakh farmers were mobilized into village-level Farmer Interest Groups (FIGs), which were further federated into registered FPOs. Further policy guidelines for Farmer Producer Organizations were laid out in 2013 to encourage the formation of FPOs. It put forward the role of the center and state government in promoting FPOs and declared FPOs equivalent to co-operatives. A Producer Organization (PO) is a legal entity formed by primary producers, viz. farmers, milk producers, fishermen, weavers, rural artisans, craftsmen. The Farmer Producer Organization (FPO) is one type of PO where the members are farmers (NABARD 2015). In India, FPOs can be registered under the Cooperative Society Act 1904, Indian Companies Act 1956, or the Indian Trust Act 1882.

Institutional support

Various central government institutions such as the Small Farmers Agribusiness Consortium (SFAC), National Cooperative Development Corporation (NCDC), and National Bank for Agriculture and Rural Development (NABARD), etc. are providing institutional support to FPOs. Along with this various state governments, domestic and world aid agencies, corporate sector and NGOs are also providing financial or technical support to Resource Institutions (RIs) for promotion and hand-

holding of an FPO. Resource Institutions (RIs) are those which provide various inputs of training and capacity-building to FPOs. SFAC is the nodal agency for the identification of RIs. RIs can directly approach SFAC to submit a project proposal to take up FPO promotion. Over the time, SFAC and NABARD have facilitated training to the Board of Directors (BoDs), Chief Executive Officers (CEOs) of FPOs to enable them to function effectively. The Indian Council of Agricultural Research (ICAR) is also providing technical support to FPOs through the Krishi Vigyan Kendra in the form of capacity development of its members. Besides, FPOs can also avail assistance under various schemes of the Government of India such as Agricultural Marketing Infrastructure (AMI), Venture Capital Assistance (VCA), and Mission for Integrated Development of Horticulture (MIDH) scheme for promoting their agri-business activities.

The Government of India, in the Union Budget (2013-14), announced two major initiatives to support FPOs: Equity Grant Fund Scheme, to support FPOs by providing an amount equivalent to the equity contribution done by the member FPOs, and Credit Guarantee Fund Scheme to provide a credit guarantee cover to eligible lending institutions to enable them to provide collateral-free lending to FPOs. In 2018-19, The Government of India launched "Operation Greens" for onion, potato, and tomato crops with an allocation of Rs. 500 crore to address price fluctuation in vegetables for the benefit of farmers and consumers by promoting FPOs and creating agri-logistics, processing facilities, and professional management systems. In addition, 100 per cent tax exemption was granted for FPOs with an annual turnover of up to Rs. 100 crore for 5 years. In 2019-20, GOI announced a Central Sector Scheme for the promotion and nurturing of 10,000 FPOs across the country.

Present Status

As far as the current status of FPOs is concerned, 7157 FPOs have, so far, been promoted by various agencies like SFAC, NABARD, State Government departments, etc. in the country and a majority of them are farmer producer

companies. Out of these, NABARD has promoted around 2066 FPOs under its various initiatives and the total number of targeted farmers is 9,50,118 followed by SFAC (898 FPOs).

No doubt the outreach of the initiatives towards the promotion of FPOs has been taken up in almost all the States. But the Western region has performed exceptionally well in the promotion of FPOs. This is attributed to state government patronage, particularly in Maharashtra through the World Bank aided Maharashtra Agricultural Competitiveness Project (MACP) along with the largest self and NGO promoted FPOs in Gujarat. As per the report of the Ministry of Agriculture, Govt. of India, there are around 146 million operational holdings in the country (2015-16), out of which 86.21% of land holdings relate to small and marginal farmers (SF/MF). Considering average membership of around 2500 per matured FPO including the scope for future expansion in the membership, there exists a scope of promoting around 50,000 FPOs in the country (National paper-PLP 2021-22).

Structure of FPOs

The structure and organization of FPOs vary from country to country depending upon the legal and policy framework of the country. The range of members of an FPO varies from 100 to over 1000 farmers. Farmer-members cohesively located, with almost the same interest, are to be mobilized to form a group of 15-20 members, calling the group a Farmer Interest Group (FIG). Such 20 or more groups from a produce cluster area or cluster of neighbouring villages are put together to form an FPO. The FPOs can federate at the district level as well as state level based on their needs of processing, branding, and marketing of produce/trading of commodities. They can even federate at the national level to promote packaging/branding and domestic/international trading of quality produce. The performance and viability of POs depend upon the group attributes, governance structure, network with external agencies, access to capital and technology, member producers' contribution in business, and

financing decisions (Bernard and Spielman 2009; Markelova et al 2009; Dey 2018).

Functional Domain of FPOs

FPOs offer a variety of services to their members, covering almost all the aspects of cultivation, providing economies of scale by collective purchase and sale (Markelova et al. 2009; Venkattakumar and Sontakki 2012; Singh and Singh 2013; Herck 2014; Venkattakumar et al. 2017). They provide linkages between farmers, processors, traders, and retailers to coordinate supply and demand, thus acting as an interface between small farmers and the external world (Trebbin and Markus 2012). FPOs also help members to access key business development services like market information, collective procurement of inputs which helps members in getting quality inputs and information at a lower price with better bargaining and negotiation (Murray 2008; Abokyi 2013; Herck 2014; NABARD 2015; Venkattakumar et al. 2017), enhance producers' share in consumers' rupee (Venkattakumar and Sontakki 2012; Trebbin 2014). As the risk is spread over all members, there is decrease in risk in marketing also. FPOs provide social cohesion, trust and partnership among members and develop conflict resolution skills (Markelova et al. 2009; Wilson 2009; Markelova et al.2009). FPOs help in farmers' welfare (Bernard and Spielman 2009; Fischer and Qaim 2012) and economic development of the country (World Bank 2008). Such collectives empower small and marginal farmers economically and socially (Murray 2008; Venkattakumar et al. 2017). FPOs help members in availing technological and educational services like certification of groups, organizational skills, and training, information sharing (Bose et al. 2001; Trebbin and Markus 2012; Latynskiy and Thomas 2016).

FPOs also contribute to rural advisory services viz. enhancing the capacity of human resources, linking farmers with other stakeholders, providing forums for communication, demand articulation, service provision, and financing (Puantani 2014; GFRAS 2015). FPOs enable cost-effective delivery of extension services to the members (Salifu et al. 2010). Along with the

policy and advocacy function of FPO, they can be an effective medium for articulating farmers' demand and representing before the government, thus acting as pressure groups by empowering its members to influence policies affecting their livelihoods (Salifu et al. 2010). Bose et al. (2001) discussed five different functions of FPOs viz. economic, cultural, representation, information sharing and coordination. Abokyi (2013) found that the most common collective activities of FPOs included production, processing, marketing, procurement of inputs, and community development. Thus, FPOs along with providing farm level and post-harvest benefits, help in the development of entrepreneurial culture, environmental benefits that help in the welfare of farmers and economic development of the country.

Success Stories

There are several examples of the success of FPOs in different parts of India. Starting with Devbhumi Natural Products Producer Company Limited (DNPCCL), which is operational in 6 districts of Uttrakhand presents a great example of successful women-owned FPOs in India. DNPPCL's pioneering efforts to develop infrastructure in its operating areas enabled the primary producers to actively move up the value chain and also enabled the company to post a turnover of Rs. 1.7 million in 2011-12. The company has created a strong marketing network across the country and has brought rural produce from the remote hill regions to the mainstream market.

Bhangar Vegetable Producer Company Ltd. (2012) located in West Bengal has 1751 members. All the FIG members pooled their land for the production of vegetables which led to economies of scale and enabled the FIG to opt for high-tech farming methodology. A direct tie-up has been made with the Indian Farmers' Fertiliser Cooperative Ltd (IFFCO) for the procurement of fertilizers. The company has also established links with Mother Dairy for the direct supply of vegetables to their outlets and is supplying vegetables to seven corporation markets and three wholesale markets. This highlights the impact of institutional support that has been instrumental in the success of this FPO.

Comparative Economic Analysis of FPO Member-Farmers and Non-member Farmers

A study entitled Comparative economic analysis of tapioca production through FPO member farmer versus non-member farmer in Karur district of Tamil Nadu (Kavibharati et al. 2020) showed the following results.

S.No.	Particulars	Member Farmer	Non-Member Farmer
1.	Cost of cultivation per hectare	Rs. 46708.58	Rs. 49323.14
2.	Gross returns per hectare	Rs. 105000	Rs. 90432.07
3.	Net returns per hectare	Rs. 58291.42	Rs.41108.93
4.	B:C ratio	1.20	1.04

Another study entitled, "Institutional innovation in the marketing of fruits: A case of FPO of fig in Raichur District of Karnataka" (Hiremath et al. 2020) revealed that the members saved maintenance costs up to 7.73 per cent over non-members due to the reduction in input cost. The improved production technology and better technical know-how of the member farmers helped in the better realization of yield up to 27.66 per cent over non-members.

Devesh Roy and his co-authors at the International Food Policy Research Institute (IFPRI) undertook a comparative study of FPOs in Maharashtra and Bihar. The study revealed that 98 per cent of the respondents for organically evolved FPOs observed an increase in gross income while only 2 per cent indicated a decline in the same. For promoted FPOs, 64 per cent reported an increase in gross income while 27 per cent reported no change in income. On the contrary, only 32 per cent of the non-members indicated an increase in gross income. These results showed that FPOs are doing better than non-FPO farmers and within FPOs, organically evolved FPOs are more beneficial than promoted FPOs. Therefore, FPOs are an effective institutional mechanism to help farmers in availing the benefits of their produce.

Lessons Learnt and Way Forward

Experience shows a mixed performance of FPOs in the last decade. Lack of awareness among the farmers about the potential benefits of collectivization and non-availability of a competent agency for providing support, leads to lesser mobilization of farmers into FPOs. Banks are not accustomed to dealing with entities like FPOs and are unsure of their credit worthiness. FPOs are formed and run by farmers only; having very little managerial skills and limited exposure to entrepreneurship makes them unable to create robust business plans to impress farmers. The financial support to FPOs by the government and NABARD under various schemes is provided for only the first three years. However, to grow and stabilize, FPOs need support for at least five to seven years. The credit guarantee cover offered by SFAC for providing collateral-free loans is available only to the Producer Companies having a minimum of 500 shareholder membership. Hence, the FPOs registered under other legal forms and those with a lesser number of shareholder membership, are excluded from the SFAC scheme.

State Governments can use FPOs for implementing various programmes undertaken by them. These also should be supported in evolving as nodal agencies for procurement, pooling of produce, the transmission of technology, input supply, and credit to leverage better prices. So to make FPOs effective, their tie-ups with KVKs/SAUs/NGOs etc. for training, capacity building is necessary. Along with this, continued policy support for the promotion and sustainability of FPOs is also required. The Financial Institutions and implementing agencies should extend their support to FPOs at least for a period of five to seven years. Innovative ways of providing working capital to FPOs are urgently required. The highly successful collateral-free, Self-Help Group-bank linkage program needs to be adapted for FPOs. Improving market linkages/supply chain intervention through the creation of a single-window platform can help provide information about backward & forward market linkages. The need of the hour is to provide adequate policy and institutional support to FPOs to make them productive and economically self-supporting for the sustainable livelihood of farmers.

Conclusion

To conclude, FPO seems to be a key institutional mechanism to organize small and marginal farmers. To compete with large corporate enterprises in bargaining, a systemized organization like FPO is the requisite. FPOs have helped the farmers already in the past and are surely a potent tool for exploiting the prospects of emerging market opportunities in the near future. But to achieve the full potential of FPOs they need to be encouraged by policymakers and other stakeholders apart from scaling up throughout the country to benefit particularly the smallholders. This demands good leadership at the FPO level also. Along with enabling policy environment, government and extension organizations can direct their efforts in strengthening leadership qualities for the proper functioning and success of FPOs.

Also, FPOs lack professional management therefore they do need capacity building. FPOs need to be linked with input companies, technical service providers, marketing/processing companies, retailers, etc. as they need a lot of data on markets and prices. The point is that FPOs should not be a mere grouping of individuals. Notwithstanding several constraints, the emerging market and policy concerns in India present prospective aggregation benefits that accrue right from production to any other activity feeding into the value chain. Therefore, FPO unequivocally is a potent institutional tool for a paradigm shift in the farm sector.

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Farmer Producer Organization - Boon for Farming Community

A. H. Lade[1], R. D. Ahire[2] and A.S. Lad[3]

Abstract

Individual smallholders in developing countries face a number of constraints in marketing their products because of high transaction costs in the market chain, due to the gap between income and consumption. They are also unable to invest in efficiency-increasing and value-adding technologies, limiting their opportunities to increase their scale of production and effectively market their products. They also lack bargaining power. A variety of approaches have been tried, for collectivizing farmers. This paper focuses on Farmer Producer Organizations (FPOs), the objectives, structure, activities, challenges, support from the Government and presents some success stories. FPOs represent the interest of their members and have the potential to articulate their needs. However they need support to develop their capacity to serve farmers better say the authors.

Keywords: Farmer Producer Organization, Challenges

Introduction

Agriculture is the backbone of the Indian economy and about two-thirds of the people are dependent on agriculture as a source of livelihood. The sector contributes to 13.7 per cent of the GDP and provides employment to 58 per cent of the population of our country. In the present context of rapid changes, in India, the agriculture sector is facing several challenges like declining per capita agriculture land availability (due to increased fragmentation of landholdings), decline in natural resources, increased demand of land for

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non-agriculture use due to urbanization and industrialization, disinterest of youth towards agriculture etc.

In India a larger group of cultivars (85%) are small and marginal farmers. The average size of holdings has declined to 1.16 hectares from 2.28 hectares. The small holding character of Indian agriculture is much more prominent today than ever before. However, the increasing number of agricultural suicides among small and marginal farmers (National Crime Records Bureau, 2011) is the indication that these farmers are struggling to survive. While indebtedness is often cited as the immediate reason for distress, deeper issues are related to vulnerability to risks in agricultural production. Small and marginal farmers contribute significantly to the total value of crop output. The Situation Assessment Survey of Farmers (National Sample Survey 59th round) data showed that marginal farmers account for 29 per cent and small farmers account for 22 per cent of the total output. Small farms are characterized by low capital input and high labour and other inputs, with a higher index of cropping intensity and diversification.

Individual smallholders in developing countries, however, face numerous constraints in marketing their products because of high transaction costs in the market chain due to the gap between income and consumption. They are also unable to invest in efficiency-increasing and value-adding technologies, limiting their opportunities to increase their scale of production and effectively market their products. Furthermore, because of information asymmetry, farmers lack bargaining power as a result of which there is unequal distribution of value-addition among actors in the market chain, particularly in the case of those producing seasonal and highly perishable agricultural products.

A variety of approaches, including cooperatives, have been tried for collectivizing farmers. Despite the previous experience of the performance of traditional cooperatives in India, there was still a need to give more freedom to cooperatives to operate as business entities in a competitive market. This in turn led to the formation of Farmer Producer Companies

with the amendment of Section 581 of the Companies Act 1956 on the recommendations of Y. K. Alagh Committee. The Companies (Amendment) Act 2002 came into effect from February 2003 onwards. According to Reference section 465 (1) of the Companies Act 2013, farmers register their farmer producer company. The basic purpose envisioned for the FPOs is to collectivize small farmers for backward linkage for inputs like seeds, fertilizers, credit, insurance, knowledge and extension service and forward linkages such as collective marketing, processing, and market-led agricultural production (Mondal, 2010). On July 5, 2019, the centre announced a plan to promote 10,000 new farmer producer companies with a total budgetary provision of Rs. 4,496.00 Cr. for 2019-2024.

Objectives of FPOs

1. Production, harvesting, procurement, grading, pooling, handling, marketing, selling, export of primary produce of members or import of goods or services for their benefit.

2. Processing (preserving, drying, distilling, brewing, venting, canning) and packaging of produce of the members.

3. Rendering technical and consultancy services, training, education, research and development and all other activities for the promotion of the interests of the members.

4. Generation, transmission and distribution of power, revitalization of land and water resources, their uses, conservation.

5. Manufacture, sale or supply of machinery, equipment or consumables to the members.

6. Promoting mutual assistance, welfare measures, financial services, insurance of producers or their primary produce.

What is a Producer's Organization?

A producer organization is a legal entity formed by primary producers, viz., farmers, milk producers, fishermen, weavers, rural artisans and craftsmen.

What is FPO?

It is one of the types of producer organizations where the members are farmers. Small Farmers Agribusiness Consortium (SFAC) is providing support for the promotion of the FPOs.

Registration of an FPO

A producer company is basically a corporate body registered as a producer company under the Company Act, 1956 (as amended in 2002). Now the Company Act, 2013 is the most appropriate institutional form of aggregation of farmers. These companies were designed to bring together desirable aspects of the cooperative and corporate sectors for the benefit of primary producers, especially small and marginal farmers (Alagh, 2019).

Structure of a Farmer Producer Company

- Minimum directors - 5 and maximum directors - 15
- Minimum members required- 10
- Minimum paid-up capital of the company should be Rs. 10,000/-
- The registered office has to be situated in India
- Election- within 90 days of registration for the period of 1 to 5 years.
- At the end of the name of the FPO, Producer Company Limited to be added.
- At least one meeting should be held in a year

(Source: Paty, B.K. and K.C. Gummagolmath, 2018)

Table 1. Differences between Farmer Producer Company and Co-operative Society

Farmer Producer Company	Co-operative Society
Formed under Companies Act, 1956 and governed by Company Laws	Formed under State Co-operative Act and governed by Co-operative Laws
Area of Operation covers the entire nation and also foreign trade is possible	Area is restricted to a particular state or few states
No Veto Power to the Government in case of voting	Government and Registrar have Veto power in case of voting

(Source: Ullane, 2020)

Table 2. State-wise distribution of FPOs

S. No.	State/Union Territory	Number	Share of total PCs
1	Maharashtra	1940	26
2	Uttar Pradesh	750	10
3	Tamil Nadu	528	7
4	Madhya Pradesh	458	6
5	Telangana	420	6
6	Rajasthan	373	5
7	Karnataka	367	5
8	Odisha	363	5
9	Haryana	300	4
10	West Bengal	274	4
11	Andhra Pradesh	238	3
12	Kerala	215	3
13	Gujarat	183	2
14	Jharkhand	133	2
15	Chhattisgarh	114	2

16	Assam	112	2
17	Delhi	57	1
18	Punjab	56	1
19	Uttarakhand	37	1
20	Manipur	30	<1
21	Himachal Pradesh	22	<1
22	All other	101	1
	Total	**7374**	**100**

(Govil et. al., 2020)

Table 3. Number of registered FPOs in Maharashtra

S. No.	Name of the Division	Name of District	No. of FPOs
1	Nagpur	Bhandara	22
		Chandrapur	23
		Gadchiroli	9
		Gondia	22
		Nagpur	39
		Wardha	47
		Total	**162**
2	Amravati	Amravati	73
		Akola	32
		Buldhana	51
		Washim	28
		Yevatmal	51
		Total	**235**
3	Aurangabad	Aurangabad	80
		Beed	62
		Hingoli	26

		Jalna	45
		Latur	102
		Nanded	30
		Osmanabad	78
		Parbhani	21
		Total	**444**
4	Nashik	Ahmednagar	116
		Dhule	28
		Jalgaon	46
		Nandurbar	14
		Nashik	111
		Total	**315**
5	Pune	Kolhapur	46
		Pune	154
		Sangli	45
		Satara	37
		Solapur	57
		Total	**339**
6	Konkan	Mumbai suburban + Mumbai city	20
		Palghar	5
		Sindhudurg	16
		Thane	29
		Raigad	16
		Ratnagiri	15
		Total	101
	Grand Total		**1596**

(Source: SFAC, 2018)

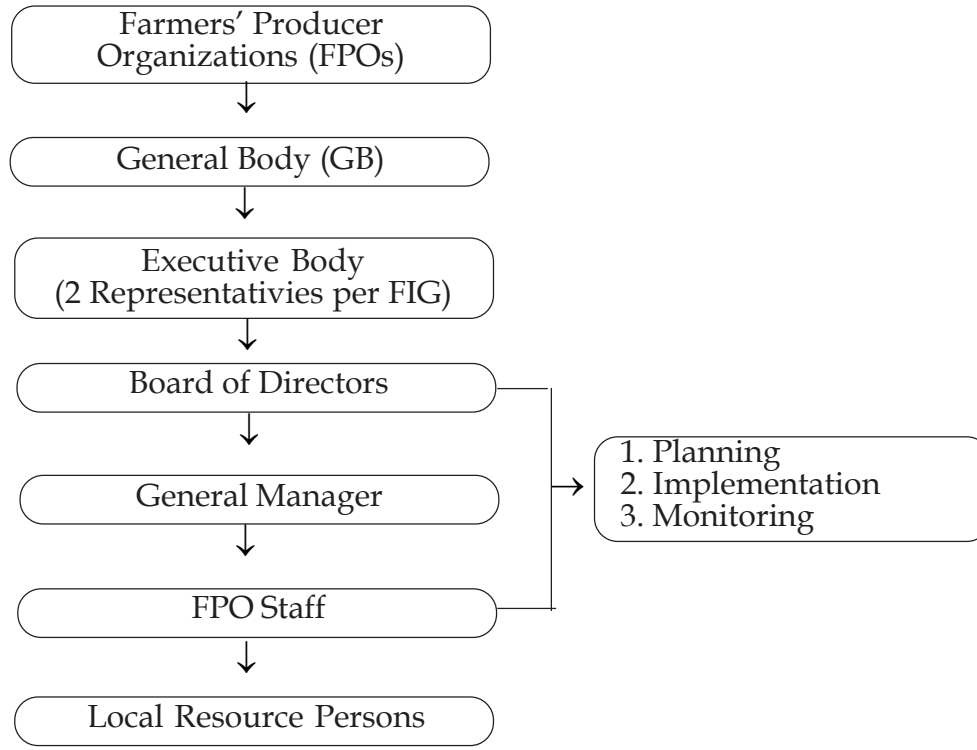

Fig. 1 Structure of FPO

(Source: Dept. of Agriculture and Cooperation, Govt. of India, 2013)

The General body is responsible for making policy and providing good guidelines to FPO and its members. The Executive body is responsible for planning day to day activities or operations. The Board of Directors, General Manager and FPO staff are responsible for the planning, implementing the planning and monitoring the FPO. Local resource persons are responsible for providing guidelines and training to members of FPO.

Essential Features of FPO

- It is a registered body and a legal entity
- It is formed by a group of producers for farm activities
- Producers are shareholders in the organization
- It deals with business activities related to the primary produce/ product

- It works for the benefit of the member producers
- A part of the profit is shared among the producers
- The rest of the surplus is added to its owned funds for business expansion

(Source: NABARD, 2015)

Name of the Institutes supporting promotion of FPOs

- NABARD
- SFAC
- Government departments
- Corporates and domestic institutions
- International aid agencies
- NGOs

These agencies provide financial and technical support to the producer organization promoting institute for promotion and handholding of FPOs

(Source: NABARD, 2015)

Important activities of an FPO

- FPOs purchase farm inputs from the market in bulk amount reducing the cost of input supply.
- FPOs disseminate the technology and innovation for betterment of cultivation of farm produce and increasing farm income of its members viz., technology like improved farm implements, machinery, Agri. Robot and Agri. Drone and Innovations like improving the crop variety, creating new business opportunities etc.
- Providing financial support to their members for increasing purchasing power of inputs in the market.
- Aggregation and storage of produce - Collecting all farm produce of its members on the farm and storing it to sell in the market and reducing damage and waste of farm produce.

- Primary processing like drying, cleaning and grading- drying the collected farm produce, cleaning it and grading it according to the size of the farm produce.
- Brand building, packaging, labeling and standardization -packing the graded farm produce under the brand name of the company, labeling and standardization.
- Quality control- Controlling the quality of the farm produce and their by-product.
- Participation in commodity exchanges and export- exporting the farm produce outside the district, within the country and outside the country.

(Source: NABARD, 2015)

FPO Measures for the welfare of its members

- FPO operatives provide education and training for their farmer-members, develop their skills, generate employment, living wages, improve the standard of living, improve health and hygiene, members provide good education to their children.
- The FPO provides loans for crops, purchase of tractors, pump sets, construction of wells, laying of pipelines for its members.
- The FPO provides various insurance like Crop Insurance, Electric Motors Insurance and Life Insurance to its members. (Dept. of Agriculture and Cooperation, Govt. of India, 2013)

Challenges of FPO

- Organizing producers, especially small and marginal.
- Hiring and returning staff
- Raising capital including working capital
- Increasing capacity of staff and board members
- Value addition and marketing

Swot Analysis of FPO

Strengths

- Direct marketing of fresh produce
- Business model
- Coordination with agencies
- Working structure

Weaknesses

- Poor infrastructure
- Lack of professional expertise
- Low level of participation
- Financial support

Opportunities

- Training for FPOs
- Better linking
- Limited government control
- Institutional support

Threats

- Competition from private companies
- Long-term sustainability
- Administrative controls

Support from Government to Farmer Producer Companies

The Union Finance Minister, in the Budget Speech for 2013-14, announced two major initiatives to support Farmer Producer Companies (FPCs) viz., support to the equity base of FPCs by providing matching equity grants and Credit Guarantee support for facilitating collateral-free lending to FPCs (Ullane,2020).

- **Equity Grant Fund Scheme:**

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

- **Credit Guarantee Fund Scheme:**

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

- **NABARD**

Producer Organization Development Fund (PODF) Contribution towards share capital on a matching basis up to Rs.25 lakh per FPO with a cap of Rs. 25,000 per member, credit support for business operations, support for capacity building programmes.

- **Operation Green**

The Operation Green scheme was launched by the Ministry of Food Processing Industries, Government of India in the year 2018-19. The subsidy will be provided as grant-in-aid at the rate of 70 per cent of the eligible project cost of the farmer producer company.

- **Tools Banks**

Many tools banks have been started in the state of Maharashtra, various types of tools and equipment are easily made available to the farmers' companies on easy rental basis.

Success Stories

VAPCOL (Vasundhara Agricultural Horticultural Producer Company Ltd.)

- VAPCOL began its operations in 2008 and is operating in five states viz., Gujarat, Karnataka, Madhya Pradesh, Maharashtra and Rajasthan, with its headquarters in Pune, Maharashtra.

- Works on activities like production, processing and marketing of their products. Currently, its products include mangoes, cashew nuts, aonla and their by-products.
- These products are graded and packed under their own brand name 'Vrindavan'.
- VAPCOL has registered 13,848 members in Maharashtra alone, out of the 41,000 members drawn from 55 cooperatives.
- VAPCOL has achieved a remarkable turnover of Rs.34 million in the first year itself.

The enterprise has helped not just the farmers, but the entire village community as well. In its area of operation, the migration rate has come down. Women members are also in large numbers and are mainly organized in the form of self-help groups. (Source: Paty, B.K. and K.C. Gummagolmath, 2018)

Goda Farm Farmer Producer Company Ltd.

- Goda Farm was registered on 26 August 2016 at Kalamnuri in Hingoli district. It is the first non-subsidized farmer producer company in the district.
- Goda Farm has developed a massive warehousing and processing facility at Kalamnuri (40000 Sq Ft). The facility is capable of processing 15000+ MT of produce every month
- Goda Farm works directly with a strong and reliable network of 15,000 farmers from across the Marathwada region in Maharashtra
- Nitin Chavan is currently the Managing Director of Goda Farm. Its authorized share capital is Rs.500,000 and its paid-up capital is Rs.500,000.
- In Kalamnuri taluka, turmeric is cultivated on an average of four thousand hectares every year. Goda Farm is opening a turmeric procurement center and grading unit at Kalamnuri. About 100 tons of turmeric powder is exported annually.

- Goda Farm provided inputs like seeds, fertilizers, pesticides, drip, sprinkler sets, PVC pipes, coco peat for nursery, coco peat tray, spray pump etc.
- Goda Farm has a tie-up with Vasantrao Naik Marathwada Agricultural University, Parbhani and other educational institutions for research support on soil testing, environment updates, and advice on choosing the right seeds and fertilizers.

Sahyadri Farms

Sahyadri Farms was registered in 2010 as a Farmer Producer Company, in order to solve the issue of scalability, farmer sustainability and consumer benefit. Sahyadri Farms has registered over 7958 farmers, covered 23960 acres of farms and over 119 villages, served more than 42 countries and has over 33036 customers worldwide. Sahyadri Farms included 1007 marginal farmers as part of the company. The Company successfully shipped 625 containers of fresh grapes of a total quantity of 9,000 MT worth US $ 17 million. It also exported IQF (Instant Quick Freezing) grapes to Australia, processed products to Europe, USA & Canada and has started exporting frozen strawberries to Japan. It has expanded the cold storage facility from 2,000 MT to 5,000 MT capacity. A total quantity of over 55,000 metric tonnes of tomatoes was processed, making this FPC the largest tomato processor in India. During the Covid-19 pandemic situation, Sahyadri Farms protected the farmers and launched a B2C App for delivering boxes of fruits and vegetables to Mumbai, Pune and Nashik.

Tata STRIVE is establishing skill development centres in cities like Mumbai, Pune, Hyderabad, and Mohali. Infrastructure facility of 17,000 sq. ft. art training facility, 6 class rooms, 1 lab, and a hostel was created. Currently, 9 weather stations are functioning and there is a plan to install 100 more shortly to provide accurate weather forecasts like rainfall, humidity, temperature, evaporation, etc.

Conclusion

Organizing producers, especially small and marginal farmers, is one of the most effective pathways to address some of the most important challenges in agriculture. FPOs represent the interest of their members and have the potential to articulate their needs for agricultural services. FPOs need support to develop their capacity to serve farmers better especially in promoting the adoption of new technologies, stimulating learning and developing entrepreneurial skills.

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Extension Strategies as Tools of Competitiveness for FPOs: An Analytical Study

Hema Yadav[1], Manisha Paliwal[2] and Sagar Wadkar3[3]

Abstract

FPOs are farmers' collectives, with membership mainly comprising small/ marginal farmers (around 70 to 80%). As of now, more than 8700 FPOs have been registered under the Producers' Company & Cooperative Act, section 8 company act, society act, and trust act. The study uses literature review and follows a case-based approach to assess the elements of extension strategic interventions required to attain competitiveness and better business performance of FPOs. The study's objective is to understand how effective extension strategies lead to competitiveness with the help of the APP (Asset-Process-Performance) framework. This framework has been implemented to analyse Savitribai Phule Goat Farmer Producers Company Ltd. (SPGFPCL) based at Maharashtra. Focus group discussions with the leaders and members of the FPO reveal that this unique form of collective organization with a blend of deployment of extension strategies with good governance and professional management has paved the way towards business competitiveness

Keywords: APP framework, Business performance, Competitiveness, Extension strategies, Farmer producers' organization

Introduction

The core of Indian agriculture is Marginal and Small Farmers (hereafter smallholders), comprising of 85% of total farmers in India and cultivate 44% of the total area, contributing around 60% of the total food grain

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production. Several studies and reports have demonstrated the major problems of the sector that must be addressed as soon as possible for the betterment of farmers and Indian agriculture like distributed and small-scale landholdings, paucity of high-quality seeds, insufficient supply of manures, fertilizers, and biocides at the appropriate time and quantity, inadequate irrigation infrastructure, lack of mechanization, soil erosion, inadequate storage, processing, and transportation facilities, capital scarcity, lack of communication networks, exploitative practices by local traders and middlemen abound (Singh et al., 2020, Mourya & Mehta, 2021). Further, smallholders are more efficient in per hectare output and cropping intensity than the large farmers (Singh et al., 2011). However, in spite of their significant contribution in the production, their link with market is very weak (Birthal, 2008). Thus, smallholders face numerous challenges in accessing land, water, inputs, credit, technology and markets. Furthermore, there are emerging challenges like risk and vulnerabilities due to climate change and natural calamities (Thapa and Gaiha, 2011). In this quest, the current pandemic, brought by COVID-19 and its resultant restrictions, has further aggravated the farmers' issues (Wadkar 2021, Nikam & Kale 2021).

In order to address these issues and challenges, Producers Collectives - community-based and community-driven organizations have grown in popularity as a tool for helping resource-poor farmers to improve their living conditions by providing a wide range of collective services, including common property administration, technical research and testing, rural infrastructure management, and the selling of critical production inputs or agricultural goods. As the size of their landholdings reduces, farmers are unable to benefit from economies of scale, access to large and mechanized equipment, or credit/finance. Additionally, produce marketing and the capacity to haggle for a fair price are severely limited. As a result, there is a compelling case for collectivization in the agricultural sector of the country (Ramappa K. 2018).

The government of India has undertaken number of development interventions for collectivizing farmers into different forms of producers' collectives. The prominent amongst them are the Cooperative movement

(Since 1900s), Self-Help Groups (Since 1980s) subsequently, Joint Liability Groups, Farmers Clubs, Federations of SHGs, Common Interest Groups (CIGs), etc. Recently, there has been a renewed interest in the 'Farmer Producers Organizations (FPOs), which is a hybrid model based on the principles of cooperatives and corporate enterprise (Tripathy, et al., 2020).

The Small Farmers Agri Business Consortium (SFAC), National Agricultural Bank for Agriculture and Rural Development (NABARD), National Cooperative Development Corporation (NCDC), National Agricultural Cooperative Marketing Federation (NAFED), and State governments have been supporting the FPOs movement in India. The civil society organizations and private foundations are also promoting this movement in their respective area of operations. The idea is to encourage groups of small-scale farmers and smallholders to connect with market and corporate buyers and thereby to boost agriculture and rural development in general and agribusiness in particular.

The primary objective of these producers collectives is to develop effective & efficient system across agri value chain i.e. production, harvesting, aggregation, grading, storage, value-addition, processing, marketing, export/ import, sale or supply of machinery, consumables, etc. They are run and owned by member farmers/ producers, and managed by professionals. The concept of FPOs is still in its infancy in the agricultural sector and has captured almost no attention in the literature particularly outside India. The present research, therefore, is focusing on the evolutionary journey of FPOs registered under Producers Company Act 2002 & 2013, its promotion, governance and management and mechanism for making them competitive and sustainable.

Evolution of FPC Movement in India

Based on the findings of the Prof. Y. K. Alagh Committee, the Indian Companies Act of 1956 was amended in 2002 and Producers Company as a separate chapter has been added in the Indian Companies Act. The

amendment enabled primary producers to organize themselves on the basis of the one-man-one-vote principle, which is the foundation of a cooperative institution. The stated company's objective can be to profit from production, harvesting, procurement, grading, pooling, handling, marketing, selling, export of the members' primary produce, or import of commodities or services.

Like its conventional predecessors, this capital limitation makes it difficult for producer firms to create value-added and marketing facilities. Despite the fact that the producer company law has been in place for five years, neither the government nor development organizations have made an effort to raise understanding of the concept and its use. This committee's offer came at a time when the concept was just starting to gain traction in terms of producer implementation, and many development agencies appeared to have discovered a way to organize producers in a market-oriented economy (Singh, 2008). FPCs can be used by small and marginal landholding farmers to preserve the value of their goods and the dignity of their labour, preventing them from becoming victims of captive or hierarchical value chains in the face of vast corporate capacity and money. This, however, is insufficient in light of the greater issue of insufficient food systems for the vast majority of smallholders (Kalia, 2019).

Status of FPC's in India

The formation and nurturing of FPCs is actively encouraged and supported by the Central and State Governments and their agencies like SFAC, NABARD, NCDC, NAFED, state governments and other agencies, using financial resources from various Centrally- sponsored and State-funded schemes related to agriculture and allied sector. These agencies/ supporting organizations have empaneled Resource Institutions (RIs) and Producers Organizations Promoting Institutions (POPIs), which are now being called as Community Based Business Organizations (CBBOs) across India for establishing and enabling the FPCs. The State of Maharashtra, Madhya Pradesh, and Tamil Nadu have maximum numbers of RIs. Out of a total

number of districts in India, NABARD has identified POPIs in 475 districts, highest among the State of Uttar Pradesh, Karnataka, Kerala, Rajasthan, Andhra Pradesh, and Bihar, having more than 50 POPIs involved in the sensitizing and mobilizing farmers to form producers' companies and extend the handholding support in their respective area of operation (Tripathy et al., 2020).

SFAC has also taken many initiatives to strengthen the FPCs functions and business performance by linking them to suitable technology as well as to the markets in association with private, corporate or cooperative sector. State Level Producers Companies (SLPCs) have been created as a State level umbrella support for their respective State FPCs in order to expand and enhance their backward and forward linkages. At present eight of such SLPCs in the States of Gujarat, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, and West Bengal are working and are observed as an effective solution to the functional challenges of FPCs. They address several objectives like a) Achieving better coordination among FPCs formed in the State; b) Helping to enter into policy dialogue with the State and Central agencies; c) Availability and accessibility of services and inputs; d) Increasing the capacity in cost effective manner; e) Facilitating the credit support from financial institutions; f) Leveraging the opportunities for strengthening backward and forward linkages.

As on 31st December, 2020 SFAC has supported 1225 registered FPOs (886 FPOs by SFAC and 339 by non-SFAC promoted) and NABARD has promoted 2064 FPOs, which are working in different parts of the country. Besides this State Governments have also promoted many FPOs under various schemes and programs. In addition, about 63 FPOs are under self-promoted category across the Country. India's first producers company was the "Farmers Honey Bee India Producer Company Ltd.". Five producers companies were registered in the first financial year (FY) April 1, 2003 to March 31, 2004. Only 445 companies were formed in the first ten years after the statute was passed (FY 2004 to FY 2013). In FY 2014, the number of

producer enterprises registered climbed to 497, surpassing the preceding ten years combined. In FY 2016, the number of registered businesses surpassed 1,000 for the first time. In the last three financial years (FY 2017, FY 2018, FY 2019), 4,190 producer enterprises were registered, an average of four per day, with Maharashtra accounting for one out of every four. These companies have been established in 33 of India's 36 states and union territories. Maharashtra has the most production companies (1,940), outnumbering the other three states combined. Maharashtra, Uttar Pradesh, Tamil Nadu, and Madhya Pradesh accounted for over half of the producer enterprises registered until March 31, 2019 (Govil et al., 2019).

Statement of Problem

India is witnessing a paradigm shift from 'Food Security to Nutritional Security', 'Production only to Production plus Marketing' and more recently focus has been given on 'Farm-to-Fork and Fork-to-Farm' approach. The Government of India has called for "Atmanirbhar Bharat" and urged to 'be vocal for local products and making them global'. This has called for change in approach to see farming vis-à-vis agriculture as a 'business profession' or "business enterprise".

Considering the current statistics of Indian agriculture in general and farmers in particular, aggregating producers' farmers into collectives is accepted as a 'best-fit' for reducing risk in agriculture, improving access to technology, market and credit. Subsequently, many forms of collectives have emerged in the country, having their own set of pros and cons as highlighted by number of research studies and reports. However, the recent model of FPCs has been seen as more professional form of business organization with the hope that they will play an effective and efficient role in strengthening the backward and forward linkages of the member farmers and thereby to enhance the farmers' income.

Around 8500 plus FPCs have been promoted in India. It has been observed that around 12-15% are functional and rest are struggling to streamline their

business activities and thereby causing inter-regional disparity as well. As we promote larger number of FPCs going forward, the path cut out for the growth and sustenance of these enterprises is quite daunting. These enterprises are owned and run by the farmers, especially the smallholders. Therefore, setting up a farmer producers organizations is a process-driven activity, which needs a thoughtful, empathetic and participatory planning & action in order to focus on inculcating the sense of belongingness and ownership among members and potential members. The greater degree of attention needs to be given to 'governance' and 'management' issues. These enterprises are different from the traditional company forms as there is very strong social angle of uplifting the lives of the farmers and contributing to the larger rural development cause. The economic focus of this set of hybrid enterprises along with a strong social orientation puts them in the category of a 'social enterprise' which address socio economic and developmental issues through a 'Community Driven Development' (CDD) approach.

In the background of these factors, the study aims to answer the question on how effective extension strategies lead to competitiveness in FPOs? After this introductory section, the second section reviews the literature on this subject. The third section is about the research methodology adopted for the study. The fourth section presents a case study of Savitribai Phule Goat Farmer Producers Company Ltd. (SPGFPCL), Asia's first women FPC and the fifth session discusses the conclusion of the study.

Review of Literature

The social enterprise model is well suited to the development pursuit of countries around the world. However, the fundamental question is the sustainability and competitiveness of these enterprises which makes them a part of the larger economic growth story. It has been observed that although many social enterprises work towards social and economic goals, but fail to rise on the growth trajectory beyond a certain point. They may be burdened with a great responsibility and may have limited capacity to address the issue in hand, thereby necessitating the need of proper

legislative and conducive policy environment (Anna and Lyne, 2008). Studies have pointed out that social enterprises are equally susceptible to poor governance, leading to poor performance and need proper scrutinization to ensure subsequent outcomes for social good and community welfare (Lyne, 2008; Schöning et al., 2012). Since social enterprises are a hybrid form between "profits" and "non - profits", their governance aspects have received very little attention from researchers, despite being distinct and critical (Low, 2006). Since social enterprises are constantly creating a trade-off between social and commercial goals, they may find it difficult to practice proper governance and are often in need of stewardship to prevent them from mission drift and remain viable (Dart, 2004; Low, 2006). Since FPCs exhibit many characteristics of a social enterprise, it may be crucial to study their governance issues at this stage to carve out a suitable path for them in future. The cooperatives are crucial part of rural development and financing. By implementing the efficient governance into operational system uplifts the competitiveness of cooperatives. Efficient governance is always globally acceptable and applicable despite of its financial indicators, strategic policies or decisions and progressive business performance of cooperatives (Tripathy et al., (2021).

Against this backdrop, very few studies have been conducted to bring out the issues in the promotion of FPCs with policy implications. Not much investigation has been carried out to highlight the process adopted in the formation of FPCs by different supporting/ promoting organizations, the critical factors contributing to the success and failure of the FPCs and the impending issues related to management and governance.

Ajitabh & Momaya, (2004) Carried out the study on "Competitiveness of Firms: Review of theory, frameworks, and models" The major reason for software firms` competitiveness challenges in India has been recognized as a lack of understanding of the concept and its implementation. This study looks at frameworks and models connected to competitiveness, as

well as a research summary at the firm level. The study was further classified using the Asset-Processes-Performance (APP) framework. Several competitiveness frameworks and models were investigated and classified. The author divided the dynamics into three aspects i.e. (1) Assets (2) Processes (3) Performance

Aspects and factors of Competitiveness Framework

Competitive Assets	Competitive Process	Competitive Performance
• Human Resource • Industry Infrastructure • Technology • Demand Conditions • Government	• Strategic Management • Normal Plan Implementation • Human Resource Development and Synergies	• Productivity • Human sources • Quality / Effectiveness • Costs • Financial • International • Technological

(Source; K Momaya 1998)

Research Methodology

This study employed a persuasive case study technique (Siggelkow, 2007) to examine both the business models that support the extension strategies deployed by the promoting institution and resultant competitiveness in FPOs. The study's objective is to understand how effective extension strategies lead to competitiveness with the help of the APP framework (Momaya (1998). This framework has been implemented to analyse Savitribai Phule Goat Farmer Producers Company Ltd. (SPGFPCL) based at Nashik district of Maharashtra, promoted and nurtured by Yuva Mitra NGO[1] . The study accomplishes the above objectives through the use of both primary and secondary data. The face-to-face discussions with the

[1] The SFAC and NABARD has empanelled many agencies like NGOs, Krishi Vigyan Kendras (KVKs), private foundations, etc. in order to mobilise, aggregate, register and hand-hold the FPOs for three-five years. Yuva Mitra was one such agency empanelled by NABARD.

Chairman, CEO, and staff members of the SPGFPCL were made during January and February 2020 followed by telephonic conversations with some of the members during May - June 2020. The secondary data was sourced from company annual reports, audited balance sheets, profit & loss statements.

Case study: Savitribai Phule Goat Farmer Producers Company Ltd. (SPGFPCL): A Story of Social Transformation

SPGFPCL was established on 6th May, 2016 by pro-active women farmers with the support from a local NGO called Yuva Mitra at Sinnar block of Nashik district, Maharashtra. The Company has membership from 30 villages around Sinnar block with a total membership of 1041 as on March 2021. The authorized Share Capital is Rs. 25 Lakhs and paid-up share capital is Rs. 22.63 Lakhs, having Rs. 500/- as a share price. Since inception, the Company has maintained Rs. 3.37 Lakhs as reserves and surpluses.

Strategies Adopted by Promoting Institution: Competitive Processes

Yuva Mitra NGO was founded by Late Shri. Sunil Pote, passionate and dedicated development professional from a village in the Sinnar block, Nashik, started the development interventions since 1995. In its initial days, NGO team spent lot of time in understanding the challenges, opportunities in the locale and more particularly farmers and village dynamics. After this exercise they identified 3-4 broader areas of development. The development journey started with ensuring regular supply of 'Irrigation Water' to farming. The collective action along with farmers of the region and local administration, Yuva Mitra restored a 140 years-old network of canals around the Devnadi River of the region. As a result, farming community of the region realized the power of collective action.

Thereafter, the NGO did work in Health & Sanitation, Education and more particularly started working in ensuring sustainable livelihoods to farming community. In doing so, they identified two key challenges - 'availability of quality inputs - credit, resources, & technology' on one side and

'connecting farmers to domestic and export market' on the other. As an empanelled NGO by NABARD, Yuva Mitra started to address these livelihoods issues through a new model called Farmer Producers Organization (FPO).

Target-driven vs Process-driven: As a development professional, Mr. Pote was very much aware about the power of 'participatory panning and action'. In addition, the NGO also did a "need analysis and aspirations mapping'" of the local farmers to understand their pain points.

Credibility of Promoting Institution: In the case of Yuva Mitra, the SPGFPCL formation process didn't take much time to collectivize the women farmers towards the common agenda, as the farmers already had witnessed the power of collective action during the developmental journey.

Sensitization and Social Mobilization drive: The NGO team along with 12-15 pro-active youths (both male & female) had various meetings, group discussions, workshops and awareness rallies about the new form of farmers' collectives - FPC. In some of the occasion, key representatives of NABARD were also participated in the discussion.

Concept Clarification and Understanding the Role: The focus was on understanding the difference between primary agricultural cooperative society and farmer producers company, its governance, management, business model, compliance, etc. The roles and responsibilities as a member, board of directors were thoroughly discussed, besides the role of management staff including CEO.

Exposure Visits: The prospective members were taken to visit Sahyadri FPC and Central Institute for Research on Goats (ICAR-CIRG). 'Seeing is believing' had act as strong mover for these members and has actually kick-started their activities on fast track.

Participatory Decision Making: Yuva Mitra has been following a participatory planning and action approach in all their developmental work.

This has ensured the peoples participation and ownership. The members of SPGFPCL were also actively involved in all the activities undertaken for the promotion and formation of FPC.

Training and Capacity Building: The women members also received a training at Central Institute for Research on Goats (ICAR-CIRG) to understand goat farming practices, and how to maintain quality, reduce wastage and spoilage in all farm operations.

Credit & Market Connects: The Yuva Mitra has facilitated the business plan preparation of the Company and establish market connects. As a result, the Company has received a grant from NABKISAN and company's products were being marketed by Kodai Pvt. Ltd. besides local vendors & retailers.

Governance and Management of SPGFPCL

As part of the Company governance, it has 7 Board of Directors (BoDs) and a chairman. All BoDs were passionate and did significant work for the members of the Company. The Company has 10 management staff, which includes a Chief Executive Officer (CEO), marketing manager, plant manager, plant operator, procurement manager, accountant, and three supporting staff.

The 'CEO' manages the day-to-day business activities with support from other management staff. In order to manage Company business effectively and efficiently, the Company has formed the management committee like procurement, and marketing & distribution. The company's strategic decisions are taken in the board meetings by the chairman. The company also has empaneled honorary expert director on the board to mentor board members in all important matters. Every year company conducts the Annual General Meeting (AGM) with 80% of members' participation and quarterly board members meetings with 90% participation. CEO maintains the record of all the meetings and decision taken by directors' body with signature of all members and ensures timely implementation of decisions.

Business Operating Systems of SPGFPCL: Competitive Performance

SPGFPCL has been working on the both fronts of the goat value-chain. The poor and marginalized women members are actively involved in goatery business. The Yuva Mitra has identified 30 para veterinaries called as 'Pashu Sakhi' at village level to offer a first-aid treatment and handholding support to the goat rearing women members of the Company. These Pashu Sakhis are from the same village and/or nearby villages, trained on different aspects of goat farm management. They have been involved in the extending the services like vaccination, goat insurance, and sales of milk, vermicompost, vermiwash, fodder seeds, live goat, salt bricks, etc. The company provides an honorarium of Rs. 3000/- per month to each Pashu-Sakhi.

During 2018-19, under credit guarantee scheme of SFAC, the company had received a funding of Rs. 73.95 lakhs from NABKISAN (empaneled lending institution) for enhancing and expanding forward linkages by setting up a goat milk manufacturing plant. As a result, the company has diversified their product portfolio, having seven different products and services to cater the needs of member women as well as creating a latent demand for their innovative products under the brand - "Sahaj".

Table 1: Business Line of SPGFPCL

S. No.	Product	Purchasing Price (INR)	Selling Price (INR)	Company Margin (INR)
1	Goat Milk (per litre)	35	100	47.47
2	Live goat (per kg) Avg. wt 18 KG	210	240	26.12
3	Vermi Compost (per Quintal)	5000	7500	430 per tonne
4	Vermi Wash (per litre)	10	12	0.20
5	Inputs (per kg)	110	120	9.95
6	Cheese (milk per litre)	35	220	182
7	Yogurt (per litre)	80	300	217

(Source: Primary Survey)

To ensure quality procurement and transparency in business operations, company has developed a standard operating procedure to be followed by all members and makes advance estimates of demand & supply of product line. CEO ensures entry of all business transactions and payment of members within 48 hrs. The company has established their own marketing and distributing network and works in B2B and B2C segments. However, the Company is facing problems in economizing scale of production and managing losses & wastage in handling and marketing.

As informed by Chairman, it is heartening to note that "the Company has changed the lives of poor and marginalized women of the region, who were struggling for their existence and now feeling proud and living better life for themselves & their family members. The company has come long way from 3.34 lakhs turnover (2016-17) to 178 lakhs (2020-21).

Conclusion

In building sustainable institutions, the number of indicators play important role. Starting with the 'geo-demography', farmers sound understanding of business and a spirit of entrepreneurship. The history says that three years is not sufficient to establish a sustainable grassroots institution. As a process-driven activity, it takes almost one and a half years to convince farmers and register the FPO in right way and right spirit. The promoting institutions people management skills and understanding the socio-cultural aspects has an implications in bringing cohesiveness and ownership among members.

There is a need to have an enabling ecosystem for promotion & formation, financing, and marketing of FPOs products and services. The extent of technology adoption for value addition and processing is need of the hour. Networking and liasioning with technical institutions like ICAR and SAUs including KVKs would help FPOs in understanding technical know-how. This has been exemplified in the present case as well, having linkages with ICAR-CIRG has resulted in the productivity enhancement of goatery

business.

The governance and management are at the core of any business entity. SPGFPCL has developed and followed a good-governance and management practices. The key success factors amongst were participation of all members and board members in all meetings and activities, accountable and transparent company's board, control over management staff and transformational leadership of chairman of the company, skilled management staff and professionalism and so on.

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Linking Millet Farmer Producer Organizations to Market through Millet Startups

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Abstract

The aggregation of farmers is the need of the hour, as they are cultivating in small patches of land which is not economical to purchase inputs and market their produce. However, the green revolution has improved the production and productivity of major staple food crops of India and was successful in achieving self-sufficiency in food. Despite this, it is still observed that malnutrition, undernutrition and obesity among people, which is due to the deficiency of nutrients, vitamins and other essential components in the food system is resulting in hidden hunger. Hence, the demand for nutri-cereals or millets is increasing in the market for their nutritional value and capacity to combat lifestyle ailments. In this background, ICAR-IIMR, Hyderabad is involved in the formation and handholding of 31 Millet FPOs across four states of India to balance the demand and supply in the market. As a Cluster Based Business Organization (CBBO), IIMR is organizing capacity building programs for BoDs and CEOs of newly formed FPOs further helping them in infusing the same skills to their shareholders. It is also supporting FPOs to connect to line departments. FPOs are also millet startups, SAUs and KVKs for technical support. To transform the farmers and their organization into a business entity, IIMR has trained FPOs to undertake processing and value addition of millets and connecting to markets. An efforts was also made by IIMR to connect FPOs to e-marketing channels to sell their products directly to the intended consumers.

Keywords: FPOs, Millet Market, Millet Startups, IIMR

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Introduction

Farmer Producer Organizations (FPOs) are farmers' collectives, which enjoy legal provisions for sharing profits earned by the company by means of a dividend. They also offer various services and mainly concentrate on the marketing of their members' produce, thus assuring the market for the latter's produce. The main aim of an FPO is to create competitiveness among farmers and to increase their advantage in the emerging market opportunities. (Ramappa and Yashashwini, 2018). The major operations of FPOs include procurement of inputs, market linkages, networking, facilitating finance, processing and quality control, training and technical advice.

It is important to ensure farmers remunerative prices for their produce, which consists of two aspects like, Minimum Support Price (MSP) and producer share in the consumer rupee. MSP is applicable to a specified set of commodities and is available only in a subset of producer states. The commodities such as fruits and vegetables, which are highly perishable, are quoted with a low price and with a localized nature of markets for them. The supply chain remains fragmented, the scale of operations is low and there is excessive presence of intermediaries. (Rajui and D Kumara Charyulu, 2017).

In this background, the Govt. of India has initiated various measures to address issues in agricultural marketing which are likely to have a positive impact on farmers' income. The launching of electronic National Agriculture Markets (eNAM) is one such measure, which creates a unified market by creating an online platform to promote marketing of agricultural produce at the state as well as at the national level. Similarly, the Model Agricultural Produce and Livestock Marketing (Promotion & Facilitation) Act, 2017, of GOI, incorporates various changes to reflect the agenda of a unified national market for agriculture, besides facilitating alternate market channels, including opening up the system to the private sector as well for alternate online marketing platforms. Besides this, the government agencies and other

stakeholders can provide market linkages in their specialization, to support the farming community. In this connection the present study was carried out in ICAR-IIMR to support FPOs to connect to the market so that its members get the benefit of it.

Methodology

The present study was carried out in the year 2020-21. ICAR-IIMR in Hyderabad, is an agricultural research institute engaged in basic and strategic research on sorghum and other millets. It conducts research on millet improvement, and value addition. Under the National Food Security Mission (NFSM) Nutri-Cereals, , IIMR as a Resource Organization has supported in forming six FPOs which are distributed in Karnataka, Andhra Pradesh and Telangana states. Of late, in the New Central Sectoral Scheme, as a Cluster Based Business Organization (CBBO), IIMR is promoting and handholding 25 FPOs. Having known the major problems in agriculture, IIMR has been supporting in linking millet-based FPOs to the market to bring the farmers into the mainstream of the marketing system.

ICAR-IIMR has provided the marketing facility by procuring the produce from FPOs. Apart from this, it is also involved in connecting individual FPOs with the traders, procurers, buyers, food industries etc. The role of IIMR is to facilitate market linkages and to witness the agreement between the FPO and Industry without entering into actual trade or business between the FPO and industry. In this connection, IIMR has been involved in creating market linkages with the FPOs and food industries and organizations. The Millet Farmer Producer Organization and its activities are presented in Fig 1.

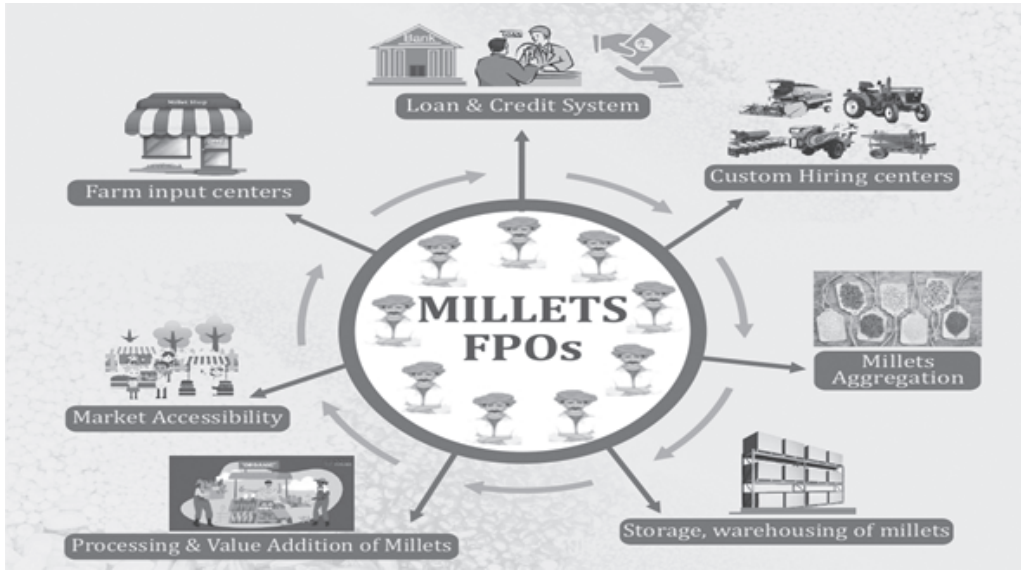

Fig 1: Millet Farmer Producer Organizations

Results and Discussion

Table 1: List of FPOs Promoted by IIMR under NFSM Nutri-Cereal Sub Mission in Andhra Pradesh, Telangana, Karnataka and Madhya Pradesh

Sl. No.	Name of FPO	No. of Shareholders	Equity (in Lakhs)	Millet crops	Area of acreage targeted
1.	Visakha Millet Farmers Producer Company Limited, AP	650	6.50	Foxtail and Barnyard millet	5000
2.	Mahabubnagar Farmer Producer Company Limited. Telangana	502	5.02	Finger Millet and Yellow Jowar	1200
3.	Greens Millet Farmer Producer Company Limited, Karnataka	498	4.98	Foxtail millet and Maldani Jowar	2000

4.	Ananta Aadarana Millet Farmers Producer Company Limited, AP	300	3.00	Barnyard Millet and Foxtail Millet	1500
5.	Halchalit Mahila Kisan Women Farmers Producer Company Limited, Madhya Pradesh	574	5.74	Little Millet and Kodo Millet	6000
6.	Koppal Millets Farmer Producer Company Limited, Karnataka	95	1.00	Foxtail millet	500

Table 1 represents the list of FPOs formed and promoted by IIMR under NFSM Nutri-Cereals. IIMR was the Resource Organization for six FPOs spread across four states, two FPOs each in Andhra Pradesh and Karnataka, one each in Telangana and Madhya Pradesh. It can also be seen from the table that, among the six FPOs, five FPOs except Koppal Millets Farmer Producer Company Limited, Karnataka has reached the targeted shareholders, i.e., more than 300 farmers, since its inception. They have also collected the share amount from the shareholders to submit for equity and also undertake business activities. All these six FPOs are involved in the cultivation, processing and value addition of millets like Finger Millet, Kodo Millet and Yellow Jowar, Foxtail Millet, Little Millet, Pearl Millet etc.

In due course of time, the FPOs have also set a target to cover the area of acreage to undertake their operations, viz., Halchalit Mahila Kisan Women Farmers Producer Company Limited, Madhya Pradesh in 6000 acres followed by Visakha Millet Farmers Producer Company Limited, AP in 5000 acres, Greens Millet Farmer Producer Company Limited, Karnataka in 2000 acres, Ananta Aadarana Millet Farmers Producer Company Limited, AP in 1500 acres, Mahabubnagar Farmer Producer Company Limited. Telangana in 1200 acres and Koppal Millets Farmer Producer Company Limited, Karnataka in 500 acres.

Table 2: List of FPOs promoted by IIMR with support of SFAC in Karnataka under Central Sector Scheme

Sl. No.	Name of FPO	No. of Shareholders	Equity	Millet crops	Area of acreage covered
1.	Hulsoor Mahila Kisan Millets Producer Company Limited	308	6.16	Jowar, Foxtail Millet, Finger Millet and Little Millet	2000
2.	Indi Savayava Hagu Siridhanya Producer Company Limited	160	2.80	Foxtail Millet Lemon, Redgram and Kodo millet	2000
3.	Aland Bhootai Millets Farmers Producer Company Limited	300	2.41	Foxtail Millet Redgram Little Millet and Jowar	2500
4.	Nidgundi Sri Hadi Basavannappa Oilseed and Millets Producer Company Limited	168	3.36	Foxtail Millet, Little Millet , Jowar, Groundnut, Onion and Lime	2000
5.	Jamakhandi Oilseed and Millets Producer Company Limited	306	3.01	Foxtail Millet, Finger Millet, Little Millet and Jowar	1500

6.	Mudhol Oilseed and Millets Farmers Producer Company Limited	315	1.84	Foxtail Millet, Finger Millet, Little Millet, Jowar and Browntop Millet	1000
7.	Nandi OM Farmers Producer Company Raichur	380	7.60	Foxtail Millet, Finger Millet, Little Millet and Jowar	1500
8.	Shorapur Taluka Millets Farmers Producer Company	315	2.04	Foxtail Millet, Finger Millet, Little Millet and Jowar	3000
9.	Jewargi Taluka Millets Farmers Producer Company Limited	125	1.00	Foxtail Millet, Finger Millet, Little Millet, Jowar and Browntop Millet	2000
10.	Bettada Basaveshwara Farmer Producer Company Limited	260	2.50	Jowar, Little Millet and Foxtail Millet	1000

It is evident from Table 2 that, in total, 10 FPOs were implemented by SFAC and promoted by IIMR as Cluster Based Business Organizations (CBBOs) under the Central Sector Scheme. All the 10 FPOs were implemented at various districts of Karnataka. Six FPOs have mobilized more than 300 farmers to be their shareholders, viz., Hulsoor Mahila Kisan Millets Producer Company Limited (302), Aland Bhootai Millets Farmers Producer Company Limited (300), Jamakhandi Oilseed and Millets Producer Company Limited (306), Mudhol Oilseed and Millets Farmers Producer Company Limited (315), Nandi OM Farmers Producer Company Raichur (382) and Shorapur Taluka Millets Farmers Producer Company (315). Further, these six FPOs have also submitted the application for equity to their Implementing Agency. The rest of the four FPOs namely, Indi Savayava Hagu Siridhanya Producer Company Limited (160), Nidgundi Sri Hadi Basavannappa Oilseed and Millets Producer Company Limited (168), Jewargi Taluka Millets Farmers Producer Company Limited (125) and Bettada Basaveshwara Farmer Producer Company Limited (260) are in the process of mobilizing the farmers.

The table also gives information on the major crops dealt by FPOs. A majority of the FPOs are working on Foxtail Millet, Finger Millet, Little Millet and Jowar and also pulses redgram and chickpea. Nidagundi, Jamkhandi and Shorapura FPOs are also growing Groundnut, Hulasoor and Jamkhandi FPOs deal with Soyabean apart from millets. Farmers of Nandi Om and Bettadabasaveshwara FPOs grow cotton and chilli. The variation in the crops grown apart from millets is due to the local crops cultivated as per their agro climatic conditions.

It can also be understood from the table that, regarding the targeted area of acreage, Shorapur Taluka Millets Farmers Producer Company has targeted to cover 3000 acres followed by Aland Bhootai Millets Farmers Producer Company Limited to cover 2500 acres, Hulsoor Mahila Kisan Millets Producer Company Limited, Indi Savayava Hagu Siridhanya Producer Company Limited, Nidgundi Sri Hadi Basavannappa Oilseed and Millets Producer Company Limited and Jewargi Taluka Millets Farmers Producer Company Limited have targeted an area of 2000 acres each Jamakhandi Oilseed and Millets Producer Company Limited and Nandi OM Farmers Producer Company Raichur have targeted 1500 acres of area and Mudhol Oilseed and Millets Farmers Producer Company Limited as well as Bettada

Basaveshwara Farmer Producer Company Limited have targeted about 1000 acres of land to undertake cultivation of millets and other mandated crops of their respective FPOs.

Table 3: List of FPOs promoted by IIMR with support of WDD in Karnataka

Sl. No.	Name of FPO	No. of Shareholders	Equity	Major crops	Area of acreage covered
1.	Annigeri Taluk Farmer Producer Company Limited	750	7.5	Green gram, Maize, Bengal gram Millets and Chilli	5000
2.	Chitguppa Taluka Farmers Producer Company Limited	200	2.0	Jowar, Soyabean, Redgram, Greengram and Black gram	3000
3.	Navalagund Taluka Raita Mitra FPC Limited	500	5.0	Bengal gram and Chilli	4500
4.	Alnavar Taluka Farmers Producer Company Limited	340	3.40	Paddy, Maize and Mango	3000
5.	Dharwad Taluka Farmers Producer Company Limited	302	3.02	Soyabean and Bengal gram	5000
6.	Kanakagiri Raita Shakthi Millets Producer Company Limited	300	3.0	Millets	2500
7.	Kayaka Farms Farmers Producer Company Limited	Nil	Nil	Pomegranate	2000
8.	Kukanuru Dharani Millets Producer Company Limited	333	3.33	Millets	4000
9.	Kushtagi Farmers Producer Company Limited	302	6.04	Drumstick	2500

Table 3 indicates the list of FPOs promoted by IIMR with support of Watershed Development Department (WDD). In total 9 FPOs were implemented in Karnataka state. Out of nine FPOs, six have mobilized more than 300 farmers and shareholders namely, Annigeri Taluk Farmer Producer Company Limited (750), Navalagund Taluka Raita Mitra FPC Limited (500), Alnavar Taluka Farmers Producer Company Limited (340), Dharwad Taluka Farmers Producer Company Limited (302), Kanakagiri Raita Shakthi Millets Producer Company Limited (300), Kukanuru Dharani Millets Producer Company Limited (333) and Kushtagi Farmers Producer Company Limited (302). Among these FPOs, Annigeri Taluk Farmer Producer Company Limited, Navalagund Taluka Raita Mitra FPC Limited, Alnavar Taluka Farmers Producer Company Limited and Kushtagi Farmers Producer Company Limited have submitted the equity application to the funding agency. The rest of the two FPOs viz., Chitguppa Taluka Farmers Producer Company Limited and Kayaka Farms Farmers Producer Company Limited are in the process of mobilizing the farmers to be shareholders of their respective FPOs.

The table also furnishes information on the major crops dealt by FPOs, wherein, Annigeri Taluk Farmer Producer Company Limited is concentrating on crops like Green gram, Maize, Bengal gram and Chilli. Chitguppa Taluka Farmers Producer Company Limited are dealing with Soyabean, Redgram, Greengram and Black gram. Major crops of Navalagund Taluka Raita Mitra FPC Limited are Bengal gram and Chilli. Alnavar Taluka Farmers Producer Company Limited majorly deals with Paddy, Maize and Mango. Soyabean and Bengal gram are the major crops of Dharwad Taluka Farmers Producer Company Limited. Kanakagiri Raita Shakthi Millets Producer Company Limited and Kukanuru Dharani Millets Producer Company Limited are dealing with millets. Kayaka Farms Farmers Producer Company Limited has undertaken plantation of Pomegranate and Kushtagi Farmers Producer Company Limited deals with Drumstick.

Apart from NFSM Nutri- Cereals, SFAC and WDD FPOs, ICAR-IIMR is also involved in the promotion of FPOs of NABARD and NCDC in Andhra

Pradesh and Telangana states. So far, four FPOs are being promoted under NABARD in Andhra Pradesh and Telangana, and two FPOs under NCDC in Telangana. These FPOs are in the process of mobilizing the farmers to be the shareholders of the FPOs.

Table 4: List of FPOs formed and handholding by IIMR statewise

S. No.	State	FPOs (Numbers)
1.	Karnataka	21
2.	Andhra Pradesh	04
3.	Telangana	05
4.	Madhya Pradesh	01
	Total	**31**

Table 4 indicates the number of FPOs promoted by IIMR and which are implemented in various states. This clearly depicts that, 21 FPOs are being incorporated in the state of Karnataka, followed by five FPOs in Telangana, four FPOs and one FPO in Andhra Pradesh and Madhya Pradesh respectively. IIMR has been involved in the promotion of a total of 31 FPOs spread across four states of India, with the intention to popularize and create awareness on the importance of millets and thereby inculcate the habit of consumption of millets for good health and further, to connect small holders to the market.

A hypothetical model which represents the current scenario of farmers who market their produce to the local aggregator and what would happen if he/she sell their produce directly to the consumers is shown in Fig 2.

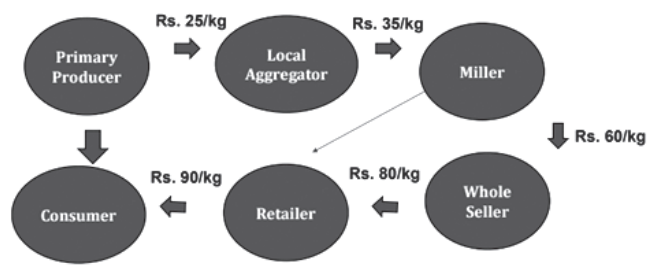

Fig 2: Millet Farmers' Share in consumer rupee

According to studies, there exists a difference between traditional marketing of the produce grown by the farmers and how the intervention of FPO bring changes in the marketing of their produce, by eliminating the marketing middlemen to ensure the economies of scale to the farmers. This concept is depicted in Fig 3.

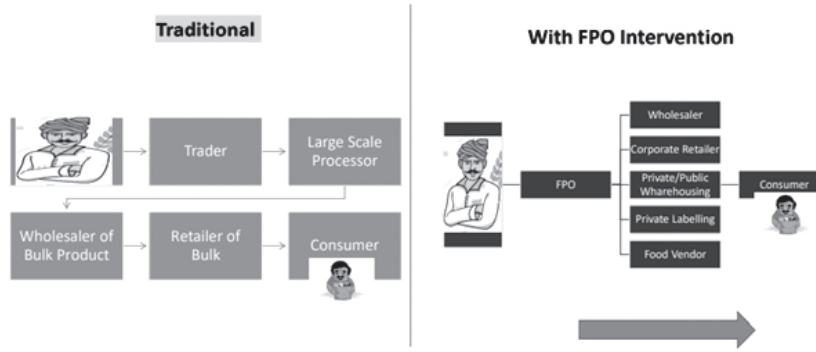

Fig 3: Supply chain of Millets and FPOs

The schematic representation of the Supply chain of Millets and FPOs is shown in Fig 4. This indicates the interlinkage of millet growers and the FPOs for undertaking activities like, providing inputs, training, capacity building programs, procurement, aggregation, undertake processing and value addition and further, sale of value-added products from FPOs directly to retailers.

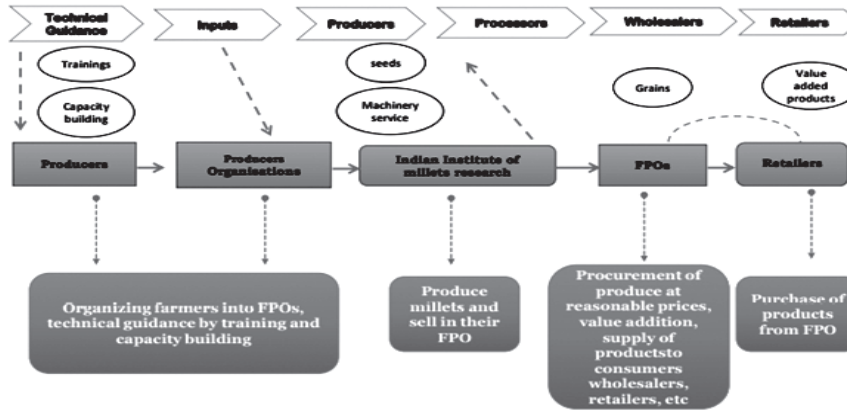

Fig 4: Supply chain of Millets and FPOs

Table 5: Market linkage created for millets business by IIMR

Sl. No.	FPO	MoU signed with	Crops/ products	Quantity (tons)
1.	Hulsoor Mahila Kisan Millets Producer Company Limited	Nutrihub, ICAR- IIMR	Sorghum	10
2.	Visakha Millet Farmers Producer Company Limited	Nutrihub, ICAR-IIMR	Foxtail millet and Barnyard millet	100 100
3.	Greens Millet Farmer Producer Company Limited	Yash Foods Private Limited	Foxtail millet	130
4.	Koppal Millets Farmer Producer Company Limited	Poornashraddha Pvt. Ltd	Foxtail millet and Pearl millet	1 ton

Market linkages created for millets business by ICAR-IIMR for various FPOs is represented in Table 5, wherein, it can be seen that, Hulsoor Mahila Kisan Millets Producer Company Limited and Visakha Millet Farmers Producer Company Limited have signed an MoU with ICAR-IIMR, Hyderabad for the sale of Sorghum, Foxtail millet and Barnyard millet respectively. Apart from procurement made by IIMR, it has also successfully made a market linkage for Greens Millet Farmer Producer Company Limited for sale of Foxtail millet and Koppal Millets Farmer Producer Company Limited for sale of Foxtail millet and Pearl millet with Yash Foods Private Limited and Poornashraddha Pvt. Ltd respectively. This effort is intended to support the farmers to cultivate and to assure them with the market to sell their millets produce. IIMR is also in the process of linking other FPOs with markets for ensuring better income to the shareholders of FPOs.

Table 6: Business Activities of FPOs of Different Implementing Agencies

Sl. No.	Implementing Agencies	Commodities
1.	SFAC	Millets, Pulse magic, Chickpea magic and seeds
2.	WDD	Millets, Oil, Jaggery and Rawa

3.	NABARD	Fertilizers
4.	NCDC	Millets and Vegetables
5.	NFSM Nutri-Cereals	Millet noodles, Papad, Rawa and Millet Dosa mix Flour

Business activities of FPOs of different Implementing Agencies are presented in Table 6 and it reveals that, SFAC FPOs which are operating in different districts of Karnataka are undertaking business activities on Pulse magic, Chickpea magic and seeds. Similarly WDD FPOs of Karnataka state are operating business on Oil, Jaggery and Rawa in addition to Millets processing & Value addition. NABARD FPOs in Andhra Pradesh and Telangana are undertaking business on Fertilizers, NCDC FPOs in Telangana states are operating their business with Millets and vegetables. The FPOs implemented under NFSM Nutri- Cereals have undertaken value addition of millets and sell products like Millet noodles, Papad, Rawa and Millet Dosa mix Flour.

Table 7: Supply of Millet Seeds by IIMR to FPOs During 2021

(Kharif Season)

Sl. No.	Name of FPO	Name of millets	Quantity (Kg)
1.	Visakha Millet Farmers Producer Company Limited	Foxtail millet	200
2.	Hulsoor Mahila Kisan Millets Producer Company Limited	Little Millet Foxtail millet Proso millet	100 100 50
3.	Aland Bhootai Millets Farmers Producer Company Limited	Little Millet Foxtail millet	100 100
4.	Mahabubnagar Farmer Producer Company Limited	Sorghum Ragi Foxtail millet	300 200 150
5.	Halchalit Mahila Kisan Women Farmers Producer Company Limited	Little Millet Kodo millet	200 250

6.	Ananta Aadarana Millet Farmers Producer Company Limited	Foxtail millet Little Millet	300 200

Table 7 indicates the list of FPOs to whom ICAR-IIMR has supplied seeds of millets to promote the adoption of good quality of seeds in the production of millets. IIMR has supplied 200 Kg of Foxtail millet seeds to Visakha Millet Farmers Producer Company Limited. Little Millet (100 Kg), Foxtail millet (100 Kg) and Proso millet (50 Kg) seeds were supplied to Hulsoor Mahila Kisan Millets Producer Company Limited. 100 Kg each of Little Millet and Foxtail millet were supplied to Aland Bhootai Millets Farmers Producer Company Limited. Sorghum (300 Kg), Ragi (200 Kg) and Foxtail millet (150 Kg) were supplied to Mahabubnagar Farmer Producer Company Limited. Little Millet (200 Kg) and Kodo millet (250 Kg) seeds were supplied to Halchalit Mahila Kisan Women Farmers Producer Company Limited. 300 Kg of Foxtail millet and 200 Kg of Little Millet were supplied to Ananta Aadarana Millet Farmers Producer Company Limited. ICAR-IIMR is working in the direction to promote the production, processing and value addition of millets to infuse the habit of consumption of millets among the folk to maintain good health.

Linking Millet Startups with FPOs

ICAR-Indian Institute of Millets Research (IIMR), is the nodal agency working on all aspects of millets research and development in the country. Nutrihub is a focal point where ideas, entrepreneurs, agripreneurs, start-ups, experts, the academic and the funding agencies shall gravitate towards the creation of a new knowledge-based economy. ICAR-IIMR under Nutrihub has incubated 15 startups and those have started their business on millet-based value addition and are marketing their produce in their own brand. In this connection, an effort was made to link Millet FPOs to these startups to sell the millets produced by FPOs of IIMR. This is a win-win situation for both FPOs as well as the startups where the former could find the right market and the latter could get quality produce for further processing and value addition.

Conclusion

FPOs have been playing a major role in bringing together like minded farmers and helping them help themselves by means of the collective purchase of inputs and marketing of their produce in bulk by overcoming the middlemen in the long chain of the marketing channel. Thus, the IIMR as a CBBO is involved in integrating FPOs with both forward and backward linkages in agriculture. The main objective is to bring economies of scale to the farmers by improving the income of the farmers. The IIMR as a CBBO for 25 FPOs and resource organization for six FPOs has come up with market linkages to help farmers to sell their produce. In this connection, IIMR has successfully linked three FPOs to market future strategies anticipating that these FPOs will bring about significant changes in the lives of small and marginal farmers. However, a majority of these FPOs are in the formation stage and hence require proper guidance and suggestions regarding improving the value of their produce by means of processing and value addition. Ultimately the FPOs in general and farmers, in particular, need a proper channel to market their produce.

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Socio-Economic Impact of Farmer Producer Company on its Members

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Abstract

The present study on the socio-economic impact of Farmer Producer Company on its members was undertaken in Nashik district of North-Western region of Maharashtra state with a sample size of 120 respondents from two Farmer Producer Companies. Mean and percentage change was calculated as pre and post participation of members in the FPOs. This percentage change was then considered for the extent of impact of each parameter. As regards the impact on social status, the changes observed were in the self-confidence of FPO members which was 40.87 per cent and 'Z' value (11.45), in interaction with officials it was 56.68 per cent and 'Z' value (9.11), in communication skills 56.25 per cent and 'Z' value (10.45) and the change in social participation was 53.59 per cent and 'Z' value (8.08). As regards the impact on economic status, changes observed were in employment generation which was 52.25 per cent and 'Z' value (9.58), in subsidiary occupation it was 43.12 per cent and 'Z' value (9.46), in annual income it was 61.27 per cent and 'Z' value (9.75), in annual expenditure 40.00 per cent and 'Z' value (7.24) and the change in annual savings was 81.56 per cent and 'Z' value (10.54). Overall the mean impact of Farmer Producer Company on its members after participation, over pre participation was 54.01 per cent.

Keywords: Farmer Producer Company, Social status, Economic status, Impact, Members

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Introduction

Agriculture in India is predominantly production oriented, confined in a large number of fragmented small holdings and plays a pivotal role in the Indian economy. It provides employment to around 56 per cent of the Indian workforce, contributes to the overall growth of the economy and reduces poverty by providing employment and food security to the majority of the population. For bringing the industry and agriculture closer, the Indian Government has initiated a new organizational pattern in agricultural production and marketing to integrate large firms and encouraged the groups of small and marginal farmers who are the main manufacturers of agricultural output and linked with the corporate buyers.

Farmer Producer Organization (FPO) or collectivization of producers, especially small and marginal farmers into producer organizations has come out as one of the most efficient pathways to address the many challenges of agriculture, but more significantly, improved approach to investments, input, technology and markets. The Department of Agriculture and Cooperation, Ministry of Agriculture, Govt. of India has identified Farmers Producer Organization registered under the particular provisions of the Companies Act, 1956 as the most appropriate institutional form around which to mobilize farmers and establish their capacity to jointly leverage their production and selling effectiveness. An expert committee led by noted economist, Y. K. Alagh (2007) recommended setting up of producer companies in 2002 by incorporating a new Part IXA into the Companies Act of 1956. The objective of the committee was to frame a legislation that would enable the incorporation of cooperatives in agriculture as producer companies and conversion of existing cooperatives into producer companies. The committee recommendation took care of ensuring the unique elements of cooperative business with a regulatory framework similar to that of companies.

Producer organizations have an important role to play in the current agricultural scenario given the increase in total landholdings as well as

increased fragmentation. Due to increased fragmentation and sub-division, farmers with marginal landholdings face a variety of issues relating to credit, market access, and technology adoption. This is a key rationale for the critical discussion around FPOs and their role in promoting sustainable agriculture and forms a core part of the motivation. The World Development Report 2008 of the World Bank, focuses on 'Agriculture for Development' and suggests that for smallholders, producer organizations are essential to achieve competitiveness and ultimately improve their welfare.

This study was taken up to know the socio-economic impact of Farmer Producer Company on its members. The results of the study highlighted the significant contribution of farmers organization towards developing the socio-economic conditions of farmers, thus making them self-sufficient and self-reliant. The study provided a reasonable understanding about the facilitating and inhibiting factors in the 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 the efficiency of farmer producer companies and will be helpful for development agencies for effective formulation of strategy for initiation and upscaling of farmer organizations in other areas.

Methodology

The study was conducted in Nashik district of Maharashtra state. For the present study, two major FPOs were selected from Niphad and Dindori tahsils as they adequately represent successful and assessable case studies of producer companies. 1) Sahyadri Farmer Producer Company Ltd. is India's largest grape exporting company and India's largest tomato procuring group. The company is also involved in processing activities covering a wide range of products such as fruit juice, ketchup, jam and jelly. 2) Om Gayatri Farmer Producer Company Ltd. is also involved in the manufacturing and wholesaling of fresh fruits and vegetables. This company is emerging as a successful company in raising nursery and its

sale. To study the impact of FPOs on their members, 60 members from each FPO, whose membership tenure in the company was a minimum of 3 years, were purposively selected. Thus a total of 120 members from the two FPOs constituted the sample of the study. An ex post facto research design of social research was used for the present investigation. Survey method was followed for data collection. The data were collected through personal interviews of respondents at their homes and farm. The socio-economic impact of being a member of the FPO was measured based on parameters i.e. impact on social status which included change in self confidence, change in interaction with officials, change in communication skills and change in social participation. Impact on economic status included change in employment generation, change in subsidiary occupation, change in annual income and change in annual savings. The per cent change in different aspects of the respondents after participation in the FPO was computed by using the formula:

$$\text{Per cent change} = \frac{\text{AP score-BP score}}{\text{BP score}} \times 100$$

Where,

AP = Mean score of member after participation in FPC

BP = Mean score of member before participation in FPC

The overall socio-economic impact of the FPO on its members was calculated by summing the score on nine dimensions of impact and converting into per cent change.

$$\text{Overall impact of FPC} = \frac{\Sigma DD1+DD2--------+DD9}{ND}$$

Where,

ΣDD1+DD2--------+DD9 = Sum of per cent difference in nine dimensions of impact.

ND = Number of dimensions

To test the significance of overall socio economic impact on before and after participation the mean score of FPO members was calculated by "Z test".

Z test is calculated by using the following formula:

$$Z = \frac{|X1 - X2|}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

Where,

X1 = Mean score of before participation in FPC

X2 = Mean score of after participation in FPC

S_1^2 = Standard deviation of before participation in FPC

S_2^2 = Standard deviation of after participation in FPC

n_1 = Sample size of before participation in FPC

n_2 = Sample size of after participation in FPC

The significance of calculated value is tested with the table value of 0.01 to 0.05 level of probability at $n_1 + n_2 - 2$ degrees of freedom.

Results and Discussion

For calculating the socio-economic impact of FPOs on their members, the mean for each indicator was calculated and the mean difference was worked out to get the per cent change of that indicator. The per cent change was then considered for determining the extent of impact for the particular indicator.

It is depicted from Table 1 that regarding the impact on social status with respect to change in self confidence of members of FPOs, the mean score after participation was 3.47 whereas, that before participation was 2.46 and the per cent change recorded was 40.87 per cent over the pre participation.

The 'Z' value (11.45) depicted that there is significant difference in self confidence level of members after participation in FPO. In case of change in interaction with officials it has been noticed that the mean score after participation was 2.44 whereas, the score before participation was 1.55. Average per cent change in interaction with officials was 56.68 per cent as compared to before participation and 'Z' value of 9.11 indicated the significant difference in interaction with officials due to participation in FPO. The data on change in communication skills showed that the mean score after participation was 2.50 whereas, before participation it was 1.60 with per cent change of 56.25 per cent over pre participation as 'Z' value (10.45) depicted the significant difference in communication skills of the members. Regarding the change in social participation the mean score after participation was 6.75 whereas, that before participation was 4.4 with a per cent change of 53.59 per cent over pre participation. The 'Z' value of 8.08 showed a significant difference in the social participation of members after becoming members of FPO.

Table 1. Overall Socio-Economic Impact of Farmer Producer Company on its Members

S. No.	Particulars	Mean score		% change	Z Value
		Before	After		
A.	**Impact on social status**				
1	Change in self confidence	2.46	3.47	40.87	11.45**
2	Change in interaction with officials	1.55	2.44	56.68	9.11**
3	Change in communication skill	1.60	2.50	56.25	10.45**
4	Change in social participation	4.4	6.75	53.59	8.08**
B.	**Impact on economic status**				
1	Change in employment generation	155	236	52.25	9.58**
2	Change in subsidiary occupation	2.67	3.81	43.12	9.46**
3	Change in annual income	454625	733208	61.27	9.75**
4	Change in annual expenditure	221875	310625	40.00	7.24**
5	Change in annual savings	232750	422583	81.56	10.54**
	Overall impact of FPC			**54.01 %**	

*** Significant at 0.01 level of probability*

Table 1 also reveals the impact on the economic status. In case of change in employment generation the mean employment generation after participation was 236 days and before participation it was 155 days. The average per cent change of employment generation is 52.25 per cent as compared to before participation and 'Z' value is 9.58 which revealed the significant difference in employment generation of members of FPOs after participation. It is observed from the above table that the mean score change in the subsidiary occupation of members of FPOs after participation and before participation was 3.81 and 2.67 respectively and per cent change of 43.12 was recorded over pre participation as 'Z' value (9.46) depicted that there is a significant difference in the subsidiary occupation of the members after participation in FPO.

As regards the change in annual income, the mean annual income of members after participation was Rs. 7,33,208 whereas before participation mean annual income was Rs. 4,54,625. The average per cent change was 61.27 per cent as compared to before participation and 'Z' value 9.75 indicated that there is a significant difference in the annual income of members of FPOs after participation. In case of change in annual expenditure, mean annual expenditure after participation was Rs. 3,10,625 and before participation it was Rs. 2,21,875 and per cent change of 40.00 per cent was recorded over pre participation. The 'Z' value of 7.24 showed a significant difference in the annual expenditure of members after becoming members of FPO. As regards the change in annual savings, the mean annual savings of members after participation was Rs. 4,22,583 whereas before participation mean annual savings was Rs. 2,32,750. Average per cent change of 81.56 per cent was observed over pre participation and the 'Z' value of 10.54 depicted the significant difference in annual savings of members after participation in FFO. The overall mean difference between after participation and before participation in FPO was 54.01 per cent.

It means the overall impact of FPOs on its members in terms of impact on social status and impact on economic status was around 54 per cent. Thus, it could be definitely stated that the FPO had a positive and significant

impact on its members. These findings are in conformity with the findings of Ahire and Kapse (2015) and Chopade (2019) as they also found a positive and significant impact of FPOs.

Table 2. Coefficient of Correlation of Selected Characteristics of Members of FPO and their Overall Impact

S. No.	Independent Variables	Overall impact (r value)
1	Age	-0.2600**
2	Education	0.2948**
3	Land holding	0.7452**
4	Cosmopoliteness	0.2573**
5	Extension contact	0.1839*
6	Innovativeness	0.2595**
7	Economic motivation	0.2552**
8	Risk orientation	0.2625**

*** Significant at 0.01 level of probability*

** Significant at 0.05 level of probability*

The data pertaining to correlation analysis are presented in Table 2. The correlation coefficients presented in Table 2 represent the relationship of independent variables with the overall impact of farmer producer company. It is depicted from the table that education, land holding, cosmopoliteness, innovativeness, economic motivation, risk orientation were having highly positive relationship with impact at 0.01 level of probability. Extension contact was found significantly correlated at 0.05 level of probability. Age had negatively significant relationship with the impact.

It is concluded that improving the education, cosmopoliteness, extension contact, innovativeness, economic motivation and risk orientation of young and middle aged members with more land holding will result in significant change in their socio-economic conditions. These findings are in conformity with the findings of Ahire and Kapse (2015) and Chopade (2019).

Conclusion

The results of the study revealed that, the FPOs had a positive and significant impact on change in social and economic status of the members. The existing positive impact on farmers needs to be harnessed by increasing their participation in FPOs through increasing the membership of existing FPOs and establishing new FPOs. Generally, small and marginal farmers who are relatively younger, educated and more informed have a great probability of participating in FPOs. It was observed from the study that FPOs have the dual responsibility of balancing social and economic objectives. Well-run and stable FPOs have the potential to improve farmer's income, reduce their exposure to risk and contribute to social and economic empowerment. If such type of companies are established in other areas within and outside Maharashtra, it will ultimately help to increase the socio-economic status of farmers.

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Management of Farmer Producer Companies (FPCs) - Issues and Challenges

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Abstract

The concept of FPOs or collectivization of farmers is not a new thing to the Indian Agriculture Sector. We experienced cooperative movement for more than 100 years. However, the cooperative could not achieve greater success on account of inherent limitations. Hence, a new generation of FPOs registered under Companies Act came up in the year 2002 on the recommendations of Prof. Y K Alagh Committee. Farmer Producer Company (FPC) a legal institution, registered under Company Amendment Act 2002 (1 of 2003) or also called Producer Company Act 2002 is emerging as the most effective means of Farmer Producer Organization (FPO) to cater to the needs of farmers at the grassroots level. This paper explains the concept of FPCs, their salient features, objectives, legal provisions along with steps to form and run FPCs. It also explains the powers and functions of Board Members, CEOs and other officer bearers and describes the status of FPCs in India with the schemes of Govt. of India which support FPCs in the country.

Keywords: Farmers Producer Organizations, Farmers Producer Companies, FPOs, FPCs, India

Introduction

Agriculture plays an important role for the source of livelihood about 58% of India's population. According to the India Brand Equity Foundation (IBEF), Gross Value Added by agriculture, forestry, and fishing is estimated at Rs. 19.48 lakh crore (US$ 276.37 billion) in FY20.

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Currently, Agriculture sector contributes nearly 14 percent of total GDP. As per the Agricultural Census, 2015-16, the proportion of small and marginal farmers grew from 84.9% to 86.2%, while the total number of operational holdings grew from 138 million to 146 million. However, the total area under farming, fell from 159.6 million hectares in 2010-11 to 157.14 million hectares. This is due to the existence of a large number of small and marginal farmers, close to 126 million. Further, these 126 million farmers together owned about 74.4 million hectares of land or an average holding of just 0.6 hectares each-not enough to produce surpluses which can financially sustain their families, explaining the rising distress in Indian agriculture. Between 2010-11 and 2015-16, the number of small and marginal farms rose by about 9 million. For all farmers put together, the size of average land holding declined from 1.15 hectares in 2010-11 to 1.08 hectares in 2015-16.

"The rise in the number of small and marginal farmers signifies that the rest of the economy is unable to absorb the surplus. According to Ashok Gulati, an agriculture chair professor at New Delhi-based Indian Council for Research in International Economic Relations. India has to live with its small-sized farms for the next two decades and the way out is to provide them access to the best technology and markets, the way China did it,"

State-wise data from the survey showed that Uttar Pradesh accounted for the largest number of operational holdings or farmers at 23.8 million followed by Bihar (16.4 million) and Maharashtra (14.7 million). Among operated or farmed areas, Rajasthan topped the list with 20.9 million hectares, followed by Maharashtra (19.9 million hectares) and Uttar Pradesh (17.45 million hectares). The survey also showed that the proportion of farms that are operated by women rose from 12.8% in 2010-11 to 13.9% in 2015-16, signifying that more women are managing farm operations.

Concept of FPO:

FPO is a formal organization registered under an Act or an authority, where the members are only from farming activities. Farmers Producers Organization are expected to provide end-to-end support and services to the small farmers, and cover technical services, marketing, processing, and others aspects of cultivation inputs.

The concept of FPOs or collectivization of farmers is not a new thing to the Indian Agriculture Sector. We experienced cooperative movement for more than 100 years. However, the cooperative could not achieve greater success on account of inherent limitations. Hence, a new generation of FPOs registered under Companies Act came up in the year 2002 on the recommendations of Prof. Y K Alagh Committee.

The idea behind the Farmer Producer Organizations (FPO) was that "Farmers, who are the producers of their agricultural products, can form the groups and can register themselves under the Indian Companies Act".

The goal is to enhance the farmers' competitiveness and to increase their advantage in emerging the market opportunities. The major operations of Farmers Producer Organization (FPO) include the supply of seed, machinery, market linkages & fertilizer, training, networking, financial and technical advice.

The main aim of the Farmer Producer Organization is to ensure a better income for the producers through an organization of their own.?Small producers do not have the volume individually to get the benefit of economies of scale. In agricultural marketing, there is a chain of intermediaries, who often work non-transparently leading to the situation, where producer receives only a small part of the value, which the ultimate consumer pays. This will be addressed in this new form of collectivization. Through accumulation, the primary producers can avail the benefit of the economies of scale. Farmers have better bargaining power in the form of bulk buyers of produce and bulk suppliers of inputs.

In the new scheme of promotion of 10,000 FPOs, priority is given for the formation of Farmer Producer Organization in aspirational districts with at least one FPO in each block of the aspirational districts.

What is FPC?

It is a legal institution, registered under Company Amendment Act 2002 (1 of 2003) or also called Producer Company Act 2002 is emerging as the most effective means of Farmer Producer Organization (FPO) to cater to the needs of farmers at the grassroots level. The new type is termed as 'Producer Company', to indicate that only certain categories of persons can participate in the ownership of such companies. Farmer Producer Company (FPC) is a means to bring together the small and marginal farmers and other small producers in the local communities to build their own business enterprise that will be managed by professionals.

A Holistic Concept:

1. FPC is an entity for, by and of producers - only primary producer can become member
2. Needs government funding - due to lack of capital, Govt. intervention is needed
3. FPC managed by professionals - in the form of Board of Directors
4. Producers are responsible for on farm activities - converge and aggregate for pooling their produce
5. Managed by professionals - with management background (CEOs)

FPC-Salient Features

1. FPC is hybrid between a joint stock company and a co-operative. Best practices from cooperatives and best practices from joint stock companies have been borrowed. It has the merits of both a company and co-operative organization

2. Any ten or more persons in any activity connected with primary produce, or any two or more producer institutions or companies as a combination of ten or more individuals or producer institutions Company shall be termed as limited and the liabilities of the members will be limited to the amount, if any unpaid on the shares
3. The capital is contributed by the equity contributed by the members in the form of share capital.
4. FPC provides statutory and regulatory framework that creates the potential to compete with other enterprise on competitive footing can form a FPC
5. Producer company is bound to comply legal provisions provided in the amended Companies Act 1956 (chapter IX A)

Objectives:

The main objective of mobilizing farmers into member- owned producer organizations, or FPCs, is to enhance production, productivity and profitability of agriculturists, especially small farmers in the country. The following activities may be carried out by the members:

1. Production, harvesting, processing, procurement, grading, pooling, handling, marketing, selling, and export of primary produce of the members or import of goods or services for their benefit.
2. Manufacture, sale or supply of machinery, equipment or consumables mainly to its members
3. Promoting mutual assistance, welfare measures, financial services, insurance of producers or their primary produce;

FPC members are able to leverage collective strength and bargaining power to access financial and non-financial inputs and services and appropriate technologies leading to reduction in transaction costs. Members can also collectively tap high value markets and enter into partnerships with private entities on equitable terms.

Professionals take over all the risks and responsibilities of producers, other than on-farm activities

Legal Provisions Governing the Farmer Producer Companies

Formation of Producer Company and its Registration

Section 581C of the Act provides that, any ten or more individuals, each of them being a producer or two or more producer institutions or a combination of ten or more individuals and producer institutions, desirous of forming a producer company may form an incorporated company. The objectives of such producer company may be framed as specified in Section 581B as Producer Company under this Act after complying with the requirements and the provisions of the Act in respect of registration. However, with five or ten members under Indian Conditions, it may not be enough to achieve the scale. Hence, Government of India has recommended mobilization of at least 500 farmers in its scheme for promotion of 10,000 FPOs.

Steps of Forming Producer Company:

Registration: The documents required:

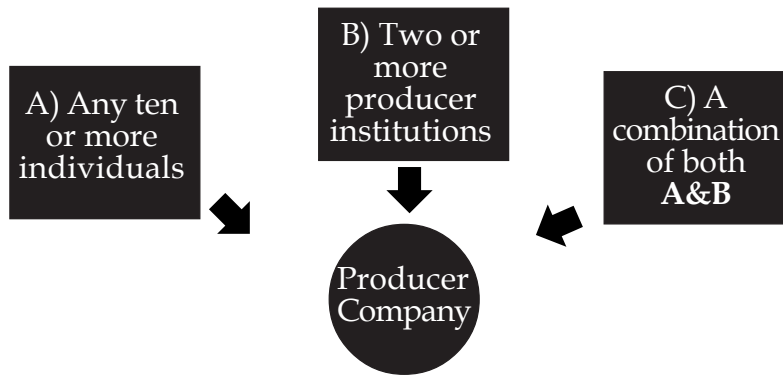
1. Application of pan card for the individual farmer members and farmers institutes members
2. Digital signature certificate for at least on Director
3. Director Identification number (DIN)
4. Naming of a producer company
5. Preparation of Memorandum and Articles of Association

The Registrar on being satisfied that all requirements relating to registration and incidental matters have been complied with shall register the memorandum, articles and other documents and issue a certificate of incorporation within 30 days of the receipt of the documents for registration. On registration, the Producer Company shall be deemed to be a private company limited by shares without any limit on the number of members.

Who can start?

There are three ways to start enrolment of membership

1. Any ten ore more individuals can come together & form FPC
2. Two or more producer institutions come together and for FPC
3. A combination of both can be registered into FPC



Note: All the members of a producer company should be involved in agriculture.

Advantages

1. Organized operations and greater flexibility
2. No painstaking registration process
3. No physical presence required
4. No requirement of a minimum paid-up capital
5. Tax benefits under section 12AAand 80G of the Income Tax Act
6. Any partnership firm can be a member of its individual capacity and obtain directorship

Basic Requirements for Incorporation

- A person engaged in production of primary produce can become member of FPC.
- For incorporating a Producer Company, minimum 5 Directors and 10 members are required.
- There is no minimum paid up capital prescribed for formation of the company.
- The registered office address has to be situated in India.

Memorandum of Association (MoA)

MoA helps to understand the nature of company and its relationship with external environment MOA consists of the following information. - Name Clause - Should end with "Producer Company Limited" - Situation Clause - Object Clause - Liability Clause - Capital Clause - Subscriber Clause - Subscriber who shall act as Directors - Territories the objects extend.

Articles of Association

AOA will provide the information regarding, who can be a member, their voting rights, appointment of Directors, CEO and chairman their duties and responsibilities, tenure in office and rotation and reappointment, usage of surplus funds in the company, relationship with other producer companies and institutions. The AOA also has the procedure for transferability of shares, cancellation of membership; ascertain who is an active member, allotment of shares, the credit, loans or advances which may be granted to a Member and the conditions for the grant of the same. The members can also include any other condition by passing a special resolution.

Voting Rights

Section 581Z states that except as provided in Section 581D(1) (regarding voting rights of individual members and Producer Institutions), and 581D(3)

(regarding voting rights to active members), every member of the Producer Company shall have one vote irrespective of the number of shares held by him. In the case of equality of votes, the Chairman or the person presiding over the meeting shall have a casting vote, except in the matter of election of the Chairman.

General Meetings

- Mandatory every year - gap of not more than 15 months between two AGMs extension can be given by Registrar of Companies (ROC) (except for 1st AGM) - not more than 3 months
- First AGM - within 90 days from incorporation
- Resolution - Ordinary and Special Ordinary - simple majority Special - 3 /4thof the Members present and voting

Dispute Settlement

As per section 581ZO of the Companies Act, any dispute between the Directors or members or a combination of Both or another stakeholder of the company with such producer company shall be resolved only through conciliation or by arbitration as provided under the Arbitration and Conciliation Act, 1996 (26 of 1996)

Notice for AGM

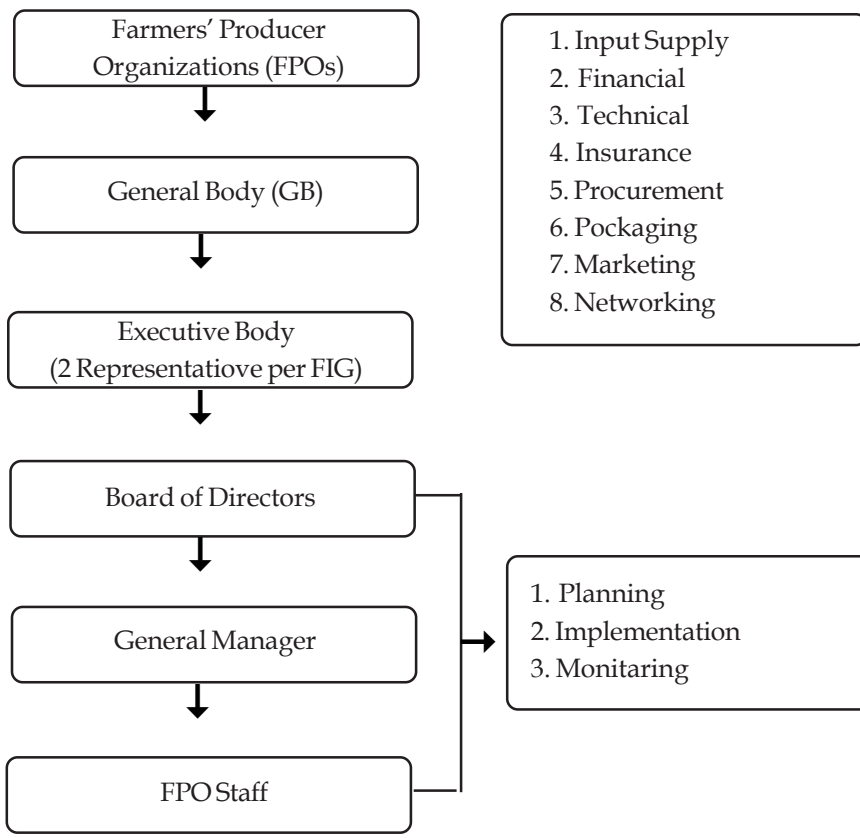
- AGM notice should be given in not less than 14 days prior notice
- AGM notice should be given during business hours on a day other than public holiday - at registered office or any place in city / town / village where registered office id situated
- AGM notice should contain contents of notice - date , time and place o Addressed to - every member & audit

Quorum of the General Meeting

Section 581Y of the Act provides that unless Articles of Association require a larger number, one fourth of the total membership shall constitute the quorum at a general meeting.

Management of FPC

- Every FPC is to have five or not more than fifteen Directors
- A full time chief Executive is to be appointed by the Board
- He shall be an ex-officio Director and will not be liable to retire by rotation
- Shall be entrusted with substantial powers of management as the board may determine



Powers and Functions of Board

The Board of Directors of a Producer Company shall exercise all such powers and do all such acts and things, as a Producer Company is authorized so to do. [Section 581R (1)] However, in terms of the provisions of Section 581R (2), the Board of Directors may exercise the following powers without prejudice to the generality of the foregoing powers:

a) Determination of the dividend payable;

b) Determination of the quantum of withheld price and recommend patronage to be approved at general meeting;

c) Admission of new Members;

d) Pursue and formulate the organizational policy, objectives, establish specific long-term and annual objectives, and approve corporate strategies and financial plans;

e) Appointment of a Chief Executive and such other officers of the Producer Company, as may be specified in the Articles; Exercise superintendence, direction and control over Chief Executive and other officers appointed by it;

f) cause proper books of account to be maintained; prepare annual accounts to be placed before the annual general meeting with the auditor's report and the replies on qualifications, if any, made by the auditors;

g) Acquisition or disposal of property of the Producer Company in its ordinary course of business. Investment of funds of the Producer Company in the ordinary course of its business;

h) Sanction any loan or advance, in connection with the business activities of the Producer Company to any Member, not being a director or his relative. Take such other measures or do such other acts as may be required in the discharge of its functions or exercise of its powers.

All the above powers can be exercised only by means of a resolution passed by the Board at its meeting on behalf of the Producer Company.

Chief Executive and His Functions

As per Section 581W, a full time Chief Executive shall be appointed by the Board by whatever name called who, shall not be a member of the company. He shall be the ex-officio director, and shall not retire by rotation. The qualifications, experience and the terms and conditions shall be such as may be determined by the Board. The Chief Executive, who shall be entrusted with substantial powers of the management, shall manage the affairs of the Producer Company but subject to the superintendence, direction and control of the Board and be accountable to the Board for the performance of the Producer Company. The various functions that may be discharged by a chief executive may inter alia include managing the day to day affairs of the company, maintaining proper books of accounts, furnishing members with periodic information, assisting the Board with respect to legal and regulatory matters making appointments and discharge of such other functions as may be delegated by the Board.

Secretary of Producer Company

Section 581X of the Act provides that every Producer Company having an average annual turnover exceeding five crore rupees in each of three consecutive financial years shall appoint a member of the Institute of Company Secretaries of India as a whole-time Secretary of the company. If a Producer Company fails to appoint Company Secretary, the company and every officer of the company who is in default, shall be punishable with fine which may extend to five hundred rupees for every day during which the default continues. However, in any proceedings against a person in respect of an offence for failure to appoint a Company Secretary, it shall be a defence to prove that all reasonable efforts were taken to comply with the provisions or that the financial position of the company was such that it was beyond its capacity to appoint a whole-time secretary.

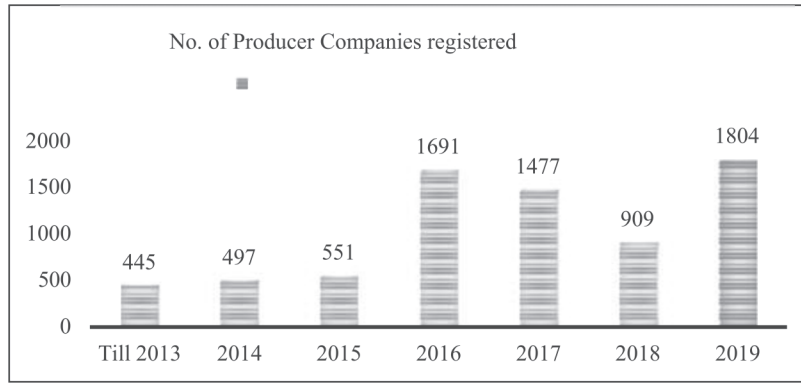
Members' Benefit

1. Members will initially receive only such value for the produce or products pooled and supplied as the directors may determine.
2. The withheld amount may be disbursed later either in cash or in kind or by allotment of equity shares.
3. Members will be eligible to receive bonus for shares
4. There is a provision for the distribution of patronage bonus (akin to dividend) after the annual accounts are approved - patronage bonus means payment out of surplus income to members in proportion to their respective patronage (not shareholding).

Status of FPCs in India

As mentioned earlier, the producer company amendment to the Companies Act was approved by the President of India on Dec 31, 2002, and came into effect in January 2003. Therefore, we collected data on all producer companies registered between Jan 1, 2003 and March 31, 2019.

S. No.	Year	No. of Producer Companies registered	% change over previous year
1.	Till 2013	445	-
2.	2014	497	11.69
3.	2015	551	10.87
4.	2016	1691	206.90
5.	2017	1477	-12.66
6.	2018	909	-38.46
7.	2019	1804	98.46
Total		**7374**	



State wise No. of FPCs registered in India

The very first company registered as a producer company in India was 'Farmers Honey Bee India Producer Company Ltd.', which was registered on June 6, 2003 in Chandigarh. Another four companies were subsequently registered in FY04 (i.e. between Apr 1, 2003 and Mar 31, 2004), bringing the total of producer companies to 5 in the first financial year after notification of the amendment.

No. of Registered FPCs	7374
Coverage	4.3 Million small farmers
average number of shareholders	582 per PC
Total paid-up capital across all 'active' PCs	Rs.844 crore (20 PCs contribute > 50% of total PUC)
PCs with > Rs.10 Lakh PUC	14%
PCs with < Rs.1 lakh PUC	49%
farm-based FPCs	92%
Women led FPCs	3%
50 per cent of PCs	In 4 states
PCs with < 3 yrs age	79%

Producer companies have been registered in 33 out of 36 states and union territories in India. Maharashtra has more number of producer companies

(1940), which is more than the next three states combined. Four states, namely, Maharashtra, Uttar Pradesh, Tamil Nadu and Madhya Pradesh account for about half the producer companies registered until March 31, 2019

State / UT	**PCs registered**	**% of PCs**
Maharashtra	1940	26%
Uttar Pradesh	750	10%
Tamil Nadu	528	7%
Madhya Pradesh	458	6%
Telangana	420	6%
Rajasthan	373	5%
Karnataka	367	5%
Odisha	363	5%
Bihar	303	4%
Haryana	300	4%
West Bengal	274	4%
Andhra Pradesh	238	3%
Kerala	215	3%
Gujarat	183	2%
Jharkhand	133	2%
Chhattisgarh	114	2%
Assam	112	2%
Delhi	57	1%
Punjab	56	1%
Uttarkhand	37	1%
Manipur	30	<1%
Himachal Pradesh	22	<1%
Others	101	1%
Total	**7374**	**100%**

Top 20 districts with largest No. of FPCs

As mentioned earlier, we mapped all producer companies to 640 districts per Census of India 2011. The average number of PCs per district is 11.5 while the median is 7.

The top 20 districts with the most number of PCs have a combined total of 1688 producer companies, constituting nearly one-fourth of all producer companies in the country Not surprisingly, out of these top 20 districts, 16 are in Maharashtra.

State	District	Number of PCs
Maharashtra	Pune	185
Maharashtra	Ahmadnagar	162
Maharashtra	Nashik	136
Maharashtra	Latur	133
Maharashtra	Aurangabad	119
Maharashtra	Osmanabad	88
Maharashtra	Amravati	81
Maharashtra	Bid	74
Uttar Pradesh	Lucknow	72
Maharashtra	Buldana	68
Andhra Pradesh	Warangal	64
Maharashtra	Jalna	63
Maharashtra	Solapur	62
Andhra Pradesh	Mahabubnagar	61
Maharashtra	Jalgaon	60
Maharashtra	Sangli	56
Maharashtra	Yavatmal	52
Andhra Pradesh	Medak	51
Maharashtra	Nagpur	51
Maharashtra	Kolhapur	50
Total		**1688**

Problems encountered in the management of FPCs

Mobilization of farmers: -

Mobilization of farmers into a group and holding them in collective way is a challenging task. Even though, the promoters succeed in group formation, often these groups' members are reluctant to contribute share capital and thus suffer from lack of working capital.

Problems related to financing: -

As Farmer Producer Organizations are not having anything other than farmer member's equity to leverage borrowings, it's very difficult for any banking system to provide them capital in huge amounts. Two main challenges in financing FPOs face in accessing credit from Financial Institutions are low equity capital through mobilization of farmers and lack of tangible security and physical assets.

Lack of/ Inadequate Professional Management

Farmers' Organizations are required to be efficiently managed by experienced, trained and professionally qualified CEO and other personnel under the supervision and control of democratically-elected Boards of Directors. However, such trained manpower is presently not available in the rural space to manage FPO business professionally.

Lack of Risk Mitigation Mechanism

Presently, while the risks related to production at farmers' level are partly covered under the existing crop / livestock / other insurance schemes, there is no provision to cover business risks of FPOs.

Inadequate Access to Market

Marketing of produce at remunerative prices is the most critical requirement for the success of FPOs. The input prices are largely fixed by corporate producers. There are more market opportunities; if FPOs can identify local

market needs of the consumers and have tie- up for sale of its produce. The linkage with Industry/ other market players, large retailers, etc. is necessary for long term sustainability of FPOs.

Inadequate Access to Infrastructure

The producers' collectives have inadequate access to basic infrastructure required for aggregation like transport facilities, storage, value addition (cleaning, grading, sorting, etc.) and processing, brand building and marketing. Further, in most of the commercial farming models, the primary producers are generally excluded from the value chain.

Lack of technical Skills/ Awareness

Inadequate awareness among the farmers about the potential benefits of collectivization & non availability of competent agency for providing handholding support. Further, lack of legal and technical knowledge about various Acts and Regulations related to formation of FPOs and statutory compliances thereafter.

To overcome the management issues faced by the FPOs, the following schemes are initiated by Government of India:

1. Promotion of 10,000 FPOs
2. Equity Grant Scheme
3. Venture Capital Assistance
4. Agri. Infrastructure Fund
5. MIDH Scheme
6. Scheme of Ministry of Food Processing
7. Scheme of APEDA
8. Various State Govt. Schemes
9. E-NAM scheme

Conclusion

Farmer Producer Organizations help small and medium farmers of Indiaas registered FPCs or Co-operatives.. But they do have certain limitations related to finance and managerial skills like negotiation and leadership, so necessary steps should be taken by NBFC and by entrepreneurship development institute to overcome both the issues respectively. Other than this, Board of Directors of FPOs should also be trained in how to prepare a business plan.

Promoting Institutes should involve themselves more and more with FPOs so that they can help them in networking the business. Still, a large portion of farmers who belong to the small and marginal land holding category are facing problems due to market intermediaries, FPOs should find some permanent solution of this problem like registration with APMC and e-NAM. By using different extension techniques, if FPOs can teach their farmers about Good Agricultural Practices (GAP) and time to time update them with latest technologies and researches related to agriculture and allied sciences which can help them producing crops in efficient and effective way. At the end, if we really talk about ground reality, Government of India does not actively promoted these FPOs and leaves their setup to resource institution like NGOs present in that area. So, help from policy making institute like SFAC will be advantageous to farming community especially to small farmers.

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www.agricoop.nic.in

Impact of Farmers Producer Company on Members

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Abstract

Farmers Producer Companies (FPCs) are envisaged to collectivize small farmers for backward linkage for input like seed, fertilizers, credit, insurance, knowledge and extension services and forward linkage. The present study attempts to assess the extent of impact of Farmers Producer Company (FPC) on their members in relation to family income socio-economic behavior, risk taking ability, marketing behavior, awareness about scientific fact and new technology. The Ganeshpur Farmers Producer Company, Mouza Jakha, Taluka & Dist. Bhandara in Maharashtra was selected to study impact of FPC on its members on broad parameters like change in annual income, change in annual expenditure, change in annual saving, change in social participation, and change in employment generation. It was found that there the FPC made an overall impact of 19.63 per cent on its members after they joined it.

Keywords: Farmers Producer Companies, Farmers Producer Organizations, FPCs, FPOs, India

Introduction

Agriculture remains the largest source of livelihood in Indian economy. About 45 per cent Indian population depend on agriculture for employment. In India role of small farms (and small holdings) in poverty eradication is well recognized (Lipton, 2006). However, in the absence of robust public/private support system at the ground level farmers face challenges in accessing land, water, inputs, credit, technology and market.

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Then, there are emerging challenges like risk and vulnerabilities due to climate change and natural calamities (Thapa and Gaiha ,2011).

For bringing industry and agriculture closer together, the Indian Government has initiated new organizational pattern in agriculture production and marketing to integrate large firms and encouraged the groups of small and marginal farmers who are the main manufactures of agricultural output and linked with the corporate buyers.

Farmers Producer Organizations (FPOs) are collectivization of producers, especially low and marginal farmers into the producer organizations. FPOs have come out as one of the most efficient pathways to address the many challenges of agriculture, but more significantly, improved approach to investments, technology and input and markets. Ministry of Agriculture and Farmers Welfare, Govt. of India has identified Farmers Producer Organization registered under the particular provisions of the Companies Act, 1956 as the most appropriate institutional form around which to mobilize farmers and establish their capacity to jointly leverage their production and selling effectiveness.

The basic purpose envisioned for the FPOs is to collectivize small farmers for backward linkage for input like seed, fertilizers, credit, insurance, knowledge and extension services and forward linkage. Such as collective marketing, processing, and market-led agriculture production (Mondal, 2010).

The Food and Agriculture Organization (FAO, 2013) notes that "farmers and rural producers organization (FOs) refer to independent, non-governmental, membership-based rural organization of part or fulltime self-employed smallholders and family farmers, pastoralists, artisanal fishers, landless people, women, small entrepreneurs and indigenous peoples." Producer Companies are also considered to be institutions that have all significant features of private enterprise while incorporating principles of mutual assistance in their mandate similar to cooperatives (Pustovoitova, 2011). Producer Organizations therefore are as supposed to be non-political

entities aimed at providing business services to smallholder farmer members, founded on the principal of self-reliance (Onumah et al.,2007)

Traditionally, small and marginal cultivators sold their produce at the farm gate, often to middleman at low prices. Producer Organization are reported to be positioned well through innovative approaches to transform market arrangements in favor of marginal and small farmers (International Fund for Agricultural Development, 2001). They contribute to livelihood enhancement through provision of substantial gains beyond what is possible within the traditional farming context. FPOs can leverage on the strengths of collectives to engage with the government on reforms in agriculture. While these organizational innovations bring about the benefit of collectives into farming, they also entail cost, particularly in situations of market deficiencies and in context of unavailability of coordinating mechanism that link farmers to market. The benefits and impact of FPOs, as perceived by the members are explained in this paper through a case study.

The policy guidelines propose an organizational structure of FPOs that is aimed at collaborations with academia, research and extension agencies, civil society organizations and corporations. While cooperatives entail benefit to farmers via state intervention, FPOs are perceived to empower farmers through collective bargaining along with instilling an entrepreneurial quality to farming, which otherwise is an issue of subsistence alone, particularly for the small and marginal farmers. These collectives evidently offer ways for small and marginal farmers to participate in the otherwise imperfect market of the developing countries. Research evidence increasingly points to opportunities that farmers organizations create for small and marginal farmers to participate more effectively in markets (Stockbridge et al., 2003). Entry barriers to markets were also reportedly reduced through collective action of small and marginal farmers because of enhance bargaining power. The Indian farmer is connected to the Indian consumer through various supply chain, 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 mandi. The trader in turn sells the crop to another trader and after several such sales; the crop reaches the wholesaler and finally the retailers in cities and towns. The contract farming supply chain is the second system, wherein the farmer contracts to sell his crop to a manufacturer (sometime through one or more intermediates) who then process it and sells the final product in retail markets. A third model, currently in its preliminary stages, will have farmers come together in Farmers Producer Organizations (FPOs) and directly trade their goods to consumer in retail markets.

In Maharashtra, Farmers Producer Company (FPC) were first in the country to respond positively and enthusiastically to make a state level consortium of FPCs. TheTraining-cum-Workshop by MANAGE,Hyderabad and Maharashtra state SFAC, Pune on "Development and Sustainability of Producers Organizations" at MPKV, Rahuri, held on 26 March 2016, wherein majority of FPCs across the state were participated, the idea of formation of State Level Farmers Producer Organization was supported by all FPCs and Promoters were selected unanimously. This led to incorporation of MAHA Farmers Producer Company Limited under Register of Companies, Pune which made impact on farmer livelihood.

In Maharashtra region some Farmers Producer Companies work efficieently. They make positive impact on farmers life although this area is known for continuous drought. The present study was undertaken to assess the extent of Impact of Farmers Producer Company (FPC) on their members in relation to family income socio-economic behavior, risk taking ability, marketing behavior, awareness about scientific fact and new technology.

Methodology

The present study was carried out in Bhandara district of Vidarbha region of Maharashtra state during the year 2019-20. In Bhandara district, there are 7 talukas, out of which only Bhandara taluka was purposively selected as five Farmers Producer Company are established in this taluka however

out of these five Farmers Producer Company, only one Farmers Producer Company namely Ganeshpur Farmers Producer Company, Mouza Jakha, Taluka & Dist. Bhandara under ATMA is presently working since year 2017 with total of 391members. From one selected taluka, 12 villages were purposively selected on the basis of maximum number of members of Farmers Producer Company who benefited since last three years in this village. From 12 selected villages, 10 farmers were selected randomly and was treated them as members for present study. Hence, collectively 120 respondents were selected for the study. The impact refers to the process of perceiving the usefulness of external objects, events and information by means of senses. Operationally, the impact means the effect of the Farmers Producer Company on its member. The impact was assessed on broad parameters like change in annual income, change in annual expenditure, change in annual saving, change in social participation, and change in employment generation. Thus, the overall impact of Farmers Producer Company on its member was computed by calculating average of change in annual income, change in annual expenditure, change in annual saving, change in social participation and change in employment generation.

Findings

1. Change in annual income

It is highlighted from Table 1 that, majority of respondents i.e.,81.66 per cent had earned Rs.43018/- to Rs.171234/- as annual income before joining FPC and 09.17 per cent of respondents had high annual income (Above Rs.171234/-) and 09.17 per cent had low annual income (Up to Rs.43017/-) before joining FPC.

Table 1: Distribution of the Respondents According to their Annual Income before Joining and after Joining of FPC

S.No.	Category	Before joining		Category	After joining		Z
		F	%		F	%	Value
1	Low (Up to Rs.43017)	11	09.17	Low (Upto Rs.66789	11	09.17	
2	Medium (Rs.43018 to Rs.171234)	98	81.66	Medium (Rs. 66790 to Rs.199711)	98	81.66	3.09**
3	High (Above Rs. 171234)	11	09.17	High (Above Rs.199711)	11	09.17	
	Total	**120**	**100.00**	**Total**	**120**	**100.00**	
		Mean= 107125			**Mean = 133250**		
		SD = 64108.83			**SD = 66461.11**		
	% Change = 24.38						

*** Significant at 0.001 level of probability*

After joining FPC, majority of 81.66 per cent respondents had earned Rs.66790 /- to Rs.199711 /- as annual income and 09.17 per cent of the respondents had high annual income (Above Rs.199711/-) and 09.17 per cent had low annual income (Up to Rs.66789) before joining FPC.

It was concluded that annual income of the respondents has increased after joining FPC. This may be due to effective services rendered by FPC to its members. This finding supports a report by Ahire et al (2015) on socio-economic impact of CIG of pomegranate growers

2. Change in annual expenditure

It is highlighted from Table 2 that , majority of respondents i.e.,81.66 per cent had Rs.30112/- to Rs.119864/- as annual expenditure before joining FPC and 09.17 per cent of respondents had high annual expenditure (Above Rs.119864/-) and 09.17 per cent had low annual expenditure (Up to Rs.30112/-) before joining FPC.

Table 2: Distribution of the Respondents According to their Annual Expenditure before Joining and after Joining of FPC

S.No.	Category	Before joining		Category	After joining		Z
		F	%		F	%	Value
1	Low (Up to Rs.30111)	11	09.17	Low (Upto Rs.43960	13	10.83	
2	Medium (Rs.30112 to Rs.119864)	98	81.66	Medium (Rs. 43961 to Rs.137265)	96	80.00	2.64**
3	High (Above Rs. 119864)	11	09.17	High (Above Rs.137265)	11	09.17	
	Total	**120**	**100.00**	**Total**	**120**	**100.00**	
		Mean= 74987.50 SD = 44876.18			**Mean = 90612.50 SD = 46652.22**		
	% Change = 20.83						

*** Significant at 0.001 level of probability*

After joining FPC, majority of respondents 80.00 per cent had Rs.43961/- to Rs.137265 /- as annual expenditure and 09.17 per cent of the respondents had high annual expenditure (Above Rs.137265/-) and 10.83 per cent had low annual expenditure (Up to Rs.43960/-) before joining FPC.

It was concluded that annual expenditure of the respondents has increased after joining FPC.

3. Change in annual saving

It is highlighted from Table 3 that, majority of respondents i.e., 80.34 per cent had Rs.13228/- to Rs.51898/- as annual saving before joining FPC and 10.00 per cent of respondents had high annual saving (Above Rs.51898/-) and 09.16 per cent had low annual saving (Up to Rs.13227/-) before joining FPC.

Table 3: Distribution of the Respondents According to their Annual Saving before Joining and after Joining of FPC.

S.No.	Category	Before joining		Category	After joining		Z Value
		F	%		F	%	
1	Low (Up to Rs.13227)	11	09.16	Low (Up to Rs.22273)	09	07.50	
2	Medium (Rs.13228 to Rs.51898)	97	80.34	Medium (Rs.22274 to Rs.63169)	101	84.16	3.95**
3	High (Above Rs.51898)	12	10.00	High (Above Rs.63169)	10	08.34	
	Total	120	100.00	Total	120	100.00	
	Mean=32562.5 SD=19335.56				Mean=42720 SD=20448		
	% change = 31.19						

*** Significant at 0.001 level of probability*

After joining FPC, majority of respondents 84.16 per cent had Rs.22274/- to Rs.63169 /- as annual saving and 08.34 per cent of the respondents had high annual saving (Above Rs.63169/-) and 07.50 per cent had low annual saving (Up to Rs.22273/-) before joining FPC.

It was concluded that annual saving of the respondents has increased after joining FPC.

4. Change in social participation

It is highlighted from Table 4 that, about half of respondents (53.34%) had medium social participation before joining FPC and36.66 per cent of respondents had low social participation and 10.00 per cent had high social participation before joining FPC.

Table 4: Distribution of the respondents according to their social participation before joining and after joining of FPC.

S.No.	Category	Before joining		Category	After joining		Z
		F	%		F	%	Value
1	Low (Up to 1	44	36.66	Low (Up to 2	73	60.83	
2	Medium (2 to 3)	64	53.34	Medium (2 to 3)	46	38.34	2.97**
3	High (Above 3	12	10.00	High (Above 3	01	0.83	
	Total	120	100.00	Total	120	100.00	
	Mean=2.03 SD=1.09				Mean=2.36 SD=2.93		
	% change = 16.39						

*** Significant at 0.001 level of probability*

After joining FPC, majority of respondents (60.83%) per centhad low social participation and 38.34 per cent of respondents had medium social participation and 00.83 per cent had high social participation.

It was concluded that the social participation of the respondents has decreased after joining the FPC.

5. Change in employment generation

It was highlighted from Table 5 that, the employment generation has increases after joining the FPC. Majority of respondents 64.16 per cent had (151 day to 269 day) employment generation before joining FPC and 19.16 per cent of the respondents had low employment generation (Up to 150 day) and16.68 per cent had high employment generation (Above 270 day) before joining FPC.

Table 5: Distribution of the respondents according to their employment generation before joining and after joining of FPC

S.No.	Category	Before joining		Category	After joining		Z Value
		F	%		F	%	
1	Low (Up to 150 day)	23	19.16	Low (Up to 159 day)	15	30.00	
2	Medium(151 to 269)	77	64.16	Medium (160 day to 280 day)	76	63.33	1.43^{NS}
3	High (Above 269 day)	20	16.68	High (Above 279 day)	21	17.50	
	Total	120	100.00	Total	120	100.00	
		Mean=208.95 SD=59.41			Mean=220.00 SD=59.98		
% change =05.28							

NS = Non-significant

After joining FPC, majority of respondents i.e., 63.33 per cent had (160 day to 280 day) employment generation and 30.00 per cent had low employment generation (Up to 159 day) and 17.50 per cent had high employment generation (Above 280 day) after joining FPC.

Overall impact of Farmer Producer Company on its member

It was observed from Table 6 that, the overall impact of FPC was 19.63 per cent.

Table 6: Distribution of respondents according to their overall impact before joining and after joining of FPC

Sl.No.	Particulars	Mean Score		% Change	Z Value
		Before	After		
1	Change in annual income	107125	133250	24.38	3.09**
2	Change in annual expenditure	74987.50	90612.50	20.83	2.64**
3	Change in annual saving	32562.50	42720.00	31.19	3.95**
4	Change in social participation	02.03	02.36	16.39	2.97**
5	Change in employment generation	208.95	220.00	05.28	1.43^{NS}
	Overall impact of FPC	19.63 %			

***significant at 0.01 level of probability; NS = Non-significant*

Conclusion

The overall impact of FPC on its members might be due to improve standard of living and knowledge level in FPC member. This may also due to adoption of new technologies and package of good practices by FPC members, increase of awareness on markets and the linking themselves directly with markets and consumers.

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Challenges and Opportunities in Promoting Sustainable Organic Farming in India through Policy and Technical Interventions at FPO level - A case Study from Haryana

Sunila Kumari[1], Poonam Kashyap[2] and N. Ravisankar[3]

Abstract

Owing to the nutritional and health benefits, positive impact on environmental and socioeconomic status of organic food, the annual growth rate of organic farming worldwide has been about 20 per cent for the last decade (Flávia et.al. 2020). Although India hosts the second largest number of certified organic farms (44,926) yet, due to 82 per cent of the Indian farmers being small and marginal (FAO), which creates challenges in their sustainability, it couldn't yet contribute significantly to global organic food production. To address these challenges, the FPO seems to be a potential tool and further empowered with the adoption of organic farming systems it can address human as well as soil health and environmental issues. Despite interventions from the Government and other relevant bodies, the predicted success couldn't be achieved, especially among FPOs having the main objective of organic farming. The current study was conducted among the FPOs of Haryana state, having organic farming as their major objective, to identify the pain points; areas of intervention and to formulate solutions to help them achieve their goals.

Keywords: Organic Farming, Policy, FPO, Haryana

Introduction

The annual growth rate of organic farming worldwide has been about 20 per cent for the last decade (Lotter, 2003), accounting for over 31 million hectares of area and generating over 26 billion US dollars in annual trade

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worldwide (Escobar and Hue, 2007). This surge is being attributed to nutritional and health benefits; positive impact on environmental and socioeconomic status of organic food (Chopra et al., 2013). Among 130 countries practicing organic farming worldwide, area-wise, India is at 13th position, although it comes at second place with respect to the total number of certified organic farms (44,926). In India where 70 per cent of rural households still depend primarily on agriculture for their livelihood, 82 per cent of the farmers are small and marginal (FAO), which creates many challenges in their sustainability, majorly being, small landholdings, limited resources, and thus lesser bargaining power. To address these challenges, the government has been trying to empower farmers in many ways. Recently great focus has been given on the promotion of the Farmer Producer Organisation (FPO) which can be a potential tool to address these issues. Empowered with the adoption of organic farming systems it can further become a potential tool that addresses both human as well as soil health and the environment (Sunila et.al. 2021). But despite a number of interventions from the Government and other relevant bodies, till now the predicted success couldn't be achieved, especially among FPOs having the main objective of organic farming. The current study was conducted among the FPOs of Haryana state, having organic farming as their major objective; to try to identify the pain points; identify areas of intervention and formulate solutions to help them achieve their goals.

Data and Methodology

The study was conducted in Haryana state, collecting both primary and secondary data from various sources. There are a total of 452 FPOs registered with SAHFAC in Haryana which are spread across all 22 districts of the state. Out of these, only 4 per cent reflected organic farming in their names which were considered for the current study. Purposive sampling technique was used to study the FPOs majorly focusing on organic production, with a sample size of 20 FPOs. Some individual farmers also were contacted, and information was collected using questionnaires, survey form, interview and field visits. The secondary data related to this study

was collected through the mandate records maintained by the FPOs, SAFIC, state departments, internet, online survey (Email), books and journals, online blogs etc. The observations were collected in the form of pictures, questionnaires, interview notes etc. The data collected was presented in a tabular form and analysed using standard statistical means.

Status of organic farming in Haryana FPOs

The average registered membership of the studied groups was 393 members, out of which only an average of 17 per cent of the members practiced organic farming. Wheat was the most widely grown crop (62%) popular among the FPO organic members, followed by vegetables, which were grown by 46 per cent of the FPOs. The reason for the popularity of traditional crops is the ease of cultivation and ease in selling the produce. Only 40 per cent of the FPOs producing organic produce were found to have their own retail counters to sell the product; that also was not continuous in most cases. Only 20 per cent knew about PGS but they were not able to utilize, due to lack of handholding. Most of them pointed out that cost of organic cultivation was prohibiting the adoption of certification among the members, 42 per cent were not even aware about certification or felt the need for certification (Table 1). Only 30 per cent used certified organic products available from various government and private vendors. Others were either not aware of any such products or were highly resistant to the adoption of such products, as they thought anything except cow dung, cow urine or other crow products were prohibited in organic farming. Only 30 per cent of them had any formal training on organic farming, which they were not even practicing fully due to various reasons. The study material was found to be insufficient, and most of the protocols they were using were quite different from those suggested by IIFSR, Modipuram.

The knowledge of the respondents regarding organic farming practices was accessed by interview and scored on a 1-10 scale, where the information gained at IFFSR was considered as standard. The average was only 4.4, and it ranged from highest 7 to lowest 3. Most organic farming practicing farmers

used only farm yard manure and cow urine and buttermilk preparations.

Table 1. Reasons for lesser adoption of organic certification

Reason for lesser adoption of organic certification	FPOs (%)
Lengthy process	25
High Cost	42
Lack of awareness	42
Need not felt	42
No distinctive economic advantage of certified produce	50
Lack of guidance	50

Major challenges observed with reference to organic growers and farming

Identification of issues being faced by the FPOs: During the study, the following issues were identified

a. **Financial barriers:** Unavailability of funds to start production and marketing and high rate of interest by private financers

b. **Inputs related:** Non-availability of certified products, high cost of certified inputs, lack of proper knowledge about the organic inputs and how to make them

c. **Agronomic support:** No standard package of practice available as per local soil and other conditions; lack of structured guidance and costly weed control

d. **Certification related:** High cost of certification; misguiding certification consultants

e. **Post harvest infrastructure:** Lack of dedicated post-harvest facilities for organic produce

f. **Marketing related:** Non-availability of organized organic markets locally; marketing for individuals is very costly; FPO members are not able to work collectively due to intragroup issues; lack of marketing support from the government

g. **Other issues:** Difficult to organize farmers due to lack of faith and trust among themselves, lack of ethics among the growers, they don't mind using a few chemicals especially fertilizers; improper information about organic farming circulating among the growers through peer groups and social media.

Potential solutions

i. As suggested by the FPOs

1. Government should provide a marketing platform

2. Authentic organic inputs should be available easily

3. Structured training may be provided to the members

4. Handholding in certification

5. Need help in motivating group members

6. Contract farming or assured price should be available for the produce

ii. As suggested by individual farmers

1. FPO should provide a marketing platform

2. Organic inputs should be available at a reasonable price

3. MSP for produce

4. Training should be available near them or at their village

5. Financial aid should be provided for organic certification

iii. As suggested by other stakeholders

1. There should be structured organic markets in nearby towns

2. Assistance should be provided in certification

3. Proper system should be in place to stop fraud with customers

Recommendations based on study findings

i. Immediate need to spread awareness about organic farming and clear the prevailing myths and doubts about organic farming.

ii. Proper practical training should be provided to all FPOs interested in taking up organic farming

iii. Govt should form a working group which can keep in constant touch with such groups and provide handholding till they are self-sufficient

iv. There should be structured and regulated markets for organic food

v. More awareness and motivation are needed to inculcate ethical practices among growers and traders

Conclusion and Policy Implications

Haryana has an opportunity to take advantage of its proximity to the national capital and its two metro-cities (Gurgaon-Faridabad) as an organic market. It has the highest NCR area with productive land, high density and good condition road network as compared to Uttar Pradesh and Rajasthan. Although Haryana government has been promoting organic farming and FPOs since long, significant results are yet awaited. However, FPO is a very potential means to organize farmers and help increase their socio-economic status, but multiple factors hamper in getting the desired results. Some factors identified as a barrier to the success of organic farming in

FPOs are lack of proper knowledge of the subject, lack of regulated market and non-availability of certified organic inputs and costly certification process.

There is a need for a comprehensive framework that integrates organic farming with bottom-up responses, technology diffusion with reciprocal knowledge flow from farmers' institutions and their local resources and innovation. A state-wide organic awareness campaign is essential to change the attitude of producers and consumers both and encourage them to go for "organic farming". During the study, the lack of formal training on organic farming was identified to be one of the key factors where immediate attention is desired. The most potential tool which can bring significant momentum is proper training in organic farming practices and handholding to the groups in practicing them on the farm. This will help in generating large-scale farmers' acceptance to solve the ecological crisis in the context of climate change and to address the health and livelihood security of large rural masses of India.

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Constraints Faced by Officials of Livestock based Self Help Group Promoting Institutes (SHGPIs) in Punjab, India

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Abstract

Even though livestock based women Self Help Groups (SHGs) act as a means to mobilize poor women and to make them self reliant, it has been observed that various constraints hinder the effective and efficient functioning of these groups. A study was conducted in Ludhiana district of Punjab to know the constraints faced by concerned officials of livestock based Self Help Group Promoting Institutes (SHGPIs) viz., a dairy cooperative, Government and Non-Government Organization (NGO). Findings revealed that among dairy cooperative officials, inadequate staff at the field level, poor attitude of the members and lack of participation at member's level were the major constraints in order of severity. Inadequate staff for regular follow up of SHGs, lack of advertisement at the farmer level and utilization of budget for other activities rather than for livestock, were constraints faced by the officials from SHGs promoted by government organizations. Lack of required skill-based training to the members, lack of public participation, poor governance and networking and absence of cohesive and strategic planning were the major constraints faced by the NGO officials. For the proficient functioning of livestock based SHGs in a sustainable manner, there is a need to eliminate these constraints on a priority basis.

Keywords: Women Self-Help Groups, Livestock Officials, Constraints, Garret ranking

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Introduction

In Punjab, livestock activity is a more commercialized and market driven enterprise. The women's employment share in the livestock sector is around 90 per cent in Punjab and Haryana. Livestock is an easily accessible asset for resource-poor women who do not possess land. Women in the livestock sector constitute about 69 per cent of the workforce (Patel et al 2016). However, in the rural areas, livestock are still reared in a traditional way leading to low productivity and ultimately causes poverty among the rural poor.

To deal with the challenge of poverty, micro-finance, Self-Help Groups (SHGs) and Farmer Producer Organizations (FPOs) were initiated in India, and considered as the vehicle of change for the poor, especially for marginalized women. Millions of resource-poor women are building their lives through these groups. SHG approach has been recognized as an institutional innovation to organize the poor, promote savings, channelize credit, encourage income generating programmes and empowerment of the rural poor. Around 200 million people have found their way into SHGs by 2017 (Greaney et al, 2016). In India, out of 102.43 lakh SHGs saving linked with banks, around 88.32 lakh SHGs are exclusively for women. There are 1.02 crore groups under SHG-Bank Linkage Programme covering 12.4 crore households across the country. In Punjab, there are around 28934 SHGs and more than 85 per cent are exclusively women SHGs (Government of India NABARD, 2019-20).

Punjab being a productive state in agriculture and livestock farming, various government institutions, dairy cooperatives and NGOs are actively involved in SHG formation for socio-economic upgrading of the rural poor. The group approach provides a base for self-employment and income generation through group dynamics. However, Self Help Group Promoting Institutions (SHGPIs) are facing a number of challenges in consolidating, saturating and sustaining the SHG movement. There are various constraints faced by beneficiaries as well as SHG officials that act as a barrier in the

efficient functioning of these groups. Sharma et al (2015) observed a lack of marketing opportunity for the sale of value-added dairy products prepared by SHGs as a major constraint. Constraints like insufficient finance (85%), marketing problems (74.5%), production related problems (64%) and socio-cultural problems (25.2%) were the major constraints faced by the respondents (Sucharita and Bishnoi, 2019). Keeping this in mind the present study aimed to explore the constraints faced by concerned officials of livestock based Self Help Group Promoting Institutes (SHGPIs) viz., a dairy cooperative, government and Non-Government Organization (NGO) in Ludhiana district of Punjab.

Materials and Methods

The present study was carried out in Ludhiana district of Punjab. Ludhiana district was purposively selected based on the large number of livestock based functional women Self Help Groups (SHGs). In order to find out the constraints faced by officials of SHGs, a total of 30 concerned officials were selected randomly i.e. 10 from each SHGPI viz., a dairy cooperative, government and Non-Government Organization (NGO). To analyze various constraints faced by officials, a structured interview schedule was developed. The data were collected by face to face interview using a pre-tested structured schedule. Garrett's ranking technique was used to prioritize the different sets of constraints in terms of their mean score. According to Garrett's ranking technique, the respondents were asked to enumerate and assign ranks to different constraints, which were used for the prioritization of constraints. The orders of merit as given by the respondents were converted into ranks, by using the following formula:

$$\text{Per cent position} = \frac{100\,(R_{ij} - 0.50)}{N_j}$$

Where,

Rij = Rank given for ith problem by jth individual.

Nj = Number of problems ranked by the jth individual.

The per cent position of each rank was then converted into scores, by referring to the table, as given by Garrett. The scores of individual respondents for a particular problem were added and divided by the total number of respondents. The mean scores for all the constraints were arranged in descending order, and thus, ranks were assigned to prioritize the constraints.

Results and Discussion

The SHG development personnel of the dairy co-operative, government and NGO were asked to rate the seriousness of constraints in the organization and functioning of Self Help Groups. Constraints were ranked as per their seriousness.

Constraints faced by Dairy Cooperative Officials

The constraints perceived by dairy co-operative officials of SHGs are presented in Table 1. It was found that "inadequate number of staff at field level and a large area of operation under a single supervisor" was ranked first (mean score: 61.70) by most of the officials of NGOs and they perceived it very serious. "Poor attitude of the members" (mean score: 59.20); and "lack of participation at members level" (mean score: 54.30); were ranked second and third most important constraints as faced by the dairy co-operative officials.

Table 1. Constraints faced by Dairy Cooperative Officials

S.No.	Constraints faced by dairy co-operative officials	Mean score	Rank
1.	Inadequate guidance and cooperation among the line departments	51.30	VI
2.	Poor attitude of the members	59.20	II
3.	Inadequate number of staff at field level and large area of operation under a single supervisor	61.70	I
4.	Lack of participation at members level	54.30	III

5.	Lack of incentives for officials	51.90	V
6.	Inadequate TA & DA facilities for the officials	46.30	VII
7.	The budget earmarked for a particular activity is diverted towards other activities	53.10	IV

The other constraints include, "budget earmarked for a particular activity is diverted towards other activities" (mean score: 53.10); "lack of incentives" (mean score: 51.90); "inadequate guidance and cooperation among the line departments" (mean score: 51.30); and "inadequate TA & DA facilities for the officials" (mean score: 46.30), which were ranked as 4th, 5th, 6th and 7th respectively, by the dairy co-operative officials on the basis of the mean score.

Constraints faced by Government Officials

Constraints faced by the Government officials are presented in Table 2 in the order of their seriousness. Inadequate staff for regular follow up of SHGs (mean score: 67.40) was rated as the most serious constraint and ranked first while lack of advertisement at the farmer level (mean score: 64.80) was ranked second by the government officials.

Table 2. Constraints faced by Government officials

S.No.	Constraints faced by Government officials	Mean score	Rank
1.	Non cooperation on the part of members cause problem	43.30	V
2.	The budget earmarked for a particular activity is diverted towards other activities	56.10	III
3.	Lack of transport facilities for officials to visit the various SHGs	54.70	IV
4.	Lack of advertisement at farmer level	64.80	II
5.	Inadequate staff for regular follow ups of SHGs	67.40	I

The other constraints such as "budget earmarked for a particular activity is diverted towards other activities" (mean score: 56.10); "lack of transport facilities for officials to visit the various SHGs" (mean score: 54.70); and "non cooperation on the part of members cause problem" (mean score: 43.30); were ranked as 3rd, 4th and 5th constraints by the government officials.

Constraints faced by NGO Officials

It can be observed from the Table 3 that "lack of required skill based training to the members" (mean score: 68.10) was the most serious constraint faced. The second most serious constraint was "lack of public participation" (mean score: 62.70), followed by "poor governance and networking" (mean score: 53.90) and "absence of cohesive and strategic planning" (mean score: 50.00); which were ranked third and fourth by the NGO officials.

Table 3. Constraints faced by NGO officials

S.No.	Constraints faced by NGO officials	Mean score	Rank
1.	Lack of funds	34.00	VIII
2.	Lack of dedicated leadership	42.00	VII
3	Absence of cohesive and strategic planning among the NGO personnel	50.00	IV
4.	Inadequate trained personnel	43.30	VI
5.	Lack of public participation	62.70	II
6.	Lack of required skill based training to the members	68.10	I
7.	Limited technical and organizational capacity	44.70	V
8.	Poor governance and networking	53.90	III

The remaining constraints include "limited technical and organizational capacity" (mean score: 44.70); "inadequate trained personnel" (mean score: 43.30); "lack of dedicated leadership" (mean score: 42.00); and "lack of funds" (mean score: 34.00); which were ranked as 5th, 6th 7th and 8th respectively by the NGO officials on the basis of their mean score.

Conclusion

SHGs are facing certain problems in performing their functions which are affecting their growth. It could be concluded from the findings of this study that inadequate staff at the field level and large area of operation under a single supervisor was the most serious constraint perceived by SHG officials so there is a dire need for more appointments of officials at the field level. There is a need to conduct training programmes in the study area, at regular intervals to enhance capacity building of officials. Lack of public participation was another major constraint among SHGPIs. People's participation must be promoted for the smooth functioning of SHGs. SHG officials must be encouraged by providing them with incentives and rewards for good work done by them.

The attention of policy makers is needed for more interaction among the beneficiaries and officials, promotion of aggressive extension activities for awareness and capacity building of livestock based SHGs.

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Challenges faced by Farmer Producer Organisations (FPOs) - A Review

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Abstract

Farmer Producer Organizations (FPOs) provide small farmers with end-to-end support and services, including technical assistance, marketing, processing, and cultivation inputs. Small Farmers' Agribusiness Consortium is the nodal agency in India which promotes FPOs. A Farmer Producer Organization plays an important role in promoting and strengthening member-based institutions of farmers. The major goal is to provide producers with a higher income by forming their own organization. FPOs which are formed as Farmer Producer Companies (FPCs) allow members to access financial and other input services. To compete with other companies and competitors in the market, FPCs must be competent with other companies and competitors in the market, and they have a tremendous potential to capture future food retails not only in India but throughout the world. In this connection around 5000 FPOs have started functioning throughout the country; among these some are functioning effectively and some are not. In this regard, there is a need to find out the constraints faced by the FPOs in effective functioning. Keeping this in view an attempt has been made in this review based paper to highlight various constraints related to the growth, performance and challenges of FPOs along with strategies to make them more effective in the present context. The major constraints found based on the review are lack of sufficient finance, lack of proper government price policy, lack of awareness of credit facilities, lack of connection with financial organizations and lack of proper market information.

Keywords: Agriculture, SFAC, FPCs, Market, Finance, Farmers

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Introduction

Following the recommendations of the Alagh Committee (1999), which was set up with a mandate to frame a legislation that would 'accommodate the spirit of a cooperative with the operational flexibility of a private company,' Farmer Producer Companies (FPCs) have emerged as an alternative to state-sponsored or state-led cooperatives since 2003. Guidelines for the spread of FPOs were formulated in 2013 from a dynamic phase of a nationwide pilot through the Small Farmers' Agribusiness Consortium (SFAC) under the Ministry of Agriculture. Since 2014, through the NABARD managed Producers' Organisation Development and Upliftment Corpus (PRODUCE Fund of INR 200 crore), many FPOs have been promoted across the country. Another thrust came through other schemes and agencies such as the Rural Livelihood Mission (supported by World Bank) and state-specific policies as well as donor and CSR funds. FPO is an organization, where the members are farmers themselves. It gives small farmers end-to-end support and services, including technical assistance, marketing, processing, and other areas of cultivation inputs. The main objective of an FPO is to ensure better income for the producers through an organized system of their own. Farmers will benefit from the development of FPOs because they will be able to pool their resources for better access to quality input and technology. The farmers will also avail better credit and better marketing access through economies of scale for better realization of income.

Aim and Objectives

As perceived by Formation and Promotion of 10,000 FPOs Scheme Operational Guidelines:

1. To provide holistic and broad-based supportive ecosystem to form new 10,000 FPOs to facilitate development of vibrant and sustainable income oriented farming and for overall socio-economic development and wellbeing of agrarian communities.
2. To enhance productivity through efficient, cost-effective and sustainable resource use and realize higher returns through better

liquidity and market linkages for their produce and become sustainable through collective action.

3. To provide handholding and support to new FPOs up to 5 years from the year of creation, in all aspects of management of FPO, inputs, production, processing and value addition, market linkages, credit linkages and use of technology etc.

4. To provide effective capacity building to FPOs to develop agriculture entrepreneurship skills to become economically viable and self-sustaining beyond the period of support from the government.

The Government of India has approved and launched the Central Sector Scheme of "Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs)", to form and promote 10,000 new FPOs till 2027-28 with a total budgetary outlay of Rs.6865 Cr. (Ministry of Agriculture and Farmers Welfare MAFW, 2021). Under the scheme, the formation and promotion of FPO are based on the Produce Cluster Area approach and specialized commodity-based approach. While adopting a cluster-based approach, the formation of FPOs will be focused on "One District One Product" for development of product specialization.

Need for FPOs

The main aim of the Farmer Producer Organization is to ensure a better income for the producers through an organization of their own. Small producers do not have the volume individually to get the benefit of economies of scale. In agricultural marketing, there is a chain of intermediaries, who often work non-transparently leading to the situation, where the producer receives only a small part of the value, which the ultimate consumer pays. This will be eliminated through accumulation as the primary producers can avail the benefit of the economies of scale. Farmer Producers have better bargaining power in the form of bulk buyers of produce and bulk suppliers of inputs (Kanika M, 2021).

Methodology

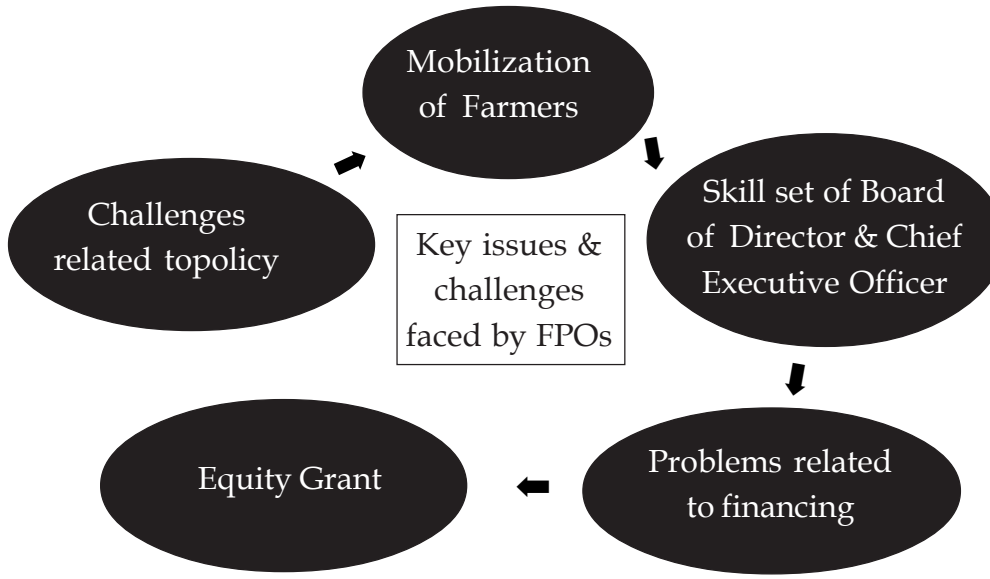
The paper is based on a review of research articles published in peer-reviewed journals and reports of organizations involved in establishing FPOs. From the internet, 20 articles related to FPOs were found, and from those, finally eight articles that discussed about constraints faced by FPOs in their functioning were considered for the study. The majority of the articles considered for this study were based on the primary data collected by the members of FPOs. After reviewing these eight articles the major findings from those articles were analysed and conclusions were drawn.

Review of Articles

Verma et al (2021) conducted a study on Constraints perceived by the members and non-members towards the functioning of FPO-AKPCL in Kannauj District of Uttar Pradesh. A total of 20 members and 40 non-member farmers were randomly sampled in the functional area of FPO-AKPCL to delineate the constraints faced by them. The results revealed that inadequate storage facilities, shortage of transportation facilities, lack of grading and packaging skills, rivalry among members to achieve key positions in the organization, and challenging each other for key positions in the group were the significant constraints faced by the member farmers.

According to Chauhan et al (2021), the constraints associated with the functioning of Farmer Producer Organisations (FPOs) were undeveloped storage facilities, undeveloped processing facilities, lack of computer knowledge due to which they are unable to derive benefits of the available ICT tools, lack of awareness about packaging, lack of labour available during harvesting, lack of sufficient finance, lack of skilled labour in harvesting, processing, fluctuation of price every year, lack of proper market information, involvement of middlemen and lack of proper infrastructure. The study was conducted in Cooch Bihar district of West Bengal by collecting primary data from 100 FPO members.

Bishnoi et al (2020) in their study on Challenges faced by FPOs & strategies to overcome revealed the constraints faced by FPO's as shown in this figure:



Chopade et al (2019) conducted a study on constraints faced by the members of Farmer Producer Company. The study was conducted in Osmanabad district of Maharashtra state. A total of 120 farmers were selected for this study. The results showed that 72.86 per cent of the respondents reported non-inclusion of local leaders in FPCs, 69.28 per cent of respondents reported lack of coordination for different group activities, 55.00 per cent reported lack of support from the government department after the establishment of FPCs. Forty per cent reported political affiliation of members, 30.71 per cent reported that banks are not very familiar with the concept of FPCs, these companies have limited access to banks, 21.43 per cent reported inadequate profit to individual members and 10.71 per cent of the respondents reported that village-level workers were not providing enough information about all schemes related to FPCs.

SFAC (2019) has reported in their Strategy Paper for promotion of 10,000 Farmer Producer Organisations (FPOs), that the challenges faced in the promotion of FPOs are, difficulty and delay in the mobilisation of farmers, limited organisational and management capacity of FPOs, need for incubation and handholding support to FPOs, membership base of an FPO,

policy level challenges, limited capability to autonomously invest in primary/ secondary processing, storage and custom hiring facilities, and inability of FPOs to access institutional credit sans collateral.

Prishila Kujur et al (2019) examined the different socio-economic impacts on members of FPO in the plains region of Chhattisgarh state, with 240 farmers. The study adopted a multistage sampling procedure. Poor professional management, shortage of working capital, inability to access loans from financial institutions, unawareness of producer-members, insufficient directions and vision from the Board of Directors and poor infrastructure facilities were major hurdles for better performance of Producer Organizations.

A study conducted by Navaneetham et al (2019) on Analysis of constraints for performance improvement of FPCs in Tamil Nadu revealed that capturing the market for selling the produce was the biggest constraint with a value of 0.93 followed by not able to raise funds from farmers with a value of 0.82. The third major constraint was the cumbersome process of registration by FPCs that ranked third (0.77) followed by no waiving of license fee and problem with obtaining bank loan with values 0.73 and 0.60 respectively.

Prabhakar et al (2012), in their study on Farmer Producer Company - An Innovative Farmers' Institution, revealed the challenges in financing producer company. These are need for a margin money contribution by the PC which they can not provide due to the unavailability of resources, problem to provide collateral security to loan; initially, PCs do not have any credentials for doing successful business which makes financial institutions uncomfortable for financing; government and other agencies are not treating PC on par with producer cooperatives: concessions, tax exemptions, subsidies and other benefits available to cooperatives, societies formed by the agri rural communities are not being extended to producer companies and hesitation from donors to deal with a for-profit entity.

Major Findings

Table 1. Overall Constraints faced by FPOs

S. No.	Statements	1	2	3	4	5	6	7	Total
1	Poor Professional Management	✔	✔	✔	✔	✔	✔	✔	7
2	Lack of sufficient finance	✔	✔	✔	✔	✔	✔	✔	7
3	Mobilization of farmers	✔	✔	✔	✔	✔	✔	✔	7
4	Lack of proper government price policy	✔	✔	✔	✔	✔		✔	6
5	Lack of awareness of credit facilities	✔		✔	✔		✔	✔	5
6	Lack of proper market information	✔	✔	✔			✔		4
7	Lack of connection with financial organizations		✔		✔		✔	✔	4
8	Lack of timely, cheap and good quality inputs	✔						✔	2
9	Lack of Computer knowledge which makes them unable to derive benefits of the available ICT tools	✔			✔				2
10	Lack of skilled labourers in harvesting & processing	✔			✔				2
11	Lack of proper crop insurance facilities	✔	✔						2
12	Lack of proper infrastructure (implements, irrigation facilities, power and electricity)	✔					✔		2
13	Low price of produce	✔		✔					2
14	Involvement of middle men	✔		✔					2
15	Nature of products (perishability)	✔		✔					2
16	Undeveloped storage facilities	✔							1
17	Undeveloped processing facilities	✔							1
18	Lack of proper practices	✔							1
19	Lack of awareness about packaging	✔							1

The major constraints indicated in a majority of the research reviews as given in Table 1 are poor professional management, lack of sufficient finance, lack of proper government price policy, mobilization of farmers, lack of awareness of credit facilities, lack of connection with financial organizations, and lack of proper market information. The other constraints listed are lack of timely, cheap and good quality inputs, lack of proper infrastructure (implements, irrigation facilities, power and electricity), lack of computer knowledge which makes them unable to derive benefits of the available ICT tools, lack of skilled labour in harvesting & processing, lack of proper crop insurance facilities, low price of produce, involvement of middle men and nature of products (perishability).

Conclusion

As the major constraint indicated by all the studies on the functioning of FPOs is poor professional management there is a dire need to train the people involved in the management of FPOs or prescribe some qualifications for the office bearers of the FPOs. This will help in effective management of the FPOs. An appropriate capacity building method should be adopted, to make FPO members and office bearers capable of making appropriate and timely decisions. Appropriate linkage with the financial institutions and FPO should be strengthened, to promote the establishment of agri-enterprises on a large scale. Adequate skill embedded knowledge related to processing, value addition, storage of agricultural products and application of Information and Communication Technology in marketing of produce should be provided. Adequate market intelligence, market infrastructure and supply chain should be promoted for getting optimum price for the produce. A Policy should be developed to establish the FPO as the grassroot organisation for extension delivery for scaling out the agricultural and agri-entrepreneurial knowledge to the farmers.

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Challenges and Suggestions on Effective Functioning of Farmer Producer Companies by its Members in Shivamogga District of Karnataka

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Abstract

The future of sustainable agriculture growth and food security in India depends on the performance of small and marginal farmers. However, these farmers are prone to challenges like lack of access to technology, forward linkage, market information etc. In India, different models of collectivization and institutional innovations have been employed to support small and marginal farmers. Farmer Producer Organization (FPO) is one such effort. Since 2002, around 7000 FPOs have been promoted by various agencies (MANAGE). Thus, considering the significance of FPOs, a study was conducted during 2019 to investigate the constraints faced by the members and their suggestions with respect to FPOs in Shivamogga. A total of 120 members from six FPOs were interviewed. The majority of the respondents expressed constraints such as problems related to lack of processing units non-existence of procurement system, absence of proper market linkage and poor credit facilities. The suggestions related to the establishment of processing units, conduct of awareness programmes about FPO, improvement of procurement system, enhancement of credit facility, need for proper market linkage, availability of CHS at lesser rates. This paper gives a detailed picture of challenges faced by the FPO members and their self-experienced feedback to improve their functionality.

Keywords: Farmer Producer Company, Constraints, Suggestions, Small Farmers, Marginal Farmers

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Introduction

The future of sustainable agriculture growth and food security in India depends on the performance of small and marginal farmers. However, these farmers lack sustainable livelihood options as they are prone to asymmetries. They are not economically viable to adopt the latest technologies and are unable to realize good value from the marketable surplus by individually selling their produce. In a country like India, the role of small farmers in poverty reduction is well recognized. However, in the absence of a robust public/private support system at the ground level farmers face challenges in accessing land, water, inputs, credit, technology and market. There are structural and governance challenges too. In spite of the challenges discussed above, there are technological as well as institutional innovations taking place to enable small farmers to increase productivity and income through collective initiatives.

Different models of collectives have been tried in India such as Self-Help Groups, Common Interest Groups (CIGs), Joint Liability Groups (JLGs), Farmers Club, Farmer Producers Organisations etc. The Government of India mooted the idea of collective thinking and behaving like business entities by getting incorporated as Producers' Companies under the Companies Act of 1956 (amended in 2002). Y.N. Alagh Committee, on 6th February 2003 recommended the concept of Farmer Producer Organization (FPO). Producers are the shareholders in the organization. In fact, Producers Company is the most appropriate institutional form which enables farmers to build their capacity to collectively leverage their production and marketing strength.

About Farmer Producer Company

A Farmer Producer Company (FPC) can be formed by any 10 or more primary producers or by two or more producer institutions, or by a combination of both. An FPC is a hybrid between cooperative societies and private limited companies. The Farmer Producer Companies, registered under the Indian Companies Act, 2013, have democratic governance, each

producer or member has equal voting rights irrespective of the number of shares held.

The main aim of the FPC is to ensure better income for the producers through an organization of their own. Small producers do not have the volume individually (both inputs and produce) to get the benefit of economies of scale. Besides, in agricultural marketing, there is a long chain of intermediaries who very often work non-transparently leading to the situation where the producer receives only a small part of the value that the ultimate consumer pays. Through aggregation, the primary producers can avail the benefit of economies of scale. They will also have better bargaining power vis-à-vis the bulk buyers of produce and bulk suppliers of inputs. A study in Andhra Pradesh states that the major issues which were hindering the growth of FPCs were the lack of a coordinated approach of the promoting agencies and the government in promoting the farmer organizations (Raju et al. 2017).

Presently 4959 FPOs are functioning throughout India. Maharashtra is having the highest number of FPOs (1950) in the country and Karnataka has 195 (https://pib.gov.in/PressReleasePage). Shivamogga district has 9 FPOs which are promoted by Producer Organization Promoting Institutes like Chaitanya Rural Development Society and the State Department of Horticulture of Shivamogga.

Methodology

The Ex post-facto research design was conducted in Shivamogga District of Karnataka State during 2019. The districts provide an ideal region to undertake the study in view of the diverse culture, climate encompassing both Maidan and Malnad regions. Out of 31 districts in Karnataka, Shivamogga district was purposively selected as it is one of the front running districts in the FPO program in Karnataka. The major NGOs namely Shri Kshetra Dharmsthala Rural Development Project (SKDRDP), Chaitanya Rural Development Society and the Department of Horticulture are actively

involved in the promotion of FPOs. Among seven taluks of Shivamogga district, four taluks were purposively selected based on the availability of the highest number of members of FPO. A total of six (3 each promoted by NGO and State Department of Horticulture) actively functioning FPOs which have completed a minimum of three years of functioning were selected for the study. From each of the FPOs, 20 respondents were selected based on their availability at the time of the interview. Thus, the total sample size of the study was 120.

About CRDS

Chaitanya Rural Development Society is a registered non-profitable organization grounded in social values for the care of the weaker sections of the society and to serve them without any consideration of caste and creed. It was founded in 1996 and is inspired by good leadership. The organization is acting as a promoting institute for nine Farmer Producer Organizations.The organization today has extended the services to over 725 villages in two districts, namely Shivamogga and Davanagere of Karnataka State.

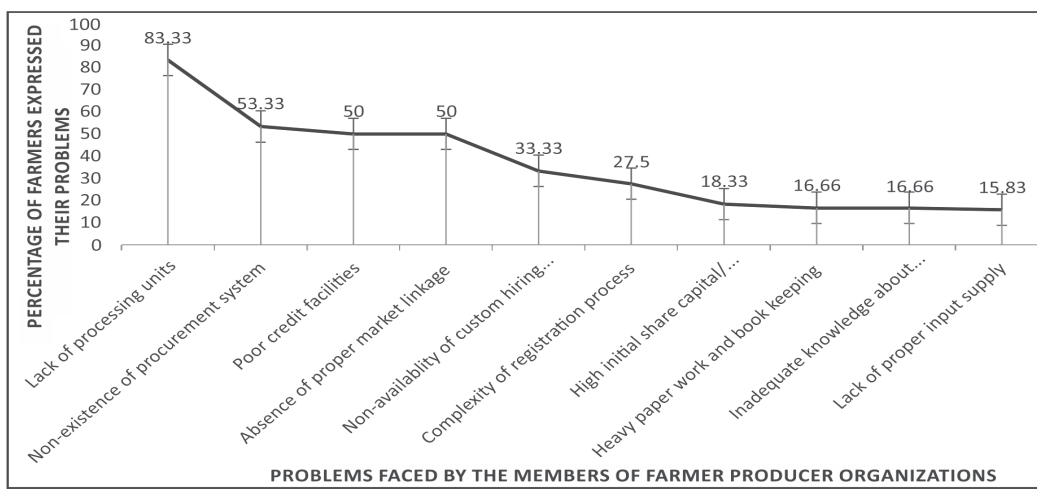
Results and Discussion

The results presented in Table 1 reveal various constraints faced by the respondents with respect to FPOs. A majority of the respondents expressed constraints such as problems related to lack of processing units (83.33%), non-existence of procurement system (53.33%), absence of proper market linkage (50.00%), Poor credit facilities (50.00%), non-availability of custom hiring service (33.33%), complexity of the registration process (27.50%), high initial share capital/ membership charge (18.33%), heavy paper work and bookkeeping (16.66%) and lack of proper input supply (15.83%).

Table 1: Problems faced by the Members of Farmer Producer Organizations (n=120)

S.No.	Items	Frequency	Percentage
1	Lack of processing units	100	83.33
2	Non-existence of procurement system	64	53.33
3	Poor credit facilities	60	50.00
4	Absence of proper market linkage	60	50.00
5	Non-availability of custom hiring service	40	33.33
6	Complexity of registration process	33	27.50
7	High initial share capital/membership charge	22	18.33
8	Heavy paper work and bookkeeping	20	16.66
9	Inadequate knowledge about various services provided by FPO	20	16.66
10	Lack of proper input supply	19	15.83

Graph 1 shows that more than three fourth of the respondents (83.33 %) expressed their problem of lacking processing units; the probable reason for this might be the high cost involved in establishing processing units and lack of technical knowledge regarding



Graph1. Problems Faced by the Members of Farmer Producer Organizations

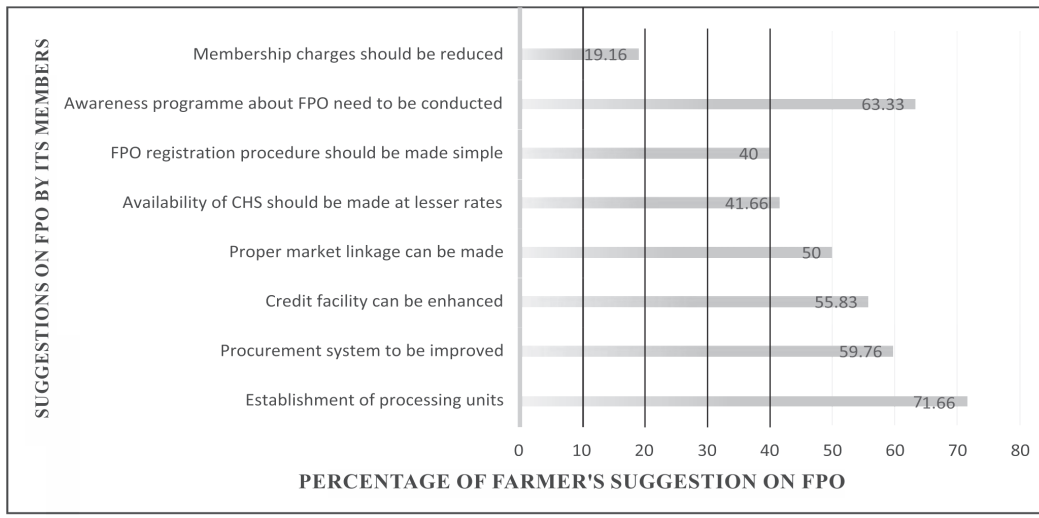
processing technology. The second major constraint is the non existence of procurement system which is 53.33 per cent as only three FPOs are performing the activity of procuring commodities and the other reason might be the improper or lack of market linkage between farmers and buyers. As a result of poor marketing linkage and credit facilities, 50 per cent of members are facing the problem of improper procurement system followed by lack of custom hiring services (33.33%). The findings are in line with Chinmayi (2015).

Table 2: Suggestions Offered by the Respondents to Strengthen Performance of FPOs **n=120**

S.No.	Suggestions	Frequency	Percentage
1	Establishment of processing units	86	71.66
2	Awareness programme about FPO need to be conducted	76	63.33
3	Procurement system to be improved	71	59.76
4	Credit facility can be enhanced	67	55.83
5	Proper market linkage can be made	60	50.00
6	Availability of CHS should be made at lesser rates	50	41.66
7	FPO registration procedure should be made simple	48	40.00
8	Membership charges should be reduced	23	19.16

Table 2 depicts suggestions given by the respondents for better performance of the FPOs. The suggestions relate to establishment of processing units (71.66%), conduct of awareness programmes about FPO (63.33%), improving procurement system (59.76%), enhancing credit facility (55.83%), proper market linkage can be made (50.00 %), availability of CHS to be made at lesser rates (41.66%), FPO registration procedure to be made simple (40.00%) and reducing membership charges (19.16%).

Graph 2. Suggestions offered by the Respondents to Strengthen the Performance of FPOs



Graph 2 depicts suggestions given by the respondents to overcome the problems. The establishment of processing units related to primary processing was the suggestion given by a majority (71.66 %) of the respondents. Some of the respondents due to the non-availability of processing facilities for their high value produce such as areca nut and horticulture crops like chilly, tomato etc., suggested setting up processing units so that they could fetch a higher price for their produce. About 59.76 per cent of the respondents opined to improve the market gap between buyers and farmers by bridging the gap between the ensured buyers and farmers with a proper procurement system on a contractual/agreement-based method. Sixty-seven respondents suggested enhancing the credit facility for the members either as collateral loan/pledge loans by keeping their produce as a sign of assurance. Around 41 per cent of the respondents suggested making the farm equipment available on time and with lesser rents under the custom hiring services of farm equipment during the pre-monsoon and post-harvest period. Forty per cent of the respondents opined that the registration process should be made simple as it will be helpful even for illiterates to get membership in the FPOs. A very small number of

respondents i.e., 19.16 per cent of the members opined that membership charge imposed was heavy and can be reduced. The findings are in line with Puneet (2016).

Conclusion

In the present day, due to a smaller number of extension personnel, it becomes difficult to contact each individual farmer by individual contact method. Due to the establishment of FPOs the members are getting the services like inputs, advisory services, custom hiring services at their doorstep at reasonable prices. On the other hand, the extension work becomes easier due to the union of farmers into organizations. In spite of the advantages in FPO, there are some constraints expressed by the members that came to light during the study. It is found that the FPOs are operating better in terms of supplement of inputs i.e., backward linkage whereas there is a lack in marketing linkage for the produce of farmer members. Thus, it is recommended to uplift or improve the lacunae felt by the members of Farmer Producer Companies in order to improve the performance of these Organizations.

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Analysis of Performance of Farmer Producer Organizations in Kalaburagi District of Karnataka

Pooja[1], H.K. Pankaja[2] and B. Krishnamurthy[3]

Abstract

Small-holder farmers, who account for 82 per cent of all farmers in India, are critical to the country's agriculture and rural economy. Farmers must be mobilized into a Government of India effort, such as a collective, Farmer Producer Organizations for collective action. To maximize the collective bargaining power of producer organizations, it is necessary to work not only with small and marginal farmers and their institutions but also with FPOs and their promoting organizations to create an enabling environment for smooth functioning producer organizations and to assist them in overcoming obstacles that they face on a daily basis. The present study was conducted during 2020-2021 in Kalaburagi district of Karnataka state. The objective was to study the profile characteristics of FPO members and to analyze the performance of FPOs. The study revealed that most of the FPOs (47.20%) were having an average level of performance, followed by better (27.20%) and poor (25.60%) levels of performance. There has been a substantial increase in the number of FPOs in India, the ecosystem needs to be more developed in each state in support of these growing FPOs.

Keywords: FPO, performance

Introduction

India is an agricultural powerhouse that produces a wide range of products. Small-holder farmers, who account for 82 per cent of all farmers in India, are critical to the country's agriculture and rural economy. They make a

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disproportionately large contribution to household food security and poverty alleviation. Surprisingly, the agricultural sector's contribution to GDP has dwindled over time, while other sectors, particularly services, have grown. The path of development, among other things, usually results in a decrease in the share of agriculture in GDP, as is the case in India. Farmers have been focused on productivity until recently. The extension system's whole effort is focused on increasing production and productivity, but the result is a meagre gain of 3-4 per cent per year.

So, the focus now should be on how to raise profitability, i.e., the producer's share of the consumer's rupee, which is currently barely 10-23 per cent. Indian farmers are excellent producers, but they struggle to market their products effectively due to a lack of market places in rural areas and weak marketing abilities. Keeping this in mind, farmers must be mobilized into a Government of India effort, such as a collective, farmer-owned company or Farmer Producer Organizations for collective action. To maximize the collective bargaining power of producer organizations, it is necessary to work not only with small and marginal farmers and their institutions, but also with FPOs and their promoting organizations to create an enabling environment for smooth producer organization functioning and to assist them in overcoming obstacles that they face on a daily basis.

Important activities of Farmer Producer Organization

Some of the important activities of FPOs are procurement of inputs, disseminating market information, dissemination of technology and innovations, facilitating finance for inputs, aggregation and storage of produce, primary processing like drying, cleaning and grading, brand building, packaging, labeling and standardization, quality control, marketing to institutional buyers, participation in commodity exchanges and export.

Key characteristics of Farmer Producer Organization

It is a company registered under the IXA Companies Act of 1956. Members share interests such as input centricity, commodity/crop centricity, and technology centricity among other things. FPO operates in compliance with established policies and procedures. The sole shareholders in FPO are the producers. It is concerned with business activities involving primary produce or a product. Profits will be distributed fairly among members. The FPO has connections and a network with other FPOs of a similar nature. Transactions are clear and transparent. Each member has one vote, regardless of the number of shares he or she owns. Elections are held on a regular basis to ensure democracy.

Keeping these facts in view, the study was conducted to probe the performance of FPOs. The following are the specific objectives formulated for the study.

1. To study the profile characteristics of members of Farmer Producer Organizations.

2. To analyze the performance of Farmer Producer Organizations (FPOs).

Methodology

The study was conducted in Kalaburagi district of Karnataka state. Kalaburagi district is purposively selected as it is one of the leading districts in the FPO program. Five actively functioning FPOs were purposively selected for the study out of which three were promoted by an NGO (Vrutti Livelihood Resource Centre) and the remaining two were promoted by the State Department of Horticulture. The criteria followed to select the FPOs was that the FPO should have completed a minimum of three years of its function and should be registered under the Companies Act 2013. From each FPO, 25 respondents were selected randomly for the study. Thus, the total sample size was 125. Data was collected using a pre-tested interview

schedule by personal interview method and was scored, tabulated and analyzed using frequency, percentage, mean and standard deviation.

Results and Discussion

As may be seen in Table 1, the age of the respondents shows maturity and thinking ability. It is visualized from the Table that over half (53.60%) of the respondents belonged to the middle age group followed by young (28.00%) and old age (18.40%) group. Usually, middle-aged farmers are more enthusiastic and have a great amount of responsibility as well as they are efficient as compared to old and young farmers. Further, the respondents between 35 to 50 year age group have more physical vigour and more responsibility towards the family than the young farmers.

Results pertaining to the education level of FPO members depicted that almost one third(35.00%) of them had high school education followed by PUC level (20.80%) education, JOC/ITI/Diploma level (15.20%), graduate (12.00%) and up to middle school (9.60%) education. The results show that awareness about FPOs will have a greater impact in understanding the 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 the impact of FPOs on yield and income and to adopt respective technologies to improve the same.

The data in Table 1 reveals that nearly half (44.00%) of the respondents were small farmers, followed by big (39.20%) and marginal (16.80%) farmers. It is due to the fact that the study area has more rainfed land and fragmentation of land due to family and social issues have also contributed to a greater number of smallholdings.

The data presented in Table1 revealed that more than half (53.60%) of the respondents of FPOs were having a medium level of achievement motivation, followed by high (29.60%) and low (16.80%) achievement motivation. 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, a majority of the respondents belonged to the medium to high level of achievement motivation category.

The data in Table 1 depicts that almost half (49.60%) of the respondents of FPOs were having a medium level of management orientation whereas almost one third (28.00 %) of the respondents were having a high level of management orientation, followed by low (22.40%) management orientation. The reason for a majority of the respondents belonging to medium 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-orient their current management practices to plan and implement the production practices accordingly for their benefit.

It can be observed from Table 1 that, more than half (56.80 %) of the respondents belong to the medium level of cosmopoliteness, followed by 24.80 per cent who had low level and 18.40 per cent with a high level of cosmopoliteness. Majority of the farmers had medium level of cosmopoliteness because a majority of the FPO members had frequent contact with other members and officials of FPO as well as other individuals outside their social system.

It is seen from Table 1 that, 44.00 per cent of the FPO members had a medium level of mass media exposure followed by high (33.60 %) and low level(21.60 %) of mass media exposure. Mass media plays a major role in disseminating information effectively. Farmers who are members of the FPOs are more accessible to the mass media, which helps them to get updates on the latest developments which is a good sign for the interest of farmers.

The data in Table 1 revealed that a little more than half (52.80%) of the FPO members had medium level of extension contact, followed by 30.40 per cent having low level and 16.80 per cent of them having high 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 doubts pertaining to the latest and improved crop production practices.

Regarding organisational participation, from Table 1, it can be visualized that a little more than half (52.80 %) of the FPO members were having a medium level of organizational participation, followed by 24.80 per cent of the respondents with high level and 22.40 per cent of the respondents who were having a low level of organizational participation. Farmers having a participative approach in various organizations such as FPOs helps them attain practical knowledge regarding their crop production aspects, farmers participate in various activities conducted by FPOs such as training programmes, informative group meetings and field visits, which help them to gain technological and informative aspects of today's world.

Table1: Profile Characteristics of FPO Members.

Sl. No.	Characteristics	Category	Mean	SD	Number	Percent
1	Age	Young (up to 35 years)	-	-	35	28.00
		Middle (36 to 50 years)			67	53.60
		Old (above 50 years)			23	18.40
2	Education	Illiterate	-	-	9	7.20
		upto middle school			12	9.60
		High school			44	35.20
		JOC/ITI/Diploma			19	15.20
		PUC			26	20.80
		Graduate			15	12.00
3	Landholding	Marginal (<2.5 acres)	-	-	21	16.80
		Small (2.5-5acres)			55	44.00
		Big (>5acres)			49	39.20

4	Achievement motivation	Low (<6.88)	07.67	01.57	21	16.80
		Medium (6.88-8.46)		67	53.60	
		High (>8.46)			37	29.60
5	Management orientation	Low (<37.54)	39.14	03.24	28	22.40
		Medium (37.54-40.78)			62	49.60
		High (>40.78)			35	28.00
6	Cosmopoliteness	Low (<10.35)	12.06	03.43	31	24.80
		Medium (10.35-13.78)			71	56.80
		High (>13.78)			23	18.40
7	Mass media exposure	Low (<4.94)	05.67	01.47	27	21.60
		Medium (4.94-6.41)			55	44.00
		High (>6.41)			42	33.60
8	Extension contact	Low (<11.10)	12.40	02.60	38	30.40
		Medium (11.10-13.71)			66	52.80
		High (>13.71)			21	16.80
9	Organizational participation	Low (<5.52)	06.64	02.24	28	22.40
		Medium (5.52-7.76)			66	52.80
		High (>7.76)			31	24.80

Twenty-five indicators have been considered under the performance of FPOs; each indicator was analyzed using frequency and percentage. The performance of 5 FPOs was analysed with respect to the twenty-five indicators viz., rules and regulations for the FPO, credit service, percentage of loan offered to members, internet services, rotation of the executive body, conduct of meetings, auditing of accounts of FPO, training programmes organized, 'planning, implementation, monitoring and evaluation programmes', attendance of the members for meetings, insurance service, backward linkage (input supply), training programmes attended, market linkage, dissemination of market information, aggregation and storage of produce/input, primary processing (drying, cleaning and grading), custom hiring service, participation of members in decision making, participation

of members in responsibility sharing, bookkeeping and documentation, sanctioning of loans, loan repayment, attitude of members towards FPO and its activities and team spirit among the group members. Under each indicator four statements were analysed by using frequency and percentage.

Table2: Performance of the Farmer Producer Organizations

Category	Frequency	Percentage	Mean	SD
Poor (<36.29)	32	25.60		
Average (36.29-42.03)	59	47.20	39.16	05.74
Better (>42.03)	34	27.20		

It is clearly observed from Table 2 that 47.20 per cent of the FPOs were having an average level of performance with respect to the indicators stated above, followed by 27.20 per cent of FPOs who were having a better level of performance and one fourth of the members that is 25.60 per cent of the FPOs who were found to be having a poor level of performance. The probable reason for this might be that most of the FPOs are good at their prime objectives like input supply, market linkages, dissemination of market information, providing custom hiring services, maintaining rules and regulations, auditing of accounts, conduct of meetings and organizing training programmes. These have added to the performance of the FPOs in having average and better level of performance. Among that, some of the FPOs were found to be having poor level of performance which must be because some of the FPOs are not full fledged with all the required facilities such as custom hiring services, credit facilities, insurance services and involvement of members in decision making and responsibility sharing activities of FPOs.

Conclusion

India is heading towards having strong developments in FPOs and their performance. The need for Farmer Producer Organizations (FPOs) is being increasingly felt to overcome the challenges faced by small farmers who

lack access to resources and services. Accordingly, there has been a substantial increase in the number of FPOs. An ecosystem needs to be created in each state for the sustainable development of FPOs. The implications of the study are that most of the respondents had average level of performance. Building the capacity of the board members and members of FPOs need to be focused to learn management practices and best agriculture practices which will also add to the good performance of FPOs. Significant extension programmes need to be focused which will help in organizing the farmers into meaningful groups leading to retaining the farmers particularly the youth in farming for sustainable agricultural development and ensuring food security.

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Applications and Challenges of Blockchain Technology in Agriculture Sector: A Review

Sagar Deshmukh[1] and Sharvari Patil[2]

Abstract

Technology plays an important role in the growth of the country. New technologies are helping people in doing the tasks more effectively by saving time, money and effort. Information, Communication and technology helped to push the stagnant growth of Indian industries. In agriculture, dissemination of information has helped people to acquire knowledge of farming activities, sharing needs, access to the market through TV and radio. As technology is evolving, Artificial Intelligence, Machine learning, Deep learning have paved the way in the agriculture sector. Simultaneously, the Government of India took up the initiative of establishing and supporting 10,000 Farmer Producer Organizations to strengthen the farming community and the Indian agriculture sector. In making the initiative successful, apt deployment and use of technology will play a critical role. In this article, the authors have discussed, what blockchain technology is, its applications and challenges in the agriculture sector.

Keywords: ICT, Blockchain technology, traceability, FPO, Agriculture

Introduction

Agriculture is the prime sector in India. Agriculture is a main source of livelihood for the majority of the population and 54.6 per cent of the total workforce is engaged in the agriculture and allied sector (Census 2011). According to the Annual Report 2020-21 of the Department of Agriculture, Cooperation & Farmers' Welfare, agriculture and allied sector activities

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account for 17.8 per cent of the country's Gross Value Added (GVA) for the year 2019-20. The farming community have gradually shifted from traditional farming practices inherited from generations to scientific practices disseminated by research institutions and universities. Technology is playing a significant role by reaching larger masses from the wider geography of India.

Information and Communication Technologies (ICT), and emerging technologies and applications like the Internet of Things (IoT), etc are helping to disseminate information and knowledge to the farmers.

Today, technology has gone a step ahead, where Artificial Intelligence (AI) is playing a vital role in bringing more advancement, automation, and sophistication in agriculture activities. Machine learning, deep learning, blockchain are among the modern technologies which are being used in agriculture. Among them, Blockchain technology, especially, got more attention because of its nature of applications and scope in securing and safeguarding the food and agriculture systems. It has the potential to address the challenges of the agricultural stakeholders and Farmer Producer Organizations (FPO) are one of them.

To strengthen the agricultural sector of the country by recognizing its importance and supporting the farmers, the Government of India has come up with Farmer Producer Organisations (FPOs). During 2011-12, the Government of India launched a pilot programme for promoting FPOs. The pilot programme involved the mobilisation of approximately 2.50 lakh farmers into 250 FPOs (each with an average membership of 1000 farmers) across the country. The pilot programme showed encouraging results and more than three lakh farmers have been mobilised. Presently, around five thousand FPOs (including FPCs) are in existence in the country. More recently, in the Union budget of 2019-20, the Government of India has declared its intention to promote 10,000 FPOs in the next 5 years to ensure economies of scale for farmers in the country (Strategy Paper for promotion of 10,000 Farmer Producer Organisations (FPOs), 2019 by Small Farmers' Agribusiness Consortium (SFAC).

Technological Transformation: Perspectives from India

Information, Communication and Technologies are the three foundation pillars of the new advancement happening in all sectors and agriculture is no exception to that. The information from the experts, scientists in the field of agriculture is disseminated to the farmers and other agri enthusiasts through radio, television and social media. The challenges faced by the farmers on the ground are shared with these experts and they provide the appropriate information. In doing so, apt tools and technology are used, and information is exchanged.

ICT has made farming more convenient and profitable, it helped to retain the farmers in farming activities, moreover, it is attracting the rural youth towards agriculture. There was a need for timely, accurate, pertinent information services and ICT played a key role to fulfil the lacuna (Panda, Paswan, & Singh, 2018). The Village Resource Centre functioned as the main hub for disseminating information and identifying the needs of the farmers. Previously, VSAT and radio were used as a medium for communication between farmers and experts. This system helped farmers to get meteorological information and become aware of the market conditions (Swaminathan & Swaminathan, 2018).

ICT further led to the development of Mobile Apps. The farming apps such as Kisan Suvidha, IFFCO Kisan, RML Farmer, Pusa Krishi, AgriApp, Kheti-Badi, Crop Insurance app are helping farmers to get appropriate knowledge of inputs, crop production, crop protection, marketing, processing, fertilizers, pesticides, weather conditions etc. mKisan portal, Farmers portal, National Agriculture Market Portal (e-NAM), Agricoop, APEDA, AQUA, AGRISNET, ITC-e-choupal are farmer friendly portals which are helping farmers to gain farming knowledge and learn about new technologies (Panda, Paswan, & Singh, 2018). Appropriate information helps the farmer to use it in regular farm activities and it leads to improved income for the farmer. Information regarding fair market prices creates transparency in the market. The marketer is getting valid data of demand and supply of the

products in the market and farmers are connecting to new Government schemes which again help the farmers to get financial as well as technical support.

Artificial Intelligence (AI) has evolved as the next step of ICT where machines are made intelligent with more experiences in the form of data. Huge data is generated during agricultural operations and activities, and it is made accessible for analysis and interpretation. Machine Learning (ML) a part of AI, could be programmed with a set of agricultural data to perform various farm operations without human interference, which would enable in solving various complex tasks (Kumar & Sahu, 2021).

With technological use, more data are generated and processed every minute. People have started relying on technology for taking decisions. Hence preventing data manipulation has become important. Herein, Blockchain technology plays a critical role. Blockchain technology is attracting significant attention in various agricultural applications (Fang & Wang, 2020) as this technology has a wide scope in the agriculture sector and can solve pertinent issues like traceability, food safety, supply chain, monitoring and management.

Introduction to Blockchain

Blockchain is a digital ledger of transactions that cannot be manipulated like an excel sheet or pen and paper records. Each block contains a record of every transaction. Once the block is filled, a new block is created. All these blocks get linked with each other like a chain, hence, it is called blockchain.

The decentralised database in the blocks managed by multiple participants is known as Distributed Ledger Technology (DLT). Blockchain is a type of DLT in which transactions are recorded with an immutable cryptographic signature (www.euromoney.com) hence, the data is more secure than other ledgers.

Blockchain is an emerging digital technology that allows widespread financial transactions between underutilized groups, without the need for intermediaries such as banks (Mehta, Sharma, & Patel, 2021). By understanding the working methodology blockchain can be used not only in the financial industry but also in agriculture, service, aviation etc.

Types of Blockchain

Blockchain has different structures based on its types. The types of blockchain are based on the permission for users to enter the blockchain. These can be characterized as permissionless, permissioned, or both. Permissionless blockchains are the ones which allow all the users to join the blockchain. Permissioned blockchain restricts the user's access to join it (Wegrzyn & Wang, 2021).

On the basis of types of blockchain, there are certain structures of blockchain, i.e. Public, Private, and Consortium. Public blockchains allow all the people to join the blockchain, access it, and create a new block. On the other hand, in Private Blockchains, the control is with only one organization. In Consortium blockchain the rights to allow and join the blockchain is given only to a selected set of nodes (Zheng, Xie, Dai, Chen, & Wang, 2017).

Flow activities in Blockchain

In a blockchain, each block contains the hash of the previous block which is used to link it with the next block, at each transaction hash value changes. After each transaction, data get stored in a block and after saturation of the first block, the next block is created. A class of participants on this network, called miners, are responsible for detecting transaction requests from users, aggregating them, validating them, and adding them to the blockchain as new blocks (Goundar, 2020).

Being a distributed ledger technology, blockchains records cannot be changed, manipulated, or deleted. It creates more transparency and security among the users. Customers can use their computers or mobile phones to

retrieve and verify all transaction data (Mehta, Sharma, & Patel, 2021). For example, if a buyer wants to purchase meat from the market, by using a smartphone scan he can get the information about the location and conditions in which that animal has been reared, slaughterhouse location, equipment used for slaughtering, packing information etc.

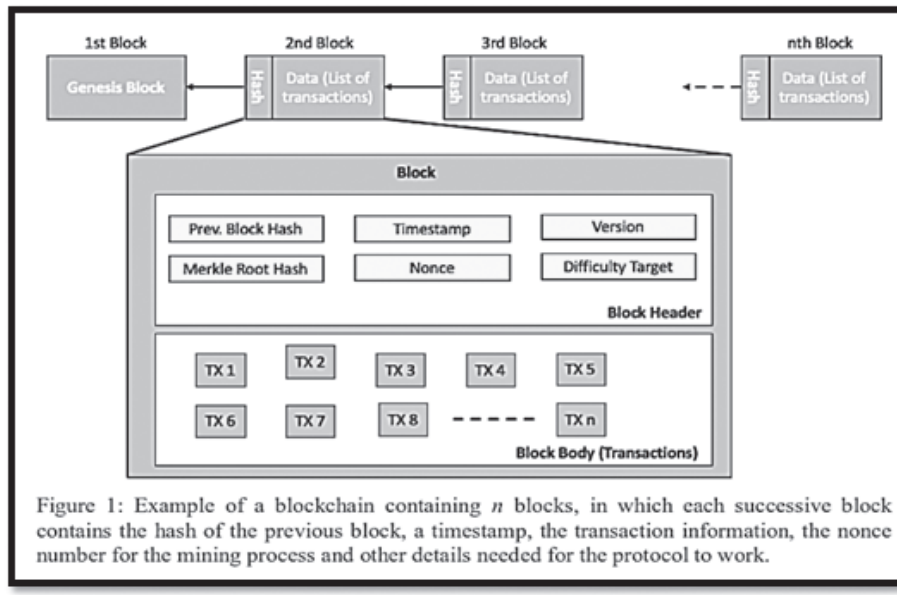

Figure 1: Example of a blockchain containing *n* blocks, in which each successive block contains the hash of the previous block, a timestamp, the transaction information, the nonce number for the mining process and other details needed for the protocol to work.

Source: Adapted from Kamilaris, Fonts, & Prenafeta-Boldυ', The Rise of Blockchain Technology in Agriculture and Food Supply Chains, 2019.

Application of Blockchain Technology in Agriculture

The agriculture sector is witnessing a revival with the introduction of new startups and their technologies. Digital India initiative led to the digitization of several agricultural activities which has further led to the generation of enormous data. Micro or macro level decision making has become dependent on the data. Thus, safeguarding the data is of utmost importance. Blockchain technology is adding the value to the same. There are numerous applications for the technology which are discussed below.

- **Traceability:** According to the International Organization for Standardization (ISO), Traceability is the "ability to trace the history, application, or location of that which is under consideration"

(Chhikara, et al., 2018). Implementation of effective traceability systems improves the ability to implement verifiable safety and quality compliance programs (Traceability in Food and Agricultural Products by International Trade Centre, 2015). Traceability can be used in various activities in agriculture i.e., from getting Agri inputs from input dealers up to supplying the final produce to the end consumer.

In January 2018, the World Wildlife Foundation (WWF) announced the Blockchain Supply Chain Traceability Project (WWF 2018), to eliminate illegal tuna fishing by means of blockchain. Through the project, fishermen can register their catch on the blockchain through RFID e-tagging and scanning fish (Kamilaris, Fonts, & Prenafeta-Boldυ', 2019) (Balfego' Group 2017).

- **Transparency:** As businesses are moving towards digitalization, transparency plays a key role to grow the business. Transparency helps to provide information to all the stakeholders in the business and decision making to take the right action. Transparency is associated with positive connotations such as trust and accountability (Hosseini, Shahri, Phalp, & Ali, 2017). Transparency helps external stakeholders to monitor the internal activities of any business (Douglas & Meijer, 2016).

  My Crop is an Ahmedabad (India) based Agritech Startup currently testing blockchain in the seed supply chain to track its entire supply movement from seed aggregators, distributors, retailers to farmers. The aim of using blockchain technology in the business is to bring transparency, authenticity and to restrict spurious and low-quality seeds from entering the market (Inc 42).

  National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities www.enam.gov. The trading is to be done through a digital platform as prescribed to ensure

transparency in the transactions and provide a fair price to the farmers. Goundar, 2020 conducted a study in three APMCs of Uttar Pradesh to analyse the ground-level practices taking place in these APMCs and the level of adoption of e-NAM. It was found that there is a considerable variation in the arrival and bidding prices obtained from the APMCs when compared with the data available on the agriculture market information system (Agmarknet). The study proposes a blockchain-based infrastructure to facilitate a more transparent, autonomous system to empower the information system and efficient application of government rules and regulations pertaining to agricultural transactions in the APMCs through the utilization of smart contracts.

- **Agri and Food Supply chain:** A supply chain is the set of entities that are involved in the design of new products and services, procuring raw materials, transforming them into semi-finished and finished products and delivering them to the end customers (Swaminathan 2001). Supply chain management is an end-to-end process consisting of different activities from product design, procurement, planning and forecasting, production, distribution, fulfilment, and after-sales support (Xiaoyuan Lu & Swaminathan, 2015).

  Blockchain in supply chain management is expected to grow at an annual growth rate of 87 per cent and increase from $45 million in 2018 to $3,314.6 million by 2023. As a successful example, in December 2016, the company AgriDigital executed the world's first settlement of the sale of 23.46 tons of grain on a blockchain (ICT4Ag 2017). Since then, over 1,300 users and more than 1.6 million tons of grain has been transacted over the cloud-based system, involving $360 million in grower payments. The success of AgriDigital served as an inspiration for the potential use of this technology in the agricultural supply chain (Chang, Iakovou, & Shi, 2019).

- **Food safety:** Foodborne illnesses are usually infectious or toxic in

nature and caused by bacteria, viruses, parasites or chemical substances entering the body through contaminated food or water. Blockchain could provide an efficient solution in the urgent need for improved traceability of food regarding its safety and transparency (Kamilaris, Fonts, & Prenafeta-Boldυ', 2019).

Food companies are using blockchain technology in their business to build trust, transparency among the customers by providing support for all the processes. In the demonstrated pilot, examples of chicken assigned in San Francisco were put together with QR codes that link to their meat story. Consumers will have the opportunity to check the QR code on the Grass Roots item to see where the meat originated and how the organisms grew (Mehta, Sharma, & Patel, 2021).

- **Food Integrity:** Food Integrity is "the state of being whole, entire, or undiminished or in perfect condition", providing assurance to consumers and other stakeholders about the safety, authenticity and quality (secure.fera.defra.gov.uk).

  Food integrity is about the reliable exchange of food in the supply chain. Each actor should deliver complete details about the origin of the goods. Downstream beer (Ireland Craft Beers 2017) is the first company in the beer sector to use blockchain technology, revealing everything one wants to know about beer, i.e. its ingredients and brewing methods. (Kamilaris, Fonts, & Prenafeta-Boldυ', 2019).

- **Cryptocurrency:** Cryptocurrency is a digital currency also called digital money. The number of Cryptocurrencies present today includes Bitcoin, Ethereum, Ripple, Litecoin and IOTA. The main advantage of Cryptocurrency over the traditional one is it does not require a central authority for a transaction. In the case of cash transactions, the bank is playing the role of a central authority which is not required in cryptocurrency. Cryptocurrency is more secure and transparent.

Bitcoin, the first digital money, was introduced in 2009 by Satoshi Nakamoto. The Bitcoin Blockchain is a data file that carries the records of all past Bitcoin transactions, including the creation of new Bitcoin units (Berentsen & Schär, 2018). Cryptocurrencies are scarce commodities and currency units are case limited by mathematical algorithms. After every digital currency unit is issued, there is no way to generate additional currency units from it (e.g. Bitcoin is limited to 21 million units) (Goundar, 2020).

- **E-commerce platforms:** Nowadays the use of E-commerce platforms for buying and selling goods and services has become more common. Social media platforms are playing a vital role in the growth of E-commerce. With the advent of Cryptocurrencies, the possibilities of e-commerce have reached new heights for all web users who see potential in this technology (Goundar, 2020). The use of Blockchain in E-commerce will help to reduce the cost of the transaction, boost security, supply chain and inventory management, verified view or getting a feedback from customers (Faulkner, 2021). AORA is a blockchain assisted global buying platform for cross-border e-commerce and end-to-end crypto shopping. AORA allows customers to purchase items from online marketplaces in the U.S. and China, using cryptocurrencies as tender https://www.aora.com/.

- **Smart Contracts-** Contract is 'an agreement enforceable by law'. It is an agreement between two or more persons (individuals, businesses, organizations, or government agencies) to do, or to refrain from doing, a particular thing in exchange for something of value (Jajodia, 2012). In agriculture, different contracts are signed at the time of buying and selling of Agri commodities. In the recent past, farmers have been inclined towards contract farming which in turn benefits the companies as well. After getting into the contracts farmers are also facing many conflicts and disputes due to complications in terms of paperwork. A Smart contract is an application of blockchain which could help to

solve disputes and conflicts among the farmers in a fairer way for everyone (Chinaka, 2016; AgriDigital, 2017). The US-based startup 'Second State' provides developer tools for decentralized apps and a search engine for smart contracts, as well as blockchain as a cloud service. It develops virtual machines for blockchain smart contracts in leading public blockchains including Ethereum, Polkadot, and CyberMiles (www.startups-insights.com).

- **Labour Problems:** Agriculture is a labour-intensive sector where seasonal labour are hired for the work. These labourers become unemployed without any intimation. Blockchain-based contracts can help in protecting workers with temporary agreements and employment relationships in the agricultural sector to mitigate the exploitation of labour in agriculture (Pinna & Ibba, 2018). It is easier for the authorities to control fairness in payments and taxation due to blockchain. Coca-Cola has attempted to employ blockchain to sniff out forced labour in the sugarcane sector (Chavez-Dreyfuss, 2018; Kamilaris, Fonts, & Prenafeta-Boldυ', 2019).

- **Supervision and quality measurement:** In order to strengthen the effectiveness of supervision and management in the food supply chain, blockchain technology can be harnessed as a credit evaluation system. In addition to that, it can also be used to improve the monitoring of international agreements relevant to agriculture (Tripoli & Schmidhuber, 2018)(Kamilaris, Fonts, & Prenafeta-Boldυ', 2019). In quality assurance, failures such as delays in final destinations, poor monitoring are avoided, and the quality of produce is assured through the food chain (Brooker, Bakker-Arkema, & Hall, 1992) (Kamilaris, Fonts, & Prenafeta-Boldυ', 2019).

- **Certification/Documentation:** Various documents are required to avail funds or to take benefits of Government Schemes in India. If the farmers want to apply for the scheme, the flow of documents needs to be

monitored. Many farmers miss their important documents in this process. Here, Blockchain technology is helpful to monitor the process flow.

Blockchain can solve this existing problem of verifying the validity of digital assets such as a picture of the birth certificate, a pdf document stating the will or a signed legal document specifying a business deal very efficiently and at a very low implementation cost. Blockchain is used for the very specific task of storing digital signatures of assets that prove their validity.

Due to the characteristics of the Blockchain (permanent decentralised ledger of information), these digital signatures can be accessed by anyone. Hence, anyone with access to the Blockchain can now verify the authenticity of a digital asset without having to rely on trusted intermediaries.

The Blockchain is not the solution to the Signed Digital Asset problem. Rather it plays a small but important part in this proposed solution.

- **Land registration:** Land registration, cadastre and land governance play an important role in society, as long as they function legally and transparently and meet the goals set by society. Land registries/land registration is where documents, manifesting legal rights from a property transaction, are recorded. Cadastre is the process of mapping those rights and subsequent storage of the mapping data. A number of disputes are arising regarding ownership rights when the land has been sold several times. Blockchain is effective here to maintain a record and data of the whole history of the flow of the processes.

  In India, currently, the ownership of a property is proved through presumptive land titling (RoR)-chain of documents that provide evidence of the transfer of the title from person to person over the years all the way to the current owners. Registration is only recognized

as an agreement between two parties for the transfer of property. An important constraint is that any one of these intermediate transactions is liable to be challenged as the office of the sub-registrar (SRO) is only undertaking deed registration under the Central Registration Act 1908 and does not verify the ownership of the land. Property fraud is also rampant in many forms in our country.

The farmer has to spend time and money to collect all the documents such as RoR, mutation extract, crop certificate etc. that are necessary for securing loan, subsidy and any other benefit from the Government.

Challenges while using blockchain technology

- **Regulation:** Policy development and regulation in relation to blockchain practices is both a necessity and an important barrier for its wider adoption (Zhao, et al., 2019;Kamilaris, Fonts, & Prenafeta-Boldʊ', 2019). Without a systematic regulation structure, it is difficult to adopt this technology. Blockchain applications in cryptocurrency are banned in some countries and some countries are trying to fix strict regulations of it.

- **Digital Gap between Developed and Developing Countries:** Since blockchain technologies require a high degree of computing equipment and expertise (i.e. in some blockchain systems, such as permissionless ones) (Zhao, et al., 2019)(Kamilaris, Fonts, & Prenafeta-Boldʊ', 2019) it is difficult to adopt this type of technology for developing countries. Due to this, it may lead to a Digital Gap between Developed and Developing Countries.

- **Privacy issues:** Although blockchain offers advanced security, there are high risks related to loss of funds, just because the account owner might have accidentally lost the private keys needed to access and manage the account (Kamilaris, Fonts, & Prenafeta-Boldʊ', 2019).

- **Delay issue:** Due to the complex, distributed and encrypted nature blockchain technologies have low transaction speed. In bitcoin Blockchain transactions are carried out in one second, which is very low compared to VISA and PayPal. The time required to confirm the transaction is around 10 minutes and the size of each block is around 1 MB (Kohad, Kumar, & Ambhaikar, 2020). Users may face problems in making financial transactions due to the delay issue in the blockchain.

- **Storage capacity:** In a blockchain, when one block gets saturated with data, the next block gets created; as the chain of blocks grows it requires additional storage capacity and this big chain reflects a negative impact on performance and increases synchronization time for new users (Dhaliwal & Malik, 2021).

- **Blockchain technologies require high consumption of Hardware and Energy:** Just like the mining of special metal requires high cost due to its demand in the market comparably due to Proof-of-Work mechanism, energy cost associated with mining of blocks is also high. According to a study by Oak Ridge Institute in Cincinnati, it has been found that the energy cost of mining bitcoins is nearly 7 megajoules of energy which is equivalent to mining platinum (Hern, 2018). Like energy, blockchain requires a high use of hardware.

- **High Cost:** Due to the requirement of high technology, higher energy and hardware usage, special equipment and expertise to conduct the operations, the cost of adopting blockchain technology is also high. It is difficult for small and medium enterprises to adopt this technology.

Conclusion

Technology is changing the way of thinking and perspective of everyone. People are becoming more optimistic to acquire knowledge and to adopt innovative technologies. Blockchain has bought the trust factor in the usage

of the technology. Blockchain technology is applicable in many industries and agriculture is one of them. It can be used to resolve many challenges in the agriculture and allied sector.

During the formation of Farmer Producer Organizations and implementation of their operations, viz. procurement of input, managing the inventory, recording transaction details, financial statements, documents of membership and land records, logistic and supply chain management, etc. blockchain will play an important role. Moreover, crop or animal insurance, advisory services, stakeholder management and strategic planning will also be strengthened by the use of technology. A few Indian Startups, viz., Samudra Network, Kultivate, TRST01, TraceX are continuously working on blockchain technology and helping farmers and farmer producer organizations to effectively improve their practices and thereby lead to improved productivity.

The usage of blockchain technology in the Indian agriculture sector is still in a nascent stage. More sensitization and adaptation is required. Especially, the adaptation of this technology by farmer producer organizations, as an integral component of the ecosystem, will write a new chapter in the Indian agriculture sector.

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Contract Farming and Strategies to link with Farmer Producer Organizations (FPOs)

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Abstract

Agriculture's share in GDP has been dropping in several countries, however, the sector continues to play a major role in many developing country economies. Due to a strong reliance on subsistence farming, with limited technology and inadequate market access, most agricultural production in developing nations is associated with low productivity and low profitability. Contract farming is thought to increase productivity and income through facilitating coordination between farmers and other actors in terms of production, processing and marketing of agricultural products. Contract farming is defined as a company financing "inputs" such as seed, fertiliser, credit, or extension to a farmer in exchange for exclusive purchasing rights over a specific crop. It is a type of vertical integration used in agricultural commodity chains to provide the company more control over the manufacturing process and the end product. Contract farming is receiving a lot of interest from academics and policymakers and is frequently linked to an increase in household income for participants. FPO is a generic term for farmer-producer organizations that are incorporated or registered under the Companies Act, Part IXA, or the Cooperative Societies Act of the respective state. Linking contract farming with FPO can help farmers to increase their income and life style.

Keywords: Contract Farming, Farmer Producer Organization, Farmer.

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Introduction

In an era of globalization and expanding agribusiness, there is a danger that small-scale farmers will find it difficult to fully participate in the market economy. In many countries such farmers could become marginalized as larger farms become increasingly necessary for a profitable operation. A consequence of this will be a continuation of the drift of population to urban areas that is being witnessed almost everywhere. This is largely because the necessary backward and forward market linkages are rarely in place, i.e. rural farmers and small-scale entrepreneurs lack both reliable and cost-efficient inputs such as extension advice, mechanization services, seeds, fertilizers and credit, and guaranteed and profitable markets for their output. Well-organized contract farming does, however, provide such linkages, and would appear to offer an important way in which smaller producers can farm in a commercial manner.

Recently, the Rajya Sabha approved the Farmer (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020 or to put it simply the Contract Farming Bill. It allows farmers to enter into a contract with agri-business firms, processors, wholesalers, exporters or large retailers for sale of future farming produce at a pre-agreed price. It enables marginal and small farmers, with land less than five hectares to gain via aggregation and contract. This is significant as marginal and small farmers account for 86% of total farmers in India. The bill transfers the risk of market unpredictability from farmers to sponsors. It boosts farmer's income as it brings down the cost of marketing. (Simmons,2002). It grants them the chance to engage in direct marketing by eliminating intermediaries and get a better price realization. However, the bill has been at the center of criticism because of concerns that it may weaken the bargaining power of the farmers.Contract farming creates more welfare and higher income to farmers, at least in the short run (Little & Watts, 1994; Sriboonchitta & Wiboonpoongse, 2008; Man &Navi, 2010; Miyata et al., 2009; Saigenji& Zeller, 2009; and Tuan, 2012).

Contract Farming is defined by Eaton and Shepherd (2001) as "an agreement between one or more farmer(s) and a contractor for the production and supply of agricultural products under forward agreements, often at predetermined pricing." The arrangement also invariably involves the purchaser in providing a degree of production support through, for example, the supply of inputs and the provision of technical advice. The basis of such arrangements is a commitment on the part of the farmer to provide a specific commodity in quantities and at quality standards determined by the purchaser and a commitment on the part of the company to support the farmer's production and to purchase the commodity. The contract farming system should be seen as a partnership between agribusiness and farmers. To be successful it requires a long-term commitment from both parties. Exploitative arrangements by managers are likely to have only a limited duration and can jeopardize agribusiness investments. Similarly, farmers need to consider that contractual arrangements are likely to be to their long-term benefit.

Historical Background

Contract farming isn't a new concept. Contract farming was used to plant indigo during the British period. That, however, was unethical. Modern contract farming is beneficial to both parties. It was first brought to Taiwan by the Japanese government in 1895. Pepsi was the first to launch it in India in the Hoshiarpur taluk of Rajasthan, to cultivate vegetables, mainly tomato and potato in 1927. In the twentieth century, contract farming in Karnataka began with the cultivation of gherkin.

- **Contract farming: what attracts smallholders?**
  - Assured prices and procurement
  - Higher profit
  - Access to better technology and lower transaction costs
  - More gains to smallholders than the large farmers

- Risk sharing

- **Contract farming has significant benefits for both the farmers and sponsors**

Advantages for farmers

- Inputs and production services are often supplied by the sponsor
- This is usually done on credit through advances from the sponsor
- Contract farming often introduces new technology
- Farmers' price risk is often reduced as many contracts specify prices in advance
- Contract farming can open up new markets

- **Problems faced by farmers**

- Particularly when growing new crops, farmers face the risks of both market failure and production problems
- Inefficient management
- Sponsoring companies may be unreliable or exploit a monopoly position
- The staff of sponsoring organizations may be corrupt
- Farmers may become indebted because of production problems and excessive advances

- **Advantages for sponsors**

- Contract farming with small farmers is more politically acceptable than, for example, production on estates
- Working with small farmers overcomes land constraints
- Production is more reliable than open-market purchases and the sponsoring company faces less risk by not being responsible for production

- More consistent quality can be obtained than if purchases were made on the open market

- **Problems faced by sponsors**

- Social and cultural constraints may affect farmers' ability to produce to managers' specifications
- Poor management and lack of consultation with farmers may lead to farmer discontent
- Farmers may divert inputs supplied on credit to other purposes, thereby reducing yields

- **Preconditions in contract farming**

No contract farming venture should be initiated unless some basic preconditions are met. The primary precondition for any investment in contract farming must be that it is likely to be profitable. This involves an assessment of the social and physical environment of the proposed contract area as well as the potential support likely to be provided by the government. The preconditions in contract farming are as follows:

1. Profitable market
2. Physical and social environments
3. Government support

1. Profitable market

- Sponsor must have identified a market for the planned production
- Sponsor must be sure that such a market can be supplied profitably on a long-term basis
- Farmer must have potential returns demonstrated on the basis of realistic yield estimates

2. Physical and social environments

- Physical environment must be suitable in general, and in particular for the product to be produced
- Utilities and communication must be suitable for farming, e.g. feeder roads, and for agro-processing, e.g. water and electricity
- Land availability and tenure - contracted farmers require unrestricted access to the land they farm
- Input availability - sources of inputs need to be assured

3. Government support

a. **Enabling and regulatory role**

- Suitable laws of contract and other laws are required as well as an efficient legal system
- Government should provide services such as research and, sometimes, extension

b. Developmental role

- Governments can take steps to bring together agribusiness and suitable farmers

Crops Suitable for Contract Farming

In general, companies use contracting for crops that are:

Perishable: cannot be stored for long periods of time and must be sold immediately

Bulky: more expensive to transport

Plantation crops: The plantation crops invariably require processing and are locked into an agreement with the processor

Processible: require processing-based crops

Variations in quality: where crops vary in quality and quality is important for processing

Unfamiliar: medicinal plants like safed musli, ashwagandha.

Model of Contract Farming

The centralised model, the nucleus estate model, the multipartite model, the informal model, and the intermediary model are the five contract farming models in the country. Depending on the commodity, the sponsor's resources, and the intensity of the farmer-sponsor connection that is required, contract farming usually follows one of the five basic types.

Centralized Model

This strategy is utilised for tree crops, annual crops, poultry, and dairy, and involves a centralised processor and/or packer purchasing from a large number of small farmers. Tea and vegetables for canning or freezing are examples of items that require a lot of processing. It is vertically coordinated, with strict quality control and quota allocation. Sponsorship engagement in production can range from providing minor inputs to taking control of the majority of production components.

Nucleus Estate Model

This is a variant of the centralised model in which the sponsor is also in charge of a central estate or plantation. The central estate is typically utilised to ensure processing plant throughput, but it is also occasionally used for research or breeding. It is frequently utilised in conjunction with resettlement or transmigration plans, and it necessitates a large amount of material and management inputs.

Multipartite Model

This type of model can involve a range of organisations, including statutory agencies, and can emerge from centralised or nucleus estate structures, for example, through the formation of farmer cooperatives or the participation of a financial institution.

The Informal Model

Individual entrepreneurs or small businesses are the hallmarks of this strategy. It entails ad hoc production contracts, which are frequently seasonal. It frequently necessitates government assistance, such as research and extension.

Intermediary Model

This model involves the sponsor subcontracting linkages with farmers to intermediaries, and there is a risk that the sponsor will lose control over production and quality, as well as the prices paid to farmers.

Examples of Contract Farming Companies in India and their Headquarters

S. No.	Contract Farming Company	Headquarters
1	Big India Farms	New Delhi
2	Dabur Contract Farming	New Delhi
3	Goodricke Group Ltd	Kolkata
4	Tata Coffee Ltd	Bangalore
5	Rallis India Ltd	Mumbai
6	Pacific Herbs Agro Farms Pvt Ltd	Nagpur
7	Patanjali Contract Farming	Haridwar
8	Anand Agro Group	Nashik
9	Baramati Agro Ltd	Pune

Potential advantages and challenges of Contract Farming and Producer Organizations

Particulars	Contract Farming		Producer organization	
	Pros	**Cons**	**Pros**	**Cons**
Farmers' risks	- Division of risk between the grower (production) and the contractor (marketing) - Price guarantees - Access to new markets	- Patterns of specialization and the introduction of new crops - Manipulation (of the agreed quotas and rejection of the crop)	- Internal risk management systems - External support and risk coverage	- External support causes dependency
Farmers' income	- Income rise through quality improvements, agri-processing and access to high-value markets	- Indebtedness because of easy access to credit	- Increase of bargaining power with buyers and suppliers	
Production efficiency	- Provision of capacity building measures - Provision of inputs and financial services	- Inputs and production techniques endanger sustainable land use	- Improved access to capacity building measures, inputs and financial services	- Lack of financial resources and expertise limits the PO functions
Value chain efficiency	- Aggregation of production - Provision of infrastructure (e.g. storage and cooling facilities) - Value adding and marketing activities		- Aggregation of production - Joint investments in infrastructure (e.g. storage and cooling facilities) - Joint investments in value adding and marketing	- Lack of financial resources and expertise limits the PO functions

(Source- Inka Gersch,2018)

Farmer Producer Organization/Company

A producer company is a legal entity that is registered under the Companies Act of 1956 as a Producer Company (As amended in 2002). Production, harvesting, processing, procurement, grading, pooling, handling, marketing, selling, export of primary produce of members, or import of goods or services for their benefit are among its key activities. Promotion of mutual help, welfare measures, financial services, and producer or primary produce insurance are also included.

There are currently roughly 5000 FPOs (including FPCs) in the country. Over the last 8-10 years, these have emerged as a result of numerous initiatives by the Indian government (including SFAC), state governments, NABARD, and other organisations. The majority of these FPOs are still in their infancy and are in the early stages of their life cycle (2019 MANAGE Report).

Strategies to Link Contract farming with Farmer Producer's Organization

Realizing scale in primary production

In the Philippines, selected irrigation schemes with well-established water user groups, as well as Agrarian Reform Communities backed by the Department of Agrarian Reform, may be the most suitable sites to explore clustering.

Supporting market-oriented producer organizations

Cooperatives and producer organisations should be encouraged to grow. Japan, South Korea, and Taiwan have all had a lot of experience supporting farmer organisations or cooperatives in East Asia.

Introduction of appropriate technology

In order to improve agricultural commodities for markets that demand high quality requirements, new processes are frequently required. In order to

boost productivity and ensure that the commodity satisfies market expectations, new manufacturing procedures are frequently required. Small-scale farmers, on the other hand, are often hesitant to accept new technologies due to the potential hazards and expenses. When they can rely on external resources for material and technological inputs, they are more likely to accept new techniques.

Skill transfer

Record keeping, efficient use of agricultural resources, improved methods of applying chemicals and fertilisers, understanding the importance of quality, and the features and needs of export markets are some of the skills that a farmer acquires through contract farming.

Access to reliable markets

Farmers will not farm unless they are confident in their ability to sell their product, and traders and processors will not invest in initiatives unless they are confident in the ability to continuously produce the essential commodities. Contract farming, by offering market assurances to farmers and ensuring supply to consumers, could be a viable solution to this problem.

Need for incubation and handholding support to FPOs

FPOs need to be supported so that they will work in growth of farming and provide benefits to the members

Policy level challenges

FPOs are now unable to reap the benefits of contract farming due to lack of information and awareness about contract farming and companies which are into procurement of agri commodities directly from farmers. Hence, there is a need for changes in policy. FPOs need to be promoted and Government should make the policy for contract farming and FPOs.

FPOs will require infrastructure and technical facilities such as a packing house, warehouse, sorting and grading, packaging, material handling, transportation, and custom hiring equipment and machines, among other things.

Conclusion

The majority of the studies on the effects of contract farming on farmer productivity and income have been undertaken over a short period of time, and consequently, conclusions are drawn for the short term. Contract farming's long-term influence on producer productivity and revenue, however, is still unknown. Contract farming issues include late deliveries or payments, decrease in quality, a lack of bargaining leverage, and production and marketing concerns. Farmer producer organization can improve contract farming and can help the farmer through many strategies like policy changes, skill transfer etc.

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Theory and Practice of Farmer Producer Organizations in Sub-National Government of Nepal: A Case of Belauri Municipality

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Abstract

Depending on their aims, resources, vision and institutional environment, Farmer Producer Organizations (FPOs) have diversified Rural Advisory Service (RAS) roles. FPOs particularly as major actors of RAS, specific human and social capital, knowledge, attitudes, skills and behavior have a comparative advantage over other agriculture service providers. The facts and figures related to the agriculture sector of the emerging sub-national government of Nepal revealed that, there is a need for bringing sustainability in the promotion, institutionalization and capacity building of FPOs to promote economic prosperity. Against this backdrop, the paper is prepared with the support of sub-national government officials and agriculture academicians through the use of an exploratory case study method in Belauri Municipality of Kanchanpur district of far-western Nepal. The paper summarizes the status of farmer group development in sub-national government especially in restructured Nepal and how the local government's current legal framework could be utilized to streamline these opportunities. The paper concludes that the sub-national government is expected to have a comprehensive strategic plan with a solution and policy backup that could contribute to the development of FPOs in the days to come.

Keywords: Farmer Producer Organization, LGOA (2017), Sub national government, Nepal

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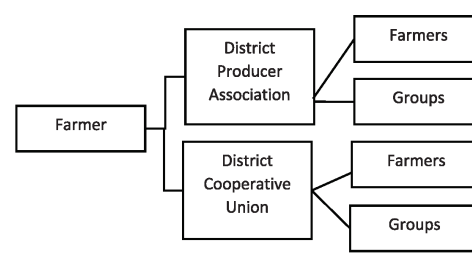
Introduction

Worldwide around one billion people are members of 2.6 million cooperatives and producer organizations all of which engage in production, marketing and other cooperative activities forming the interface between farmers and their social, economic and institutional environment (COSA, 2019; Toillier et al. 2015). Bista (2018) defined FPOs are informal and formal entities and take many forms such as farmers' groups, water users' associations, women's microfinance groups, seed producers, poultry entrepreneurs, primary producers, milk producers, weavers, rural artisans and craftsmen. Many of them need financial and especially, technical support to remain viable and to provide their members with important technical and advisory services (Rondot and Collion, 2001; Bista, 2018).

Farmers are unable to realize good value for their produce as their way of functioning is unorganized. (NABARD, 2015). An FPO can be a producer company, a cooperative society or any other legal form which provides a share of profits/benefits to the members (Sadamate, 2018). In some forms like producer companies, institutions of primary producers can also become members of FPO (NABARD, 2015). Nepalese agriculture is predominantly characterized by a large number of dispersed and fragmented land holding. Around 90 per cent of the producers' land holdings are small, marginal and of subsistence level as a result of which the producers having this limitation could not afford and invest individually. The government of Nepal adopted a farmer group approach as the official agricultural extension approach for Nepal in 1990. Since then, this has been the major strategy of the Government for the provision of agricultural extension services. The literature has shown that organizing rural farmers into groups has provided an effective institutional mechanism for their empowerment (NABARD, 2015). However, limited research has been conducted in either Nepal or other developing countries to investigate farmer groups through the lens of possibilities and institutionalization in sub-national or local government level. There is a great opportunity to develop FPO in sub-national government, especially after the adaptation of three tiers of the government.

A farmer producer organization can be a formal or informal institution - one type of producer organization which is a generic name for an organization of producers of any product, farm or non-farm (Gjananda et al. 2017). FPO may be a producer company, a cooperative society or any other legal form which provides for sharing of profits or benefits among the members (Toillier et al. 2015). In some forms of producer companies, institutions of primary producers can also become members of PO. These are basically the hybrids of cooperatives and private companies. The participation, organization and membership patterns of these companies are more or less similar to the cooperatives. However, their day-to-day functioning and business models resemble those of the professionally-run private companies. FPO is one type of producer organization where the members of the organization are the farmers themselves. These are also known as Farmers' Producer Companies (FPC). Farmers' and producers' organizations are important institutions that deliver services to their members, facilitate their access to markets and empower small farmers to engage in policy dialogue. They have a key role to play in ensuring inclusive and sustainable rural transformation at local, national and international levels (NABARD, 2015).



FPOs are autonomous membership-based professional organizations, structured on a commodity. For example, Coffee Producers Association, Banana Producers Association, Fish Producers Association, Nepal Society of Poultry farmers, Poultry Entrepreneurs Forum, Chitwan Banana Producers Association are examples of national, provincial and local level organizations. The concept behind FPOs is that farmers, who are the producers of agricultural products, can form groups and register themselves under the Companies Act. The primary producers have skill and expertise in the act of specific commodity production. However, FPOs generally need

support for branding, advertising, transporting and marketing of what they produce (Adhikari, 2020). The FPOs will basically bridge this gap. The FPOs will take over the responsibility of any one or more activities in the value chain of the produce, right from the procurement of raw materials to the delivery of the final product at the ultimate consumers' doorstep. The FPOs could undertake the procurement of inputs, dissemination of market information, dissemination of innovations, facilitation of finance for inputs, aggregation and storage, primary processing, branding, packaging, labeling and standardization, quality control, marketing to institutional buyers, participation in commodity exchanges and also in the export of produce (Adhikari, 2020). Community Based Seed Production (CBSP) is typical of these kinds of FPOs in Nepal very successfully achieving its objectives (Adhikari, 2020).

Methodology

This paper is based on the review of primary and secondary information related to advisory services, local government and the FPOs. Primary information was obtained by meeting attendants and the stakeholders including the farmer and producer at the study site. Secondary documents include the academic, review and synthesis papers. Stake (1995) stated that a case study gives researchers a holistic view of the dynamics within a sector. There are three types of case study approach: Illustrative, Cumulative and Exploratory. An exploratory case study collects information that will answer a question (Zainal, 2007). It can help researchers better understand social, economic, political or any other social phenomena (Yin 1994). For study of practice of FPO in sub national government, Belauri Municipality of Kanchanpur, one of the far-western districts of Nepal is purposively selected.

Discussion

Farmer Group Approach: Agriculture extension strategy of Nepal

Participatory, demand-led market-oriented rural advisory service is now

the common agenda of reform extension system (Blum et al., 2020). Farmer producer organizations are a part of this system to articulate demand, experiment the innovation, reflect the experiences, learn and communicate the knowledge and information (Sulaiman and Blum, 2020). The farmer group approach is the major strategy for service delivery in both agriculture and livestock services (Sharma & Khanal, 2009). An official report revealed that a total of 55,591 (37,732 farmer groups under the DOA and 17,859 under the DOLS) farmer groups existed under the public agricultural extension system at the end of 2014/15 and comprised about 1,008,488 farmers as members (DAE, 2016). Out of 55,591 farmer groups, 61.7 per cent were mixed in terms of gender, whereas 26.3 per cent and 12.0 per cent were women and men respectively (DAE, 2016). Of the total farmers organized in the groups, 52.8 per cent were women while 47.2 per cent were men (DAE, 2016). Farmers are probably the main source of informal agriculture advice where most of the subsistence farmers have not much contact with formal RAS and thus rely on fellow farmers and input dealers (GFRAS, 2011)

State of farmer group in the local government: A case of Belauri municipality

The declaration of Belauri Municipality was done by the Government of Nepal in 2014 by merging former Sreepur, Rampur, Vilasipur and Laxmipur VDCs. It soon became a model, clean and prosperous municipality. The city is situated at an altitude of 160 meters from sea level in the south to 1528 meters in the north. The east-west average length of the district is 44 km and the north-south average width is 34 Km. There are ten lowest administrative structures called ward committees in the municipality. The total area of the municipality is 123.4 sq km and the total population is 53,544. Being one of the terai based most fertile area, close to the Indian border there is a great opportunity to develop the municipality economically through the agriculture sector. In some cases, farmer to farmer extension is linked with membership in the farmers' organization. In Nepal such evidences are not prominent in general, however, commodity-based

extension is found sporadically in coffee, honey, organic products, floriculture, seed, poultry and feed sector. This special case could be possible if the municipality could focus on a specific product or service

Two types of FPOs exist in the agriculture dominated country: Community based resource-oriented and community-based market oriented as reported by Chamala, 1995. However, there are many forms; formal, informal categorized into three types by World Bank (2008): commodity-specific, broad interest advocacy groups and diverse economic and social service providers. There are altogether 300 community-based resource oriented FPOs in Belauri municipality (Table 1). This type could be a village-level cooperative or association dealing with inputs needed by the members, the resource owners, to enhance the productivity of their businesses based on land, water or animals. These organizations are generally small, have well-defined geographical areas and are predominantly concerned about inputs. However, the client group is highly diversified in terms of crops and commodities as their association, federation and apex body are yet to be formed. One of the interesting findings of this study is that 80 per cent of the members of the producers group are women (Table 1). From the view point of women's contribution to agriculture in rural terai Nepal, around 80 per cent of women involvement in the farmers group is justified. Small Farmer Consortium (SFC) types of mechanisms are providing the support for the promotion of FPOs in India (Gajananda, 2017), but do not exist even today in Nepal. This is the major reason why such kinds of FPOs are not operating in Nepal.

Table 1: Distribution and Composition of Farmer Producer Group in Belauri Municipality

Ward	No. of FGs	Member of Group by gender			Total Saving
		Women	Men	Total	
1	21	460	36	496	1,446,896
2	23	441	76	517	6,673,816
3	26	517	136	653	2,932,129
4	26	538	54	592	2,329,220
5	42	775	282	1057	2,589,969
6	30	567	163	730	5,761,412
7	23	456	112	568	2,668,115
8	46	834	239	1073	4,725,076
9	18	206	214	420	3,068,920
10	41	844	174	1018	4,524,234
Total	**296**	**5,638**	**1486**	**7,124**	**3,67,19,787**

Commodity-Based, Market-Orientated Farmer Organizations specialize in a single commodity and opt for value-added products which have expanded markets. They are designated as output-dominated organizations. These FPOs are generally not small and have to operate in a competitive environment. Research, input supply, extension, credit, collection of produce, processing and marketing, are all integrated to maximize the returns on the investment of the members who invested in the collective enterprise. These kinds of FPOs are either very limited or non-existent and started to have backstopping support for the formation of producer groups that are in an state of emergence. Capacity building, empowering and other kinds of backstopping support programs are done in the study area. Local government is yet to be formulated. Commodity based market-oriented farmers organizations are yet to emerge in the case of Belauri Municipality.

Opportunities of Subnational Government: Functions, Roles and Responsibilities

Future extension strategies must focus on organizing producer aggregates at various levels (Sadamate, 2018). This would provide strong backward and forward linkage including market-led extension strategies and also provide adequate pressure on research-education-extension agencies making extension operation demand driven. Since 2015, the Government of Nepal has devolved the functions, authority for decision-making, finance and management to quasi-autonomous units of the local government (LG). Devolution usually transfers responsibilities for services to municipalities that elect their mayors and councils, raise their revenues and have independent authority to make decisions on investment, planning, roles and responsibilities (Table 1). In a devolved system, LGs have clear and legally recognized geographical boundaries over which they exercise authority and within which they perform public functions. Annex 8 of Nepal constitution provides the legal framework for the function, duties, roles, responsibilities of local government. Among those duties, more than ten are directly or indirectly related with economic promotion, agriculture development, natural resources utilization and market development. To operate these functions in the local government, producer & farmers organizations serve as the entry point of interventions for activities.

FPOs can serve to both bond and bridge with social, human and financial capital (Putnam and Richardson 2000). These interventions could be implemented by any kind of producer group, cooperative, national producer, self-help group, farmer producer organization, autonomous cooperatives, producer company, civil societies or the public trust. FPOs are based on the principle of non-discrimination, provide a range of services for their members including market opportunities and empowerment of all of their members, men, women, youth (Blum et al. 2020). Worldwide evidence shows that FPOs could facilitate the changes at four levels: farm, producer organization, regional and national, however much evidence shows the FPOs could contribute to professionalizing and empowering

the farmer through the service they provide. At the organizational level, the provision of RAS contributes to improving the know-how, skills and strategies of FPO leaders and managers (Toillier, 2015).

Table 2. Roles Responsibilities and Functions of Local Government in LGOA Act 2017

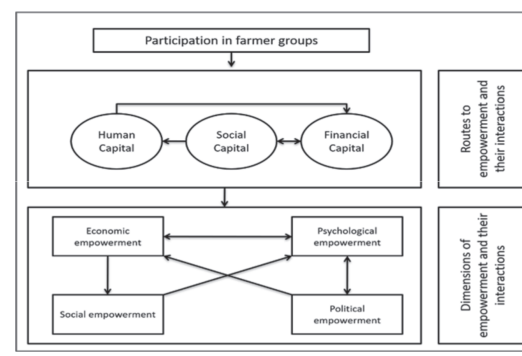
Section	Clause	Description
(3) Duties and responsibility of local government	11(Kha)	Cooperative development
	11 (Na)	Local service provisions
	11 (Cha)	Local project and program
	11 (Yna)	Local market development
	11 (Ta)	Local road construction and irrigation management
	11 (Ana)	Agriculture, livestock, agri product management and cooperative
	11 (Da)	Agriculture extension management, operation and control
	11 (Pa)	Watershed management, wild life conservation
	12.1(ka) 12.1 (Ga)	Ward level duties and responsibilities Planning, basic service
(6) Planning process	24 (1)	Periodic, annual, sectoral and strategic plan
	25 (1, 2)	Cooperation with other community, social, cooperative, UGs
	26 (ka, Kha)	Collaboration & partnership with donors & private company

Theory and philosophy of producer group and their empowerment

FPOs are grounded on the principles of collective action among the potential beneficiaries (Blum et al. 2020). Sadamate (2018) suggested that farmers could be empowered by organizing into SHGs, FPOs, FPCs, cooperatives etc. Collective action occurs when individuals voluntarily cooperate as a

group and coordinate their behaviour in solving a common behaviour. Mobilization of FPOs and other forms of network, affects all or the majority of the people in the society. According to the MCkee (1992), the social mobilization process brings together all feasible and practical inter-sectoral social allies (social, financial and human capital) to raise people's awareness, help themselves and demand for a particular development program to assist in the delivery of resources and services and also to strengthen community participation for sustainability and self-reliant society. Empowerment is more than providing the resources for one to help themselves out of poverty; it is the act of providing necessary tools to shape the individual and promote a critical way of thinking and consciousness (Ledwith, 2005). Philosophically, FPO empowerment is based on the three vital parameters of power namely farmer capital, their own knowledge of production, and the organization are the conceptual package of mobilization (Jaishi and Paudel 2020). Capital in the form of saving is a sign of self-reliance, knowledge as power as skills and culture, and the organization as the power of participation.

COSA (2018) stated that empowerment can be attained through working together and forming a collective state of consciousness that promotes and encourages change. The study of Bista (2018) in the Terai region of Nepal revealed that farmer group membership allowed farmers to accumulate human, social and financial capital which fostered economic, psychological, social and political empowerment of group members. The results from this study provide a comprehensive model of the relationship



between farmer groups, the three different forms of capital accumulation and the four dimensions of empowerment: economic, political, psychological and social.

The main philosophy of the group approach is to help people help themselves (CATC, 2002). The group approach recognizes a farmer as an active partner in technology development and dissemination instead of a passive recipient (Hoffmann, 2007). This approach emphasizes building and strengthening farmer groups at the local level and using this as a vehicle for development (Anandajayasekeram, et al. 2008). A farmer group is a group of farmers united for mutual interest and common goals related to their farming. The members of the groups are expected to have similar interests and occupations (DAE, 2009).

Suggestions and way forward

In order to be fully productive, small farmers, user groups, livestock keepers and forest users in the sub-national government of Nepal in the form of well-functioning FPOs are yet to be developed and need services that are often lacking in rural areas. Various forms of cooperatives and producer organizations provide an array of services ranging from enhancing access to and management of natural resources; accessing input and output markets; improving access to information and knowledge; facilitating small producers' participation in policy-making processes and are still in the process of streamlining through local government as per the functions and responsibilities of subnational government. These functions are yet to be channelized.

The existing poor and limited extension services to the farmers are the major bottleneck in hindering the commercialization of the agricultural sector. The previous structure of agriculture extension via the district level agency and service center concept has been dissolved from 2017 and devolved to local government via policy framework provided in the Local Government Operation Act (2017). In this scenario, there is a need for a new structure to

provide extension services to the majority of farmers. FPO and other kinds of associations could be one of the avenues to promote and enhance agriculture service delivery at the community level. The ADS (2015-2035) has visioned the establishment of the Community Agriculture Extension Service Center (CAESC) at all municipality levels. This local governed structure has to take care of FPOs, or other forms of associations and federations registered in the local government. The subnational government has to plan and implement the following four-fold activities to support farmer producer organization and association.

1. Support the establishment of an enabling environment, which includes assisting member governments to develop appropriate regulatory and legal frameworks, a conducive investment climate and consultation frameworks for policy-related dialogues which actively involve cooperatives and producer organizations;

2. Enhance their effective participation in policy dialogue processes to advocate for their producer members' needs, making their voice heard at the sub-national level;

3. Facilitate the development of producers' capacities, including their technical, managerial, organizational and marketing skills, as well as their ability to integrate into value chains and networks and to influence policy and decision-making processes; and

4. Share the knowledge in the form of publications, consultation workshops, discussions, focused group discussion, group and association formation guidelines, producer group formation modules, briefing notes and good practices.

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Evaluation of Performance of Farmer Producer Organizations (FPOs) in Medak District of Telangana State

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Abstract

Farmer Producer Organizations (FPOs) are emerging as a structure, which is indispensable in the development arena of agriculture and rural development programmes. In this article an attempt has been made to study the performance of FPOs. The study compares the performance of three selected FPOs on identified performance indicators. Three FPOs were selected randomly from three different promoting institutes viz., Suraksha Farmer Producer Company Ltd (SFPCL) promoted by Centre for Sustainable Agriculture (CSA) an independent research organization, Marpalli Kisan Kranthi Producer Company Ltd (MKKPCL) promoted by Vrutti NGO and Siddipet Kisan Agro Farmers Producer Company Ltd (SKAFPCL) promoted by ICRISAT. An ex-post facto research design was adopted for the study with a sample of 90 producer members, covering three FPOs in erstwhile Medak district of Telangana state. From the analysis, it was found that SFPCL was rated as average while, MKKPCL was rated as a poor performing FPO and performance of SKAFPCL was rated as good. This can be attributed to the institutional support received by the FPOs from their POPIs. Overall, the performance of FPOs was average to poor. This was due to insufficient knowledge on the business concept of FPOs among farmers and their inability to generate capital to carry out activities and provide services to their members.

Keywords: Farmer Producer Organizations, Performance Indicators.

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Introduction

India has 60.4 per cent of agricultural land of which 45 per cent is irrigated land. The country is the second largest producer of fruits, vegetables, rice and wheat in the world and the largest producer of milk in the world. India had a stable and diversified GDP growth. The country which made a significant dent in the poverty level which dropped 46 per cent over two decades to an estimated 13.4 per cent in 2015 but is the home for 176 million poor people, while it is seeking to achieve sustainability, better growth, financial inclusion and social development (Anonymous, 2019).

In this scenario a solution is possible through exploring innovative market led extension models in order to integrate the farmers, especially the small farmers. As a market development initiative, farmer groups were formed to enable member-farmers to reap the benefits of economies of scale in purchase of inputs, processing, and marketing of their produce. Forming a producer organization can also provide the member- farmers access to timely and adequate credit and provide linkages to markets. There is a rising optimism that the farmers organizations can act as a potential driving force for agricultural and rural development. Farmers' organizations are working as 'engines' of development that can uphold the pennon of development even ahead of local level, offering benefits to the rest of society (Blokland, 2007). The greater part of FPOs in India grow high value crops; other important crops are soybeans, cotton and nuts like coconut, cashew, and groundnut; fruits and vegetables having good markets and export potential. A majority of FPOs in the country are functioning for less than two years and mainly dealing with high value crops like fruits and vegetables. These organizations primarily deal with marketing and input supply services but after their success they tend to widen their market opportunities by entering into processing and value addition. (Venkattakumar et al. (2019). Around 25 per cent of FPOs are engaged in postharvest processing and about 20 per cent apply organic production methods (Trebbin, 2014). There were totally 273 farmer producer companies in Telangana state NABARD (2018-19). Among these 72 FPOs formed under PRODUCE fund of NABARD were

taken into consideration as they were functioning over five years. Among the 72 FPOs Medak district is having the highest number and was selected purposively for the study.

The main objective of the study is to assess and compare the performance of the selected FPOs. Measuring the performance of the FPOs, is one of the criteria by which the effectiveness of an organization, institution or a group is measured. Bernard et al. (2008) defined the performance of village organizations as the "effectiveness of serving their members," which they measured by the percentage of members who are said to have benefited from these organizations.

Methodology

An ex-post-facto research design was adopted for the study conducted in the year 2019-2020. Three FPOs were selected randomly from three different promoting institutes working in Medak district i.e. Suraksha Farmers Producer Company Ltd (SFPCL) promoted by Centre for Sustainable Agriculture (CSA) an independent research organization Marpalli Kisan Kranthi Producer Company Ltd (MKKPCL) promoted by Vrutti NGO and Siddipet Kisan Agro Farmers Producer Company Ltd (SKAFPCL) promoted by the International Crops Research Institute for the Semi-arid Tropics (ICRISAT). From each of the selected FPOs, thirty farmers were selected by following random sampling procedure. The sample constituted a total of 90 producer members.

Based on a review of literature and discussion with experts, a list of indicators relevant to measure the performance of FPOs was prepared. The experts were requested to indicate whether each of the indicators selected was relevant and suitable for inclusion in the Index to measure performance of FPOs. They were also requested to add new indicators if any to measure the performance. The responses were received from 30 judges and were quantified for calculation of relevancy scores which ranged from 0.58 to 0.91 and the details are furnished here under.

Table 1. Relevancy Rating Score for the Indicators to Measure Performance of FPOs

Indicator	Score
Marketing services	0.91
Financial services	0.83
Group leadership	0.72
Social factors	0.76
Technical services	0.85
Group decision making	0.58
Group cohesiveness	0.74
Networking services	0.85
Input supply services	0.88
Infrastructure support	0.73

The indicators which got a relevancy rating of 0.80 above (more than 80% of the judges indicating the relevancy of the indicators) were selected for the study. The same indicators were selected to study the performance of FPOs i.e. Technical services, Input supply services, Marketing services, Networking services and financial services.

Each indicator to study performance consisted of unequal number of statements and hence their range of scores was different and therefore, the scores of all the five indicators were normalized by using the following formula.

$$Uij = \frac{Yij - Minyi}{Max.yi - Min\ yj}$$

Where,

Uij = Unit score of the i^{th} respondents on j^{th} component

Yij = Value of i^{th} respondent on the j^{th} component

Maxyj = Maximum score on the j^{th} component

Minyj = Minimum score on the j^{th} component

The score of each component ranged from 0 to 3 i.e. when Y^{ij} is minimum the score is 0 and when Y^{ij} is maximum the score is 3.

$$\text{PI of FPO} = \frac{SI1+SI2+SI3+SI4+SI5}{5}$$

Where,

PI= Performance Index

SI 1 = Normalized indicator value of technical services

SI 2 = Normalized indicator value of input supply services

SI 3 = Normalized indicator value of marketing services

SI 4 = Normalized indicator value of networking services

SI 5 = Normalized indicator value of financial services

The obtained index value ranged from 0 to 1. Based on these index values the FPOs were classified into different levels of performance i.e. poor performance, average performance, good performance and excellent performance based on the range value obtained. The respondents were classified into four categories by adopting inclusive class intervals as mentioned below.

Category	**Index value**
Poor performance	0.42-0.51
Average performance	0.51-0.60
Good performance	0.60-0.68
Excellent performance	0.68-0.75

Results and Discussion

The data was collected from the members on the selected indicators of performance of the FPOs in order to assess and compare the services provided by the FPOs to their members and to evaluate their performance in terms of the selected indicators.

Indicators of performance : The respondents of FPOs were grouped into three categories based on their perception about the performance of FPOs measured with the help of different indicators. The results are presented here under.

Table 2. Distribution of Members Based on Responses on Technical Services of FPOs (N = 90)

Category	SFPCL		MKKPCL		SKAFPCL		Total	
	No.	%	No.	%	No.	%	No.	%
Poor (9-12)	10	33.33	17	56.67	6	20.00	33	36.67
Av. (12-15)	14	46.67	11	36.67	16	53.33	41	47.78
Good (15-18)	6	20.00	2	6.67	8	26.67	16	17.78
Total	30	100	30	100	30	100	90	100

Technical services : On perusal of Table 2, it is evident that a majority (47.78%) of the respondents perceived the technical services provided by all FPOs were average followed by poor (36.67%) and good (17.78%). FPO wise categorization showed that in SFPCL majority (46.67%) of the respondents perceived technical services provided by the FPO were average followed by poor (33.33%) and good (20.00%) whereas in case of MKKPCL it was noticed that as many as half (56.67%) of the respondents perceived technical services provided by FPO were poor followed by average (36.67%) and good (6.67%). In case of SKAFPCL it was revealed that a majority (53.33%) of respondents perceived technical services provided by the FPO were average followed by good (26.67%) and poor (20.00%).

From the above results it can be concluded that a majority of the respondents perceived technical services provided by FPO were average in the FPOs promoted by ICRISAT and CSA whereas it was poor in the FPO promoted by Vrutti NGO.

The probable reason for this kind of distribution might be because members of both ICRISAT and CSA FPOs received information on agro advisories and meetings on a regular basis where as in the FPO promoted by Vrutti NGO, due to their insufficient staff and non- collaboration with experts in technical aspects of agriculture in their organization, members perceived the services were poor. The results were in conformity with Rani et al. (2014).

Table 3. Distribution of Members Based on Responses on Input Services Indicator of FPOs (N = 90)

Category	SFPCL		MKKPCL		SKAFPCL		Total	
	No.	%	No.	%	No.	%	No.	%
Poor (9-12)	11	36.67	15	50.00	6	20.00	32	35.55
Av. (12-15)	13	43.33	12	40.00	16	53.33	41	47.78
Good (15-18)	6	20.00	3	10.00	8	26.67	17	18.89
Total	30	100	30	100	30	100	90	100

Input supply services : A perusal of Table 3 revealed that a majority (47.78%) of the respondents perceived input supply services provided by all FPOs were average followed by poor (35.55%) and good (18.89%). FPO wise categorization showed that in SFPCL majority (43.33%) of the respondents perceived input supply services were average followed by poor (36.67%) and good (20.00%) whereas in case of MKKPCL it was observed that as many as half (50.00%) of the respondents perceived input supply services were poor followed by average (40.00%) and good (10.00%). In SKAFPCL it was revealed that majority (53.33%) of the respondents perceived input supply services were average followed by good (26.67%) and poor (20.00%).

From the above results (Table 3) it can be seen that input supply services provided were average in the FPOs promoted by ICRISAT followed by CSA whereas it was poor in the FPO promoted by Vrutti NGO. The probable reason for this kind of distribution might be because in SKAFPCL leadership is dynamic and member driven and always caters to needs of members, whereas in SFPCL due to their motto to promote organic farming, supply of chemical fertilizers and pesticides is not encouraged and in MKKPCL it was poor due to weak leadership and members inability to support FPO financially in order to procure inputs in bulk. The results were in conformity with Patkar et al. (2012) and Singh (2012).

Table 4. Distribution of Members Based on Responses on Marketing Services of FPOs (N = 90)

Category	SFPCL		MKKPCL		SKAFPCL		Total	
	No.	%	No.	%	No.	%	No.	%
Poor (10-12)	13	43.33	18	60.00	6	20.00	37	41.11
Av. (12-14)	12	40.00	10	33.33	11	36.67	33	36.67
Good (14-16)	5	16.67	2	6.67	13	43.33	20	22.24
Total	30	100	30	100	30	100	90	100

Marketing services : A perusal of Table 4, revealed that a majority (41.11%) of the respondents perceived marketing services (dissemination of market information, marketing of produce, linking with markets) provided by all FPOs were poor followed by average (36.67%) and good (22.24%). FPO wise categorization showed that in SFPCL majority (43.33%) of the respondents perceived marketing services provided were poor followed by average (40.00%) and good (16.67%) whereas in case of MKKPCL it was revealed that as many as 60 per cent of the respondents perceived marketing services provided were poor followed by average (33.33%) and good (6.67%). SKAFPCL revealed that a majority (43.33%) of the respondents perceived marketing services provided were good followed by average (36.67%) and poor (20.00%).

It can be observed from Table 4 that a majority of the respondents perceived marketing services provided were good in the FPO promoted by ICRISAT whereas it was poor in FPOs promoted by CSA and Vrutti NGO. The probable reason for this kind of distribution might be because ICRISAT facilitated the FPO in connecting with the buyers through their agri innovation park and 36.67 per cent of the members perceived the services to be average as the FPO was not procuring their entire produce. In the case of SFPCL the services were perceived poor to average as only organic produce was marketed by the FPO with the help of market facilitated by CSA therefore neglecting the produce of non organic cultivators. This finding indicated that overall in FPOs, marketing of members produce is poor and FPOs are in need of help from organizations to connect them to buyers. The results were in conformity with Kandeeban et al. (2017).

Networking services : Perusal of Table 5, revealed that a majority (44.45%) of the respondents perceived the networking services facilitated by all FPOs were average followed by poor (36.67%) and good (18.89%). FPO wise categorization showed that in SFPCL, 50 per cent of the respondents perceived the networking services facilitated were average followed by poor (30.00%) and good (20.00%) whereas in case of MKKPCL it was observed that as many as half (56.67%) of the respondents perceived the networking services facilitated were poor followed by average (36.67%) and good (6.67%) whereas in case of SKAFPCL majority (46.67%) of the respondents perceived the networking services facilitated were average followed by good (30.00%) and poor (23.33%).

Table 5. Distribution of Members Based on Responses on Networking Services of FPOs (N = 90)

Category	SFPCL		MKKPCL		SKAFPCL		Total	
	No.	%	No.	%	No.	%	No.	%
Poor (9-11)	9	30.00	17	56.66	7	23.33	33	36.67
Av. (11-13)	15	50.00	11	36.66	14	46.67	40	44.45
Good (13-15)	6	20	2	6.67	9	30.00	17	18.89
Total	30	100	30	100	30	100	90	100

From the above (Table 5) results it was observed that majority of the respondents perceived networking services provided by the FPO were average in the FPOs promoted by ICRISAT and CSA whereas it was poor in Vrutti NGO promoted FPO. The probable reason for this kind of distribution might be because both ICRISAT and CSA facilitated the FPOs by connecting to different departments of agriculture and allied sectors as they themselves have good connections with the respective departments whereas in case of MKKPCL, it is located far from research centers, district headquarters and Hyderabad.

Financial Services : Perusal of Table 6. revealed that a majority (52.22%) of the respondents perceived the financial services provided by all FPOs were poor followed by average (34.44%) and good (13.33%). FPO wise categorization showed that in SFPCL half of the (50.00%) respondents perceived the financial services provided were poor followed by average (36.67%) and good (13.33%). On the other hand in case of MKKPCL it was noticed that as many as 66.67 per cent of the respondents perceived the financial services provided were poor followed by average (26.67%) and good (6.67%). SKAFPCL revealed that 40 per cent of the respondents equally perceived the financial services provided were poor and average followed by good (20.00%).

Table 6. Distribution of Members Based on Responses on Financial Services of FPOs (N = 90)

Category	SFPCL		MKKPCL		SKAFPCL		Total	
	No.	%	No.	%	No.	%	No.	%
Poor (5-7)	15	50.00	20	66.67	12	40.00	47	52.22
Av. (7-9)	11	36.67	8	26.66	12	40.00	31	34.44
Good (9-11)	4	13.33	2	6.67	6	20.00	12	13.33
Total	30	100	30	100	30	100	90	100

It can be inferred from the above results that majority of the respondents perceived financial services provided by the three FPOs were poor. The probable reason for this kind of distribution might be because the FPOs were not having strong financial base to provide loans and also less financial contribution from members.

Overall Performance of the selected FPOs : Based on the performance indicators the FPOs were categorized into four categories namely poor, average, good and excellent by using indicator wise total scores obtained on Performance Index. The results are presented in Table 7.

Table 7. Distribution of FPOs Based on their Performance as Perceived by the Respondents (N = 90)

Category	SFPCL		MKKPCL		SKAFPCL		Total	
	No.	%	No.	%	No.	%	No.	%
Poor (0.42-0.51)	9	30.00	16	53.33	5	16.67	30	33.33
Av. (0.51-0.60)	13	43.33	9	30.00	9	30.00	31	34.44
Good (0.60-0.68)	7	23.33	5	16.67	13	43.33	25	27.77
Excellent (0.68-0.75)	1	3.33	0	0	3	10.00	4	4.44
Total	30	100	30	100	30	100	90	100

An overview of Table 7. revealed that a majority (34.44%) of respondents perceived the performance of FPOs as average, followed by poor (33.33%), good (27.77%) and excellent (4.44 %).

FPO wise categorization revealed that 43.33 per cent of respondents in SFPCL perceived the performance of FPO as average followed by poor (30.00%), good (23.33%) and excellent (3.33%) whereas in case of MKKPCL majority (53.33%) of respondents perceived the performance of FPO as poor followed by average (30.00%) and good (16.67%). In case of SKAFPCL the respondents (43.33%) perceived the performance of FPO as good followed by average (30.00%), poor (16.67%) and excellent (10.00%).

From the above results, it could be concluded that SFPCL was rated as average whereas, MKKPCL as a poor performing FPO and SKAFPCL as a good performing FPO. This can be attributed to the institutional support received by the FPOs from their POPIs. Overall, the performance of FPOs was average to poor. This was due to insufficient knowledge on the business concept of FPOs among farmers and their inability to generate capital to carry out activities and provide services to their members.

FPO wise performance revealed that the FPO promoted by the ICRISAT was perceived as a good performing FPO to average which signifies their high external linkages, group leadership, high frequency of group participation, team spirit, training opportunities which helped the FPO to perform better as compared to other FPOs promoted by CSA and Vrutti. In case of the FPO promoted by Vrutti NGO the poor performance could be attributed to their poor leadership, group participation, team spirit and training opportunities. The performance of the FPO promoted by CSA was found to be average to poor, which could be because of their poor leadership abilities, team spirit and group participation, high cohesiveness among members and their restriction to limit their services focusing on organic farming. Singh et al (2021) reported that, from the overall response of the respondents of functional as well as non-functional FPOs a large majority agreed that FPOs reduce input cost, work for skill development and capacity

building, generate managerial and leadership qualities, generate employment opportunities and transform traditional agriculture into business corporation etc. by which we can conclude that proper orientation programmes about the concept and functioning of the FPOs will motivate and attract other farming communities.

Performance of selected FPOs : In the present study, to know the variation in performance of selected FPOs analysis of variance (ANOVA) was used. Through this, the variation in performance of three FPOs was studied.

The calculated F value (7.53) was higher than the table value (3.46). The F value was significant at 0.05 level of probability. Hence, the empirical hypothesis was accepted and null hypothesis rejected. Therefore, it could be concluded that there was a significant difference between the mean level of performance of FPOs by three different promoting agencies.

Table 8. Analysis of Variance of Performance of Selected FPOs (N = 90)

Category	Mean values			F cal	F
	SFPCL	MKKPCL	SKAPCL	value	tab
Performance	2.0	1.6	2.5	7.53*	3.46

**Significant 5% at level of significance*

From the mean value it can be inferred that SKAPCL and SFPCLwere performing well compared to MKKPCL. The difference in performance could be attributed to the promoting agencies extent of contribution and their support to the FPOs by providing them with trainings on record maintenance, building market, identifying buyers and attracting members along with facilitating forward and backward linkages. It was possible as the experts are well versed with knowledge on FPOs were present within the organization which was visible from the above results in the various services provided by the FPOs.

Conclusion

The difference in performance could be attributed to the promoting agencies extent of contribution and their support to the FPOs by providing them with trainings on record maintenance, building market, identifying buyers and attracting members along with facilitating forward and backward linkages. There is a need for a greater recognition of the importance of linking with other actors who are potential sources of services, information, technical support and market outlets. More importantly, from the supply side, strengthening the capacity of service providers and external actors (government, NGO, church- based, and private sector) will be needed to complement strategies supporting linkages.

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Group Performance of Tribal FIGs in Erode District of Tamil Nadu

V. Mathuabirami[1] and S. Kalaivani[2]

Abstract

Small and marginal tribal farmers are facing the problem of a poor marketing system and lack of quality input and technical services. This problem can be addressed through group approaches like Farmer Producer Organization (FPO), Farmers Interest Group (FIG) and Self Help Group (SHG). Farmers Interest Group (FIG) is a self managed, independent group of farmers with a shared goal and interest. FIG is usually formed by 15 - 20 members. When the farmers are facilitated to organize groups, trained and guided properly, they can attain tremendous development goals which would eventually make the group self- reliant and self sufficient. This paper attempts to study the performance of Tribal FIGs which were formed by MYRADA KVK, to understand the functioning of FIGs. The study reveals that majority of the members of Tribal FIGs reported that the FIG had a medium level of group performance.

Keywords: Tribes, Farmers Interest Group (FIG), Group performance, Social interaction process

Introduction

Tribal communities are characterized by a lifestyle distinct from agrarian communities and with distinct agriculture practices. Today, the tribal majority areas are overlapped with the country's major forest areas which show the highest area of poverty. Tribal farmers are being transformed into wage labourers thus contributing between 70 to 80 per cent of the total labour. In spite of favourable resource conditions, tribal regions perform

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poorly in terms of infrastructure, returns from agriculture and almost all human development indicators (Catalyst Management Services, 2009). Tribes are blessed with ample opportunities like forest resources for improving their livelihood. However geographical isolation restricts tribes from making use of their opportunities. They are facing problems in getting quality inputs and good prices for their produce. Attempts are being made to address the challenges faced by the small and marginal tribal farmers through the concept of group approach that empowers them by economies of scale and access to information, agricultural services, technology, etc. SHGs, FIGs, co-operatives, producers associations, marketing associations etc. had bestowed in maximizing the input-output ratio and finally increasing the profit of producers (Nain et al. 2015). Farmers' confidence level was increased through the establishment of Farmers Interest Groups (FIGs) (Singh and Srinivasan, 1998).

A Farmer Interest Group (FIG) is a self managed, independent group of farmers with a shared goal and interest (Department of Agriculture & Cooperation, 2013). Patil et al. 2014 had analysed the impact of collective action of farmers through FIG and found that, there was reduction in cost of cultivation by sharing inputs and they gained additional returns. FIG is an innovative approach with an idea to develop a value chain for the produce, establish brand value and link the farmers with the market and consumers. It was promoted with a purpose of collectivizing production especially at small holder level and empowering them for better bargaining power.

Tribal FIGs would play a unique role in improving the economic status of tribal people through which they can get access to credit, market facilities and value added forest produce. The number of members in the FIG should be 15 to 20, the group should have an achievable goal and should focus on a single issue, the members must work together to achieve this goal by pooling their existing resources, gaining better access to other resources and share in the resulting benefits, which are the characteristics of FIG. Farmers groups also have the additional benefit of social cohesion and confidence. Thus effective functioning of tribal FIGs is very essential.

Therefore analysing the performance of existing tribal FIGs would result in formulating a strategy to improve the livelihood of tribal farmers through collective action. Hence the study has been attempted with an objective of studying the group performance of Tribal Farmer Interest Groups (FIGs).

Methodology

Ex-post-facto research design was adopted for this study. Erode district was purposively selected for conducting the study since Tribal FIGs were contained in Erode district. Dimbam Dhaniya Farmer Producer Company Limited (DDFPCL) comprises of 62 FIGs covering 27 villages. FIGs were federated into DDFPCL. Out of these 27 villages, nine villages were dominated by tribes namely Chilumaiedoddi, Devarnatham, Pudhukadu, Guliyada, Sujjalakare, Kottamalam, Bejjalatti, Galidimbam and Ittarai. A total of four Tribal FIGs were randomly selected from 16 Tribal FIGs belonging to Dhimbam Dhaniya Farmer Producer Company Limited (DDFPCL) which resulted in a sample size of 100 by employing whole sampling method. Table 1 shows the details of selected tribal FIGs.

Table 1. Details of selected tribal FIGs

S.No.	Name of the village	Name of FIG	No. of members
1	Guliyada	KadehattiMuniyappan FIG	15
2		Periyasamyaiyyan FIG	16
3	Sujjalakare	Sri Karppusamy FIG	25
4	Kottamalam	Sri Magaliamman FIG	24
5	Ittari	Ilandhalir FIG	20
	Total		**100**

A well-structured interview schedule was prepared to collect the data. Percentage analysis and Mean and Standard deviation were used to analyse the data.

Results and Discussion

Overall group performance of tribal FIGs

The overall group performance was carefully investigated through social interaction processes namely cooperation, competition, conflict, accommodation and assimilation. This helped to understand how the social interaction process would contribute to the overall group performance of Tribal FIGs. The distribution of respondents according to the overall Group Performance of Tribal FIGs is furnished in Table 2.

Table 2. Overall group performance of tribal FIGs (n=100)

S.No.	Category	No.	Per cent (%)
1.	Low	15	15.00
2.	Medium	73	73.00
3.	High	12	12.00
	Total	**100**	**100.00**

It is clear from Table 2 that nearly three fourth of the members (73.00 per cent) admitted that the tribal FIGs had medium level of overall group performance followed by about 15.00 per cent and 12.00 per cent of the members who reported low and high levels of group performance respectively. This result is due to their culture, lack of involvement and participation, domination by a few individuals that had inhibited the performance of tribal FIGs. The present findings are in line with Naveenkumar and Radhakrishnan (2017) and Karthick (2014).

Distribution of respondents according to social interaction processes

The distribution of respondents according to social interaction processes namely cooperation, competition, conflict, accommodation and assimilation is presented in Table 3. Table 3. Distribution of the respondents according to Social interaction process

Table 3. Distribution of the respondents according to Social interaction process (n=100)

S.No.	Category	Low		Medium		High		Total	
		No.	%	No.	%	No.	%	No.	%
1	Cooperation	21	21.00	63	63.00	16	16.00	100	100.00
2	Competition	15	15.00	76	76.00	9	9.00	100	100.00
3	Conflict	17	17.00	71	71.00	12	12.00	100	100.00
4	Accommodation	10	10.00	76	76.00	14	14.00	100	100.00
5	Assimilation	12	12.00	68	68.00	20	20.00	100	100.00

It could be interpreted from Table 3 that three fifth of the members (63.00 per cent) expressed that FIG had medium level of cooperation followed by high (16.00 per cent) and low (21.00 per cent) levels of cooperation. The lack of involvement and interest results in medium level of cooperation. From Table 3 it could be also seen that more than three fourth of the members (76.00 per cent) reported that there was medium level of competition in Tribal FIG to ensure better group performance. About one fifth of the members (15.00 per cent) elucidated that there exists low level of competition because they felt competition might have led to disintegration of the group. Nearly three fourth of the respondents (71.00 per cent) inferred that there was medium level of conflict in the group followed by about one fifth of the members (17.00 per cent) who had reported low level of conflict while the remaining 12.00 per cent of the respondents conveyed that there was high conflict. The group members were not interested in conflicting activities.

The results also revealed that 76 per cent of the members admitted that there was medium level of accommodation followed by high (14.00 per cent) and low (10.00 per cent) levels of accommodation. Thus most of them require a smooth and peaceful relationship with their peer group members. It could be observed that about three fifth of the members (68.00 per cent) elucidated that FIG had medium level of assimilation followed by 12.00

per cent and 20.00 per cent of the members who reported that the group had high and low levels of assimilation respectively. In spite of cultural differences, members of tribal FIGs were ready to assimilate with other members for the welfare of the society. The present finding is in line with results of Karthick (2014) and contradictory with the findings of Sharma, Singh, and Padaria (2011).

Conclusion

The present study investigated the group performance through five sub components namely cooperation, competition, conflict, accommodation and assimilation. Majority of the FIG members inferred that the group had medium level of overall group performance, with reference to cooperation, competition, conflict, accommodation and assimilation. Cultural differences, lack of cooperation, participation and involvement were found to be the reasons for low level of group performance.

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Economic Impact of Farmer Producer Company on its Members

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Abstract

The present study on the economic impact of Farmer Producer Company on its members was undertaken in Nashik district of North-Western region of Maharashtra state with a sample size of 120 respondents from two Farmer Producer Companies. To study the economic impact, mean and per cent change was calculated out of pre and post participation of members. This per cent change was then considered for the extent of the impact of each parameter. As regards the impact on economic status changes observed were, in employment generation which was 52.25 per cent and 'Z' value (9.58), in subsidiary occupation it was 43.12 per cent and 'Z' value (9.46), in annual income 61.27 per cent and 'Z' value (9.75), in annual expenditure 40.00 per cent and 'Z' value (7.24), and the change in annual savings was 81.56 per cent and 'Z' value (10.54). The overall mean economic impact of Farmer Producer Company on its members, pre and post participation was 55.64 per cent.

Keywords: Farmer Producer Company, Economic Impact, Members

Introduction

Agriculture and allied sectors support livelihoods of 54.6 per cent of India's rural population and account for 17.1 per cent of the Gross Value Added for the year 2017-18 (DAC&FW 2018). The sectors not only account for the overall growth of the economy but also for the reduction of poverty by providing food security to most of the population. For bringing the industry and agriculture closer, the Indian Government has initiated a new

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organizational pattern in agricultural production and marketing to integrate large firms, and encouraged the groups of small and marginal farmers, who are the main manufacturers of agricultural output, and linked with the corporate buyers. Farmers Producer Organizations (FPOs) are collectivization of producers, especially small and marginal farmers. The producer organization has come out as one of the most efficient pathways to address the many challenges of agriculture, more significantly, improved investments, access to inputs, technologies and markets. The Department of Agriculture and Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Govt. of India, has identified Farmer Producer Organization (FPO) registered under the particular provisions of the Companies Act, 1956, as the most appropriate institutional form around which to mobilize farmers and enhance their capacity to jointly leverage their production and selling effectiveness. An expert committee led by noted economist, Y. K. Alagh (2007) recommended, setting up of producer companies in 2002 by incorporating a new Part IXA into the Companies Act of 1956. The objective of the committee was to frame legislation that would enable the incorporation of cooperatives in agriculture as producer companies and conversion of existing cooperatives into producer companies.

Producer organizations have an important role to play in the current agricultural scenario given the increase in total landholdings as a result of increased fragmentation. Due to increased fragmentation and sub-division, farmers with marginal landholdings face a variety of issues relating to credit, market access, and technology adoption. This is a key rationale for the critical discussion around FPOs and their role in promoting sustainable agriculture and forms a core part of the motivation. World Bank, in the World Development Report, 2008 focuses on 'Agriculture for Development' and suggests that for smallholders, producer organizations are essential to achieve competitiveness and, ultimately, their welfare. The main reason for forming the FPO is to deal with all the problems they are facing now and to improve their standard of living by enabling them to receive the exact price which was paid by the end-user or customer by eliminating

middlemen. It is important to know the impact of FPOs on their sustainable economic development.

The present study was conducted to know the impact of FPOs on sustainable economic development of members of the FPO. The results of the study highlighted the significant contribution of farmers towards developing the socio-economic conditions of farmers, thus making them self-sufficient and self-reliant. The study provided a reasonable understanding about the facilitating and inhibiting factors in the functioning of these farmer organizations, with suggestions to improve their efficiency and sustainability. The study throws some light on the underlying factors associated with the efficiency of farmer producer companies. The study is expected to be helpful for the development agencies for effective formulation of strategies for initiation and up scaling of farmer organizations in other areas.

Methodology

The study was conducted in Nashik district of Maharashtra state. For the present study, two major FPOs were selected from Niphad and Dindori tahsils as they adequately represent successful and assessable case studies of producer companies. One is Sahyadri Farmer Producer Company Ltd. which is India's largest grape exporting company and India's largest tomato procuring group. The company is also involved in processing activities covering a wide range of products such as fruit juice, ketchup, jam and jelly. The second is Om Gayatri Farmer Producer Company Ltd. which is also involved in manufacturing and wholesaling of fresh fruits and vegetables and this company has emerged as a successful company in raising the nursery and its selling. To study the economic impact of FPOs on their members, 60 members from each FPO, whose membership tenure in the company was a minimum of 3 years, were purposively selected. Thus, a total of 120 members from the two FPOs constituted the sample of the study. An ex post facto research design of social research was used for the present investigation. Survey method was followed for data collection.

The data were collected through personal interviews of respondents at their homes and/ or farm. The economic impact of being a member of the FPO was measured based on parameters, which included changes in employment generation, subsidiary occupation, employment generation, annual income and annual savings. By measuring all the parameters of impact on the economic status, the overall economic impact was calculated. All the parameters and the overall economic impact were measured in per cent using the formula;

$$\text{Per cent change} = \frac{\text{AP score-BP score}}{\text{BP score}} \times 100$$

Where,

AP = Mean score of member after participation in FPC

BP = Mean score of member before participation in FPC

The overall economic impact of the FPO on its members was calculated by summing the score on five dimensions of economic impact and converting into per cent change.

$$\text{Overall economic impact of FPC} = \frac{\Sigma DD1+DD2--------+DD5}{ND}$$

Where,

ΣDD1+DD2--------+DD5 = Sum of per cent difference in five dimensions of impact.

ND = Number of dimensions

To test the significance of overall economic impact on before and after participation the mean score of FPO members was calculated by "Z test".

Z test is calculated by using the following formula:

$$Z = \frac{|X1 - X2|}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

Where,

X1 = Mean score of before participation in FPC

X2 = Mean score of after participation in FPC

S_1^2 = Standard deviation of before participation in FPC

S_2^2 = Standard deviation of after participation in FPC

n_1 = Sample size of before participation in FPC

n_2 = Sample size of after participation in FPC

The significance of calculated value is tested with the table value of 0.01 to 0.05 level of probability at $n_1 + n_2 - 2$ degrees of freedom.

Results and Discussion

For calculating the economic impact of farmer producer company on its members, the mean of each indicator was calculated and the difference of before and after participation in FPO was worked out to get the per cent change of that indicator. The per cent change was then considered for determining the extent of impact for the particular indicator. The results are as follows:

1. Change in Employment Generation

Table 1. Distribution of the Respondents according to their Level of Change in Employment Generation

S. No.	Employment Generation	Before (n=120)		After (n=120)		'Z' value
		Frequency	%	Frequency	%	
1	Low (Up to 131)	48	40.00	7	5.83	
2	Medium (132 to 260)	62	51.67	64	53.34	9.58**
3	High (261 and above)	10	8.33	49	40.83	
	Total	**120**	**100.00**	**120**	**100.00**	
		Mean = 155		**Mean = 236**		
	% Change in employment generation = 52.25					

*** Significant at 0.01 level of probability*

From Table 1 it is revealed that over half of the members (51.67%) had a medium level of employment generation, followed by 40.00 per cent and 8.33 per cent members found to have low and high levels of employment generation, respectively before participation in the FPO. The employment status changed to 53.34 per cent members with medium level of employment generation, followed by 40.83 per cent members having a high level of employment generation and 5.83 per cent belonging to low level of employment generation after participation in the farmer producer company. Average man days before participation were 155 days which increased to 236 days after participation. The per cent change in employment generation was 52.25 per cent, which shows highly significant ('Z' value 9.58), which shows the significant change in employment generation for members after participation in the FPO.

The above findings clearly indicate that the FPO had a positive impact on employment opportunities for its members and thus contributed to the family income.

2. Change in Subsidiary Occupation

Table 2. Distribution of the Respondents according to their Change in Subsidiary Occupation

S.No.	Subsidiary Occupation	Respondents (n=120)				'Z' value
		Before		After		
		Frequency	%	Frequency	%	
1	Agriculture + labour	2	01.67	0	00.00	9.46**
2	Agriculture	63	52.50	22	18.33	
3	Agriculture + allied occupation	36	30.00	42	35.00	
4	Agriculture + business	10	8.33	30	25.00	
5	Agriculture + Service	9	07.50	26	21.67	
	Total	**120**	**100.00**	**120**	**100.00**	
	Mean score	**2.67**		**3.81**		
	% Change in subsidiary occupation = 43.12					

*** Significant at 0.01 level of probability*

The data presented in Table 2 indicates that, before participation in FPO, about 52.50 per cent members were engaged in agriculture as their main occupation, followed by 30.00 per cent engaged in agriculture + allied occupation (such as dairy farming, goat farming, poultry) as a supportive endeavour to farming; 8.33 per cent of them were engaged in agriculture + business, while 7.50 per cent were engaged in agriculture + service (both govt and private) and 1.67 per cent of them were engaged in agriculture + labour. After participation in the FPO, about 35.00 per cent of the members were engaged in agriculture + allied occupation as a supportive endeavour to farming, followed by 25.00 per cent engaged in agriculture + business. About 21.67 per cent of the members were engaged in agriculture + service while 18.37 per cent of them remained engaged in agriculture as their main occupation. The per cent change of 43.12 per cent shows that there is a significant change in the subsidiary occupation of members after

participation in the FPO. The mean score of subsidiary occupation after participation was 3.81 whereas, it was 2.67 before participation, with a per cent change of 43.12, which was highly significant ('Z' value is 9.46).

The above findings indicate that after participation in the FPO, majority of the members showed a change in their subsidiary occupations. The reason might be, the company helps to build management skills of business and other allied occupations. By conducting the various activities on post-harvest management of grapes most of the members were engaged in raisin making from grapes and its selling which enabled them to get a good price for it and helped to prevent post harvest losses.

3. Change in Annual Income

Table 3. Distribution of the Respondents according to their Level of Change in Annual Income

S. No.	Annual Income (in Rs)	Before (n=120)		After (n=120)		'Z' value
		Frequency	%	Frequency	%	
1	Low (Up to 3,79,777)	43	35.83	5	4.17	9.75**
2	Medium (3,79,778 to 8,08,055)	70	58.34	78	65.00	
3	High (8,08,056 and above)	7	5.83	37	30.83	
	Total	**120**	**100.00**	**120**	**100.00**	
		Mean = 4,54,625		**Mean = 7,33,208**		
	% Change in annual income = 61.27					

*** Significant at 0.01 level of probability*

Table 3 reveals that 58.34 per cent of the members had medium income, 35.83 per cent had low income followed by 5.83 per cent having high incomes before participation in FPO. The scenario changed after participation in the FPO; around 65 per cent of the members had medium income, 30.83 per cent had a high level of income whereas only 4.17 per cent of members

were in a low income level. The mean annual income of members after participation increased to Rs.7,33,208 whereas, before participation, it was Rs.4,54,625 with a per cent change of 61.27, which was highly significant ('Z' value is 9.75).

From the findings, it could be concluded that the participation in FPO had an assured impact on the members' increase in income levels. The reason behind it is that the FPO generated additional employment, offered opportunities of engaging in other subsidiary occupations apart from helping FPO member-farmers to get a good price for their produce and by improving their access to quality inputs at lower prices on account of collective action, thus resulting in increased income levels of the members.

4. Change in Annual Expenditure

Table 4. Distribution of Respondents according to their Level of Change in Annual Expenditure

S. No.	Annual Expenditure (in Rs)	Before (n=120)		After (n=120)		'Z' value
		Frequency	%	Frequency	%	
1	Low (Up to 1,72,315)	29	24.17	6	5.00	7.24**
2	Medium (1,72,316 to 3,60,185)	81	67.50	84	70.00	
3	High (3,60,186 and above)	10	8.33	30	25.00	
	Total	**120**	**100.00**	**120**	**100.00**	
		Mean = 2,21,875		**Mean = 3,10,625**		
	% Change in annual expenditure = 40.00					

*** Significant at 0.01 level of probability*

Table 4 reveals that around 67.50 per cent of the members were having a medium level of annual expenditure, 24.17 per cent had a low level of annual expenditure, and 8.33 per cent had a high level of annual expenditure before participation in FPO. After participation in FPO 70 per cent of the

members had medium level of annual expenditure, 25.00 per cent of the members had a high level of annual expenditure and only 5.00 per cent of the members belonged to low annual expenditure level. The mean annual expenditure, after participation, was Rs.3,10,625 and it was Rs.2,21,875 before participation, with a per cent change difference of 40.00, which was highly significant ('Z' value is 7.24).

From the above findings, it is concluded that a substantial impact of FPO could be noticed on their members as far as the expenditure on the farm, home assets and other expenditure was concerned, which enabled them to earn additional income and thus afford the purchase of farm implements household consumption needs and meet other demands.

5. Change in Annual Savings

Table 5. Distribution of the Respondents according to their Level of Change in Annual Savings

S. No.	Annual Savings (in Rs)	Before (n=120)		After (n=120)		'Z' value
		Frequency	%	Frequency	%	
1	Low (Up to 1,95,448)	24	20.00	2	1.67	10.54**
2	Medium (195449 to 4,59,884)	88	73.33	52	43.33	
3	High (4,59,885 and above)	8	6.67	66	55.00	
	Total	**120**	**100.00**	**120**	**100.00**	
		Mean = 2,32,750		**Mean = 4,22,583**		
	% Change in annual savings = 81.56					

*** Significant at 0.01 level of probability*

Table 5 reveals that around 73.33 per cent of the members had a medium level of annual savings, followed by 20.00 per cent having a low level of annual savings, while 6.67 per cent had a high level of annual savings before participation in the FPO. After participation in the FPO, 55.00 per cent of

the members had a high level of annual savings, followed by 43.33 per cent who had a medium level of annual savings, whereas a mere 1.76 per cent of the members had a low level of annual savings. The mean annual savings of members, after participation, was Rs.4,22,583 whereas, before participation the mean annual savings was Rs.2,32,750 with a per cent change of 81.56, proving to be highly significant('Z' value is 10.54).

It may be concluded that most of the members of the FPO had satisfactory increment in savings after becoming members of the FPO. The reason might be that the FPO helped to improve the production and income of the members. The FPO also provided low-cost inputs and technologies to members leading to reduced expenditure of members and is helping to increase the savings of members of FPOs.

Overall economic impact of FPC

The overall mean difference between after participation and before participation in FPO was 55.64 per cent. It meant the overall economic impact of FPO on its members in terms of impact on economic status was around 56 per cent. Thus, it could be clearly stated that the FPO had a positive and significant impact on its members. These findings are in conformity with the findings of Ahire et al. (2015) and Chopade (2019) as they also found a positive and significant impact of CIGs and FPOs on members respectively.

Conclusion

The study revealed that the economic impact of the FPO was positive and significant on the economic status of its members. The existing positive impact needs to be harnessed by increasing farmers' participation in FPO through increasing the membership of existing FPOs and establishing new FPOs. Participation in FPOs leads to improvement in employment, income, consumption expenditure, investment in productive assets and a reduction in indebtedness. The present study found that the farmers of Nashik district have taken a step forward to reduce their problems by reintegrating

themselves through FPOs. They achieved certain goals in the direction of value addition and increased market opportunities. Thus, the state agriculture department should conduct awareness campaigns on the concept of FPO and give wide publicity of such types of successful FPOs. Well-run and stable producer companies have the potential to improve farmers' income, reduce their exposure to risk and contribute to economic empowerment. Due to increase in income, savings and employment opportunities the members of FPOs could enjoy a better economic status in the community.

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A Study on Management Effectiveness of Farmer Producer Organizations in North-Eastern Karnataka

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Abstract

Farmer Producer Organizations in India help farmers in earning more returns through collective input purchase, collective marketing, processing, increasing productivity through procuring better inputs and augmenting the knowledge of farmers in managing their organization. An attempt was made to develop a standardized scale and analyze the management effectiveness of the selected FPOs. Management dimension analysis revealed that planning wise all the FPO members showed high agreement for effectively planning the activities (0.9 to 1.00). Similarly, all the FPOs members showed higher agreement (0.8 to 1.00) for communication, cooperation and coordination, commitment, leadership and decision making in FPOs. FPO members expressed medium levels (0.6 to 0.8) in organizing and control dimensions. Nisarga FPO was found to be the most effectively managed by its members among the five FPOs.

Keywords: Famer Producer Organization, Management effectiveness, Planning, Leadership

Introduction

There is a concern to aggregate the smallholders and bring in economies of scale. It has become equally important to link the increasing smallholders to the markets (input and output). Various institutional interventions, formal or informal, have tried to link smallholders to the input and/or output markets. These interventions were started either by the government or by private corporate and civil which include agricultural co-operatives, self-

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help groups, commodity interest groups, contract farming, direct marketing, farmer producer organizations, producer companies, etc. After several such attempts to improve the conditions of smallholders, the Y. K. Alagh committee recommendation ensured the unique elements of cooperative business with a regulatory framework similar to that of companies. A producer company is basically a corporate body registered as a Producer Company under the Companies Act, 1956 (As amended in 2002). Its main activities consist of production, harvesting, processing, procurement, grading, pooling, handling, marketing, selling, export of primary produce of the members or import of goods or services for their benefit. It also includes promoting mutual assistance, welfare measures, financial services, insurance for producers or their primary produce. Capacity building for promotion of leadership and motivation among the Directors is crucial for effective management of FPOs. The members should be good in leadership, financial management, linkages, input and output management etc. It is also equally important to build the capacity of members of FPOs. The idea of capacity building is to encourage farmer members to understand their personal and group styles of managing themselves and to improve their planning, implementation, and monitoring skills. In this regard, an attempt is made to know the management effectiveness of FPOs through its members' perceptions in the study.

Methodology

The present study was conducted during the year 2019-20 in North-Eastern Karnataka to know the management effectiveness of five Farmer Producer Organizations. The exploratory and ex-post-facto research designs were used in the present study. Both primary and secondary data were used in the present study. Exhaustive information using secondary data of the districts was collected and compiled. A list of active FPCs was collected from various officials of development departments like the Agriculture Department and National Bank for Agriculture and Rural Development (NABARD) etc. The primary data was collected from members of FPC,

project managers, village residents, coordinators, personnel of the agricultural and horticulture departments, resource persons working under various institutions facilitating and promoting FPC. The data were collected through personal interviews, observation methods, farmer meetings, and field surveys. The primary data were related to the behavior and response of the respondents including members and non-members of FPCs. The secondary data were collected from the FPCs records maintained by the associated NGOs, journals, thesis, and books related to the study as well as from the internet. The data from both sources were used in combination as per the objectives of the study.

Selection of FPOs under the study

The study was conducted in five districts, viz., Kalaburgi, Koppal, Raichur, Vijayanagar and Yadgir of North-Eastern Karnataka. Five FPOs promoted by Small Farmers Agribusiness Consortium were purposively selected. Two FPOs from Kalaburgi (Nisargha Farmer Producer Company Ltd., and Rohini Farmer Producer Company Ltd.,) and Raichur (Raichur Farmer Producer Company Ltd. and Amareshwara Farmer Producer Company Ltd.), and one from Yadgir (Bhagyodaya Farmer Producer Company Ltd.) were selected under the study. From each FPC, twenty-five members were randomly selected The individual scores were totalled and mean scores were given ranks according to the response obtained by members.

Relative Important Index Method

$$\text{Relative Important Index (RII)} = \frac{\sum w}{A * N}$$

$$= \frac{(5n5+4n4+3n3+2n2+1n1)}{5n}$$

Where, W is the weighting given to each factor by the respondent, ranging from 1 to 5, n1= number of respondents for weight 1, n2= number of respondents for weight 2, n3=number of respondents for weight 3, n4= number of respondents for weight 4, n5=number of respondents for weight

5. A is the highest weight (i.e. 5 in the study) and N is the total number of samples. The relative importance index ranges from 0 to 1.

Result and Discussions

Management effectiveness in FPOs is measured using the RII index method calculating for each statement and the scores were averaged dimension wise for each FPO as depicted in Table 1. The results from Tables 1 and 2 depict that planning dimension wise the members of FPOs highly agreed, with an index score of 0.93 in Nisarga FPCL followed by RFPCL (0.92) and 0.91 each in AFPCL and BFPCL. The score for ROFPCL was 0.90 only. The higher agreement of members indicated that all the FPOs were effectively planning each and every activity in FPOs.

As far as communication dimension in concerned the score was highest in the case of AFPCL (0.88) followed by NFPCL (0.85), ROFPCL (0.84), RFPCL (0.82) and BFPCL (0.80). Communication dimension wise, all the FPOs showed that there was a good exchange of information and ideas in the organization which encouraged members to involve actively. Members perceived that due to non-verbal communication and being non-judgmental, their listening to others' opinions had increased. The interaction during meetings, training and visits had encouraged open communication.

The index for organization dimension was relatively on the lower side. The agreements of members ranged from 0.61 to 0.69. It was highest in the case of BFPCL with a score of 0.69 followed by 0.65 in AFPCL, 0.64 in RFPCL and 0.61 each in the case of, NFPCL and ROFPCL respectively. The agreement provided by members of FPOs was medium in organizing dimension. As the BoDs were not having a particular portfolio and lesser interactions and lack of awareness, the FPOs showed a medium level of organizing. Nisarga FPO is having high score due to the reason that the BoDs were having portfolios, which made managing the activities of fund and farmer’s mobilization, procurement and marketing activities effective.

Co-operation and coordination wise the responses obtained by FPO members were 0.94 in AFPCL followed by 0.91 in RFPCL, 0.89 in ROFPCL, 0.87 in BFPCL and 0.85 in FPCL. It was clear that coordination and cooperation between members of FPOs were high and members had clarity about their roles and responsibilities.

With referance to commitment the responses obtained by FPO members were in the range of 0.80 in Nisarga FPCL to 0.88 in RFPCL. It was 0.86 in ROFPCL, 0.83 in BFPCL and 0.81 in AFPCL. The commitment of members to involve actively was high due to realizing the importance of group work which helps in achieving bargaining power, getting benefits of government and better standards of living. Members of FPOs coordinated to work together in turn enhancing their effectiveness in managing the FPO.

As far as leadership dimension in concerned the score was highest in case of AFPCL (0.89) followed by 0.85 in RFPCL, 0.83 in BFPCL, 0.81 in NFPCL and 0.80 in ROFPCL. Leadership was also found to be high in FPOs. The leaders took the majority of the responsibilities of FPOs. Members agreed upon the decisions made in FPO. This was due to the greater involvement of leaders in the overall development of the members. Leaders (Directors) made sure that there was a regular exchange of all the ideas and information that were discussed in the meetings with all its members. The members were motivated in such a manner that they were thinking beyond traditional earning methods. They had realized the importance of unity to avoid distress in farming.

Decision making dimension wise the members' agreement ranged from 0.81 in RFPCL to 0.86 in AFPCL. It was 0.82 in NFPCL, 0.84 in BFPCL, 0.85 in ROFPCL. It might be due to the reason that producer organizations are autonomous and free to operate under their own terms and conditions, the decision making completely depended on the members, right from procurement to marketing the produce. Participatory decision making allowed members to express their points of view; hence decisions made in FPOs were favorable to all members.

FPO members' agreement for control dimension ranged from 0.63 in Nisarga FPCL followed by 0.65 in RFPCL, 0.67 in ROFPCL, 0.68 in BFPCL and 0.69 in AFPCL. The agreement was medium for control dimension by members of FPOs. This was due to the reason that risk mitigation strategies and quality control mechanisms were not employed in FPOs.

Table 1: Statement wise Management Effectiveness of FPOs

S.No.	Factors Influencing Management Effectiveness	Name of FPOs				
		NFPCL n=25	RFCPL n=25	AFPCL n=25	ROFPCL n=25	BFPCL n=25
I Planning						
1.	Strategic production and marketing	0.92	0.90	0.88	0.86	0.84
	plans					
2.	Resource mobilization	0.82	0.98	0.95	0.93	0.83
3.	Network linkages with other	0.92	0.89	0.82	0.84	0.85
	organizations					
4.	Brand building and Promotional activities for members produce	0.80	0.81	0.85	0.84	0.81
II Communication						
5.	Freely and frequently sharing of ideas and opinions among members	0.87	0.86	0.85	0.82	0.8
6.	Each others opinions and skills are appreciated	0.82	0.88	0.86	0.81	0.8
7.	Open arguments leading to constructive feedback among members	0.92	0.90	0.87	0.86	0.83
8.	Informal relationship among members and other office bearers	0.93	0.91	0.86	0.86	0.88
III Organization						
9.	Division of directors into various committees for effective functioning	0.49	0.47	0.54	0.52	0.5
10.	Capacity building of members	0.74	0.78	0.74	0.76	0.75
11.	Provision of opportunities for Interaction of directors for teamwork	0.69	0.65	0.63	0.62	0.63

IV Coordination and cooperation						
12.	Coordination in planning the activities in FPO	0.80	0.88	0.86	0.82	0.81
13.	Cooperation in equitable distribution of inputs and benefits of FPO	0.87	0.82	0.87	0.62	0.96
14.	Co-operation to maintain harmony in FPO	0.87	0.85	0.86	0.92	0.98
15.	Experience of mutual trust	0.92	0.88	0.85	0.83	0.80
16.	Equal importance to all members	0.89	0.88	0.96	0.94	0.85
V Commitment						
17.	Commitment to common goals and development of FPO	0.86	0.86	0.83	0.81	0.8
18.	Hard work with dedication	0.88	0.84	0.84	0.83	0.81
19.	Active involvement in bringing expectations of FPO into reality	0.87	0.83	0.83	0.82	0.89
20.	Motivation to work better with team spirit	0.85	0.9	0.94	0.82	0.86
21.	Activities carried out by confirmation rather assumption	0.89	0.88	0.86	0.84	0.8
VI Leadership						
22.	Leaders influence members in decision making	0.85	0.87	0.88	0.85	0.82
23.	Leaders provide Positive feedback to the members	0.89	0.88	0.87	0.85	0.86
24.	Leader identifies problems and helps members in both work and personal life	0.87	0.82	0.87	0.86	0.82
25.	Leaders are lively and approachable every time	0.78	0.87	0.86	0.75	0.74
VII Decision making						
26.	Decisions are made focusing on performance instead of Personal relationship	0.89	0.88	0.87	0.85	0.86
27.	Alternatives are discussed before Decision making	0.77	0.72	0.67	0.66	0.62

28.	Participatory decision making is practiced including members opinions	0.88	0.87	0.86	0.85	0.84
29.	Decisions made always suggest for Improvement of FPO	0.87	0.85	0.86	0.92	0.98
VIII Control						
30.	Allocation of capital for operations effectively	0.71	0.79	0.77	0.74	0.73
31.	Regular monitoring of operational expenditure through transparent accounting system	0.77	0.76	0.75	0.74	0.72
32.	Adherence to rules and Regulation of FPOs	0.61	0.60	0.69	0.67	0.62
33.	Risk mitigation and quality Control	0.63	0.65	0.63	0.63	0.68

(Note: NFPCL = Nisarga Farmer Producer Company Limited, ROFPCL = Rohini Farmer Producer Company Limited, RFPCL= Raichur Farmer Producer Company Limited, AFPCL = Amareshwara Farmer Producer Company Limited, BFPCL= Bhagyodaya Farmer Producer Company Limited)

Table 2: Dimension wise Management Effectiveness of FPOs

S. No.	FPOs	Planning	Communication	Organization	Co-operation and Coordination	Commitment	Leadership	Decision making	Control
1.	NFPCL	0.93	0.85	0.61	0.85	0.80	0.81	0.82	0.63
2.	AFPCL	0.91	0.88	0.65	0.94	0.81	0.89	0.86	0.69
3.	RFPCL	0.92	0.82	0.64	0.91	0.88	0.85	0.81	0.65
4.	ROFPCL	0.90	0.84	0.61	0.89	0.86	0.80	0.85	0.67
5.	BFPCL	0.91	0.80	0.69	0.87	0.83	0.83	0.84	0.68

(Note: NFPCL = Nisarga Farmer Producer Company Limited, ROFPCL = Rohini Farmer Producer Company Limited, RFPCL= Raichur Farmer Producer Company Limited, AFPCL = Amareshwara Farmer Producer Company Limited, BFPCL= Bhagyodaya Farmer Producer Company Limited)

Conclusion

As the FPO model is based on the cooperative principle, group cohesion is very important in any collectivization-based organization. So FPOs helped to encourage group cohesion among the members for effective management of FPOs. The social cohesion among members also enhances better working. In conclusion, the participatory working nature of FPOs, enabling regular interaction among members, peer group influence and dynamic leadership of directors had been providing great insights on the management effectiveness of FPOs. It can be concluded that FPOs under the study were

well managed by its members through the influence of factors viz., effective planning of the activities, sharing ideas and through effective communication, leadership of directors, commitment and dedication, following transparent accounting systems, controlling the capital expenditure and adhering to rules and regulations made in FPOs. The control mechanisms like risk mitigation strategies had to be employed in FPOs. Organization by dividing directors into teams of two each for production management, input supply management, procurement management, marketing management had to be done in all the FPOs to manage the operations effectively.

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Success Story of Rishiwat Farmers Producer Company Ltd: Empowering Small and Marginal Farmers

S.K. Deshmukh [1]

Abstract

Small and Marginal farmers do not have the economic strength to adopt production technologies, services, and marketing including value addition. The formation of a Farmer Producer Company (FPC) will enable farmers to have collective strength for better access to quality input, technology, credit, better marketing access and enhance bargaining power. This is a case study of Rishiwat Farmers Producers Company Ltd (RFPCL). This case presents the rationale behind establishing RFPCL, challenges faced by farmers and efforts by RFPCL in overcoming these their initiatives, impact and sustainability plan.

Keywords: Farmer Producer Company, Small Farmers, Marginal Farmers

Introduction

Krishi Vigyan Kendra (KVK), Karda (Washim) is a frontline extension model, at the district level, established in 1994-95, which is designed and developed by ICAR, New Delhi. The KVK aims at assessment of location specific technology models in agriculture and allied enterprises through need-based training, on-farm trials and demonstrations. For implementation of its mandatory activities and sponsored programmes, the KVK mainly works in a cluster approach in its adopted villages through the formation of Technology Transfer Clubs (TTCs) funded by NABARD.

In 2011-12, for the next three year period, NABARD sanctioned a Pilot project for - Augmenting Productivity of Lead Crops/Activities through the adoption of sustainable agricultural practices in five adopted villages covering 2000 farm families and an area of 6071 ha. One of the important

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activities of this project was that all the beneficiary farmers should be a part of farmers' groups.

Immediately after the successful completion of the Lead Crop Project, in the year 2015, NABARD sanctioned another project to the KVK on Promotion of Farmer Producer Companies (FPCs) for a three year period. The Lead crop project has shown encouraging results and more than 750 farmers have been mobilized into village-level Farmers Interest Groups (FIGs), which have been federated and accommodated as shareholders in Rishiwat Farmer Producers Company Ltd. in 2016. Seed production, processing and marketing are major core activities of RFPCL in the selected cluster under this NABARD project.

Initially, as per deliverables on a specified timeline, the KVK conducted an awareness program and mobilized farmers' in the identified cluster. This was followed by registration, business plan preparation and capacity building of all stakeholders.

Convergence Activity

Soon after the completion of eligible activities, the establishment of a Seed processing plant of 4 TPH capacity was sanctioned by the Agriculture Department under NFSM and a Turmeric Processing unit was sanctioned under ATMA-MACP Project. To store the seed FPC constructed a warehouse of 10000 metric tonnes capacity under POCRA Project.

Rationale behind RFPCL

1. Washim district is among " Aspirational districts" in Maharashtra identified by NITI, Aayog.

2. The District is predominantly agricultural. Out of the total rural population of 9.85 lakhs around 3.85 lakhs are having agriculture as the main activity.

3. Out of the total land holding, 22 per cent is accounted by Marginal and 37 per cent by Small farmers.

4. Small and Marginal farmers do not have the economic strength to adopt production technologies, services, and marketing including value addition.

5. Therefore formation of FPC by farmers will have better collective strength for better access to quality input, technology, credit, and better marketing access.

6. FPC also enhances bargaining power and farm related value accruals.

Major challenges/problems faced by the farmers

1) Non-availability of quality seed of improved varieties has been the major constraint in the district.

2) The crop is almost rain-fed, therefore influenced by the vagaries of the monsoon.

3) Lack of technical know-how.

4) Lack of adoption of improved technology.

5) Lack of timely availability of appropriate quantity and quality of agriculture inputs.

6) Lack of access to extension services as well as markets

7) Farmers have limited capability to autonomously invest in processing, storage and custom hiring facilities.

Efforts of RFPCL

To overcome the above problems, Rishiwat Farmers Producer Company Ltd has been undertaking seed production of major crops and equipping their shareholders to become certified seed producers. Growing certified improved seed is a profitable business enterprise for RFPCL.

Table 1. Seed Production Activity of Rishiwat FPO

Crops	Year per Qtl.				No. of farmers	Villages Covered
	2017-18	2018-19	2019-20	2020-21		
Soyabean	550	470	1500	2500	850	75
Black gram	00	00	40.00	50.00	15	05
Green gram	00	00	25.00	30.00	10	05
Pigeon pea	00	00	71.00	100	25	10
Chickpea	300	430	943	1200	525	45
Wheat	00	00	00	3000	215	35
Total	850	900	2579	6880	1640	175

Table 2. Business turnover and profit earned by RFPCL

S.No	Year	Turnover (lakhs)	Profit earned (Rs)
1	2016-17	21.00/-	-1700/- (loss)
2	2017-18	39.00/-	+436400/-(Profit) and ITR paid is 124500/-
3	2018-19	79.53/-	1552634/- (Profit) and ITR paid 252390/-
4	2019-20	126.00 /-	61.50 lakhs (Profit)

Working Capital and Business activity

To improve availability of working capital and development of business activities, the Bank of Baroda, (BOB) Washim branch has sanctioned Rs.1.0 Crore as a Cash Credit limit to RFPCL.

Table 3. Statement showing income of FPO members

Farmers base of FPO	Share Holders of RFPCL (Rs/Yr.)	RFPCL Annual Turnover	Increased average additional annual income per acre of certified seed growers from seed production	
			Before FPO membership	After FPO membership
1825	1191	75 Lakhs*	2700/-	4800/-

• Includes income from turmeric processing, soil testing and sale of critical inputs.

Profit sharing - Fifty per cent of the profit goes to the farmer while 10 per cent was utilized for the operational cost of the FPO and 40 per cent for quality improvement and infrastructure development of the FPO.

Advantages of Rishiwat FPO initiatives

1. Small and Marginal farmers have no option other than to come together. For these farmers Rishiwat FPO has provided a base of seed production.

2. Apart from the business activity, Rishiwat FPO has trained more than 3000 farmers on good agricultural practices for the last four years.

3. Shareholder seed producers can produce enough seed for their own consumption and sell the seed to other farmers to meet their expenses.

4. Seed production has helped growers to have access to new varieties by replacing old varieties resulting in increasing Seed Replacement Ratio (SRR)

5. Growing certified seed is a profitable enterprise that fetches 10 per cent additional price than the MSP of the major crops.

6. RFPCL has made a vast quantity of seed available in neighbouring areas and to farmers who are far away.

7. To meet the seed demand of farmers during lockdown, RFPCL dropped a seed bag at farmers' door step and reached farmers with the seed in time for planting.

8. RFPCL has made available other critical agricultural inputs and soil testing services to the farmers.

9. FPO is gaining support and confidence from farmers which is reflected in its membership.

10. Supported to do direct marketing at the door step of the farmers.

Impact

1. Witnessing Rishiwat FPO as an emerging successful establishment, farmers from ISAP NGO and DDM NABARD Jalna organized study tour cum exposure visits to this FPO to study the functioning and activities performed, for business development in other districts

2. The Success story of Rishiwat FPO is under publication by NABARD Regional Office Pune

3. DDM NABARD has assigned the FPO for organizing awareness and contact campaign for effective utilization of water in the village cluster of FPO.

4. Training and Capacity building programmes have created awareness for adoption of new crop production technologies recommended by the State Agricultural University (SAU).

5. FPO has made efforts to supply critical inputs like Bio-fertilizer, Trichoderma, Vermicompost, Vermi Wash, Azolla Culture, Soil Testing, Fertilizers, Planting Material and Seed of newly released varieties.

6. Mono-Cropping of only one ruling JS-335 Soyabean variety resulted in more susceptibility to pests and diseases, resulting in yield reduction up to 35 per cent. FPC every year are introducing seed production of high yielding, short-duration varieties of soybean and other crops. Due to the efforts of the FPC, the Seed Replacement Ratio has risen up to 35 per cent in the Washim district.

7. Because of the FPC, timely supply of quality seed, critical inputs like Trichoderma, bio-fertilizers etc were made available to non-member farmers also.

8. Based on the performance of two FPOs under the PRODUCE fund, NABARD has extended financial assistance for promotion of five FPCs under PODF-ID fund.

Sustainability Plan

1. Due to the progress of the FPC, non-member farmers from operational villages are becoming shareholders of the FPC.

2. Rishiwat FPC has a 4.00 TPH capacity seed processing plant and the unit takes a maximum of four months to process all the seed. For the balance period the FPC under convergence has established a Turmeric Processing Plant to work in this lean period which is an earning to FPC.

3. Dried turmeric rhizomes are processed and turmeric powder is sold to retailers and super shoppe and marketing outlets. There is direct marketing from KVK Swamini Stall and Bramhaputra Mahila Bachat Gat.

4. The FPO supplies Turmeric Powder to NABARD Rural Mart, Karanja for sale to the consumer.

5. Direct Marketing Licence for bulk purchase of farm inputs and delivery at the door step of farmers.

6. A Plan to set up an Agri Mall at the tehsil is under consideration.

7. Based on the modifications/relaxations of different Ministries to enable FPCs to conveniently avail assistance of SFAC, MoFPI, MSME, NHB, APEDA scheme, FPC will take initiatives.

Case Study of a Farmer Producer Organization : Bhangar Vegetable Producer Company Limited

Prasenji Kundu[1], Sarba Swarup Ghosh[2] and Narayan Chandra Sahu[3]

Abstract

A Farmer Producer Organization enables the farming community, including the small and marginal farmers, in addressing their Production and Marketing issues. Many Producer Companies have come up in India as well as in West Bengal to address these concerns. In this context, one successful Farmer Producer Company (FPC) i.e. Bhangar Vegetable Producer Company was selected from West Bengal which produces diverse kinds of products and a comparative study has been made to document the factors responsible for success which can act as guiding factors for other FPCs. This Company has minimized the production risks and marketing risks. They have taken initiative in post-harvest processes which ultimately ensured higher income. The success of a Producer Company needs to be judged on the basis of benefits accruing to the farmers.

Keywords: Farmer Producer Organization, Small and Marginal Farmers, Production Risk, Marketing Risk.

Introduction

Since 1950, the share of agriculture in the country's Gross Domestic Product (GDP) declined, but there was only a borderline decline in the number of persons dependent on agriculture. The Agriculture sector presently contributes nearly 14 per cent of total GDP, while still accounting for about 55 per cent of the total employment (GoI, 2014). India had over 138 million operational holdings as per the Agricultural Census, 2011. Of this, about 92.8 million were marginal i.e. having an individual functional land holding

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of lower than 1 hectare while another about 24.8 million were small holdings with individual functional land holding size lower than 2 hectares. Thus, the marginal and small holdings together accounted for a whopping 85.0 per cent of the total holdings in India in 2010-11. The size of functional effects in India is continuously declining with every consecutive generation. The situation has raised a serious question on the survivability of these smallholders (Pandey et.al., 2010). On the other hand, the rapid increase in population coupled with a substantial increase in inflows and coping power has led to increased demand for quality food and agrarian products. According to the 12th plan Working Group, " The small and marginal growers are clearly going to stay for a long time in India - however, they're going to face a number of challenges". Thus, what happens to them has larger implications for the agricultural sector and livelihood of large section of rural population."

Being smallholders, these growers suffer from some problems such as the absence of scale, access to information and their incapability to participate in the price discovery. The participation of growers is observed to be confined by limitations like poor horizontal and vertical integration and limited access to market, training and finance (Fernandez Stark Karina, et al, 2012). Poor information inflow along the chain has also been identified as a vital constraint (Shearer,2011). The problem of access to the market is indeed more pronounced for small and marginal growers. The challenge now is to optimize benefits through effective and efficient means of aggregation models. The instrument of Farmer Producer Company (FPC), registered under the Companies Act, is arising as the most effective means of Farmer Producer Organization (FPO) to meet the requirements of growers at grass-root level. FPCs offer a wide range of benefits compared to other formats of aggregation of the growers. FPC members can work with actors in the financial and non-financial inputs and services and applicable technologies leading to a reduction in sale costs. Members can also tap high value markets and enter into tie-ups with private players on contract farming mode.

Rationale for Formation of FPOs/FPCs

There is a need for aggregation of growers in order to derive benefits from the sale of agricultural produce. Producers' associations help in reducing the sale costs and give a platform for members to share information, coordinate activities and make collective decisions (Singh, 2013). FPOs (cooperatives/SHGs/FIGs/Producer Companies) have the eventuality to bring about vertical integration in the traditional food chains with need-based long term business plans. Producers can participate in the entire value chain and reap the benefits of value added in successive chain operating in agriculture. Now the question arises as to how to develop an appropriate design for Producer associations, the success of which can sustain and succeed under different limitations.

The Government of India has issued guidelines to encourage formation of FPO as a regular activity under various schemes including RKVY during the XII Plan. These guidelines were meant to help the stakeholders follow a standard methodology for formation of FPO as well as to give reflective costs and a monitoring frame. States may directly engage promoters (similar as NGOs, private companies, exploration bodies, cooperatives, growers' groups) to aggregate the small growers. Alternately, the Small Farmers Agribusiness Consortium (SFAC) is listing suitable Resource Institutions (RIs) on their behalf. Another option for the States would be to award the work directly to SFAC, to shoulder formation of FPOs. The Govt. of India provides budget to SFAC from the RKVY head.

Bhangar Vegetable Producer Company Limited

Genesis:

The Bhangar Vegetable Producer Company Ltd. (BVPCL) has been formed by farmers based in Bhangar Block II of the district of South 24 Parganas, West Bengal in the year 2012. The farmers were mobilized to form this Farmer Producer Organization (FPO) by the State Department of Horticulture and Food Processing in association with Access Development Services (ADS)

(Resource Institution). Located in the southern part of West Bengal, South 24 Parganas is close to Kolkata, which provides a huge, ready and lucrative market for vegetables. Bhangar Vegetable Producers' Company is the first company registered under the National Vegetable Initiative for Urban Clusters (NVIUC)and has a membership of 1750 marginal farmers. Each of these marginal farmers own less than one hectare of land on an average.

Objective of the BVPCL: The company was set up to build a producers' institution to address the emerging requirements of the producers. Immediate as well as long term issues to be addressed were:

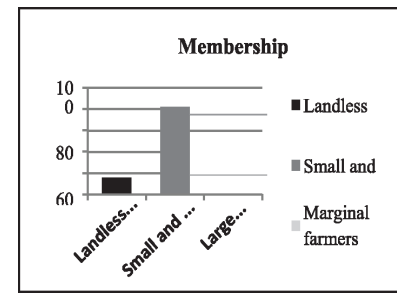
- To enhance productivity by crop intensification and diversification
- To make quality inputs available on time at reasonable prices
- To get remunerative price for the produce
- To ensure seed security by conservation of indigenous varieties
- Soil fertility improvement activities, which include various composting techniques as well as neem based solutions
- Crop protection techniques like the use of bio-pesticides.
- Agricultural Machinery Facilitation Centre (modernizing agricultural operations to make them more cost effective)
- Value addition activities for crop produce.
- Promoting home gardens of vegetables for landless women, for household consumption, improved nutrition and occasionally for supplementing income
- Promoting backyard poultry - for supplementary income as well as household consumption

- Helping farmers to benefit from various entitlements like Kisan Credit Card, Pradhan Mantri Krishi Sinchai Yojana, Pradhan Mantri Fasal Bima Yojana etc. and social security measures like various pension and insurance schemes

A farmer who could grow 7500 kg of the crop in the open in a season, is able to grow more than 9500 kg after the intervention. The size and quality of vegetables are also superior to what was earlier produced. Before the intervention, the income of the farmer was Rs 22000 in 140 days. Comparatively, the farmers now earn Rs 85000 in 120 days.

Membership

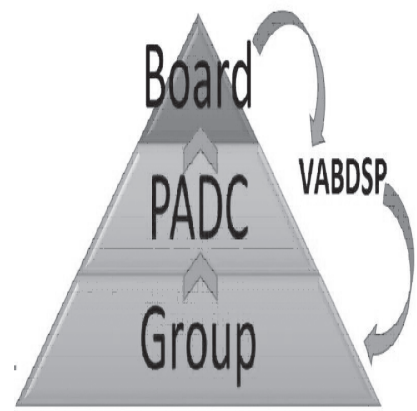
The membership of the company is diversified and inclusive. Out of all shareholders, 12 per cent of the members belong to landless families, who depend on agricultural and wage labour for their inflows or incomes, 81 per cent of the members are small and marginal farmers and the rest 7 per cent of the members are large farmers. The number of women members stands at 39 per cent. The majority of the members belong to Scheduled Caste (SC) and other backward classes (OBC).



Original Structure

The company has a three-tier structure with the growers (shareholders) as the members of the groups at village, panchayat and cluster level position. The base is the SHGs at the village level. Apart from the savings-credit transaction deals, different other requirements for their agricultural operations are met up by the Producer company - some need a harvesting machine or transplanting machine or cultivation techniques. Each SHG Secretary or President is responsible for communicating the group's

requirements, problems, solutions, conditions with the panchayat level body, PADC (Panchayat Agriculture Development Committee, which is a confederation of SHGs at panchayat level) which is supported by a levy or volunteer called the VABDSP (Village Agri Business Development Service Provider). For any queries individual members can directly communicate to the VABDSP.



At the monthly/quarterly/yearly directors' meet, the requirements from different panchayats are discussed and appropriate measures are taken to address the requirements on a precedence or priority and feasibility basis. Once cleared, the purchase committee of the board is given the task of placing orders. Once delivery happens to the company, it is distributed to the different panchayats in agreement with their demands. The redundant stock is sold at the company's retail outlet open to the general public.

The VABDSPs are made responsible for delivery from the panchayat level to the group and member level. All the VABDSPs are well networked and are known within their panchayats. Most of the members come and directly buy their requirements from the VABDSP's premises, which functions as an informal store. First, the members are served and then the non-members.

Management of the BVPCL

For smooth functioning and sharing of responsibilities, there are six sub-committees to manage the whole gamut of business. The decision of the subcommittee is accepted by the board unless and otherwise it requires any further review.

(a) Finance Management Committee

- Discusses details about the financial need and the expenses
- Verifies the detailed accounts records of the company
- Coordinates with banks and NBFCs for availing finance
- Responsible for loan repayment by the members to the company and from the company to the lenders
- Checks the credit repayment schedule.
- Shares the financial status of the company during the board meeting.
- Audits the income and sales statement.
- Prepares Annual Report.

(b) Technical Advisory Committee

- Mobilizes technical guidance in the aspects of the banking sector, legal matters, as well as new technologies in agriculture and agriculture machinery
- Arranges training on the above aspects

(c) Marketing Committee

- Makes market assessment on output (produce)
- Based on the assessment advice the members to grow a particular variety/commodity
- Fixes the selling price based on market price and quality
- Sells the produce procured from members
- Updates the overall stock left after selling and buying at every month-end

(d) Procurement Committee

- Makes a demand assessment to decide which input and provisions are in demand

- Procures the products from the company members
- Formulates a procurement standard for each and every product
- Fixes the procurement price based on the quality
- Undertakes field inspection to ascertain the quality of the product
- Maintains the storage godown
- Distributes cheques to the members for procurement made

(e) Monitoring Committee

- Monitors the activities of the VABDSP's, BoD's, CEO and Staff
- Keep a track of the activities of various committees
- Monitors the periodical functions like AGM and BoD's meeting, etc
- Provides reports to the concerned committee if there is any problem

(f) General Administration Committee

- Extends support to village level SHG and sustainable agriculture groups in undertaking their business
- Collects shares and subscription charges
- Gives awareness training regarding procurement and market price to the group members.
- Inspects the organic farming fields
- Organizes and conducts Annual General Body meeting.

Major services delivered by the Company

Supply of quality seeds:

Getting good quality seeds in time and at a reasonable price is most critical for the farmers. With the commercialization of seed (especially genetically modified or hybrid seeds) and marketing, farmers have been marginalized over a period of time.

Given the elevation of rice crop in South India, the Centre for Indian Knowledge Systems (CIKS) has been working for over 20 years focusing on the conservation and revival of indigenous rice kinds. With support from CIKS, the company caters to:

a. Furnishing training and support for the production of certified seeds by the growers. The company procures these seeds from the growers and sells the seeds both to members and non-members.

b. Organizing the supply system to meet different seed requirements of the members. For this purpose seeds are carried both from the member growers who are producing certified seeds as well as other sources.

Besides, the company has put in place a quality assurance system to ensure that only quality seeds are bought for its members. By reviving and promoting some of the indigenous kinds of paddy, it has generated further interest amongst the growers.

Vegetable Production:

Popular vegetables grown in the region are ladies finger, brinjal, chilli, tomato, broccoli, capsicum, french bean, cow pea, coriander, cabbage, cauliflower, bottle gourd, ridge gourd, bitter gourd, potato, pumpkin, onion, garlic, turmeric, elephant foot yam and leafy vegetables etc. The FPO aims to set up a collection center and directly supply the collected vegetables to local Bazars and markets rather than linking with a commission trader. The FPO's focus is constantly on quality enhancement of the produce and consults scientists on various issues that arise. The FPO conducts multiple training programs on various crops and also experiments with new seed varieties procured from various regions in demo plots. It also distributed seeds with the best results to growers in the adjacent surrounding areas.

Organic Inputs:

One of the challenges is that the inputs for the enrichment of soil fertility are not readily available in good quality and in sufficient amounts. Hence, one of the efforts taken up at the field level is setting up two kinds of units - neem based and vermicompost. Neem products like Neem seed powder, leaf extract and Neem seed cake are used for pest control, seed storehouse and as manure. Organic manure units are managed by an SHG and a number of demo plots on Azolla Farming units have been developed by the FPC in different SHG groups. It's a nitrification inhibitor and it prolongs the availability of nitrogen to both short duration and long duration crops. Composting and vermicomposting are carried out by the company, both by members and non-member growers. Some women SHGs are developing entrepreneurship in vermicomposting.

Credit Services:

The FPC provides specific loans like cattle loan for dairy to eligible members by taking loans from private fiscal enterprises. The members or women SHGs are turn linked with NABARD Financial Services for credit. The company facilitates individual members to get their Kisan Credit Cards from banks in lieu of a service charge.

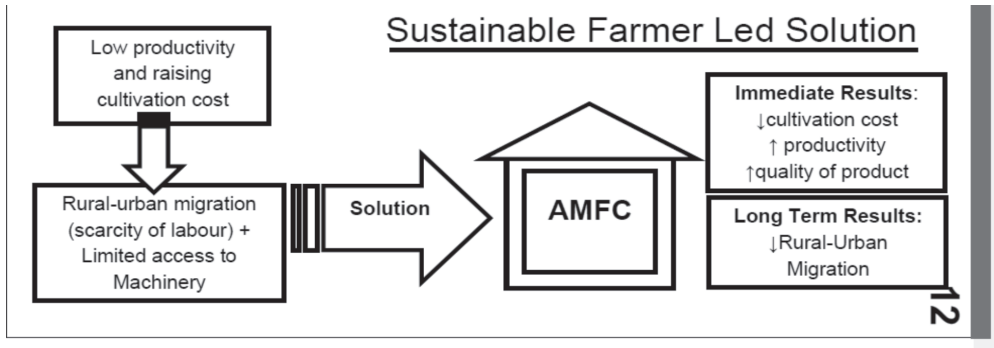
Provision Store:

The grocery items are bought in bulk from wholesalers and are sold in retail to members keeping a marginal profit so that they get at a lower price and fairly better quality than that from the open market. About 70 members take this benefit.

Agricultural Machinery and Implements:

To address the ever increasing cost of agriculture by small and marginal growers, the company has been renting machinery and tools to members at an affordable cost much below the cost charged by private sector through Agriculture Machinery Facilitation Centres (AMFC). In fact, farm

mechanization helps in adding productivity by about 30 per cent besides enabling the growers to take an alternate crop or multi-crops.



Poly House:

In case of selected vegetable crops under polyhouse cover, viz. capsicum and tomato, it has been observed that net returns in case of tomato are marginally lower than in capsicum cultivation. Cultivation of vegetables under polyhouse cover in organic cultivation technique comes out to be a remunerative proposition for the resource poor farmers also. As such, steps to promote off-season vegetable cultivation under polyhouse cover have been taken up so that the redundant labour force can be optimally utilized in agriculture at large. In this context, they have already developed 4 large scale Polyhouse structures and a number of small scale polyhouse units where all types of vegetables were cultivated seasonally and also in off season.

Output Market Linkage:

Ensuring better market linkage and better price for the sale proceeds of members will lead to increase in the income of the farmers. In this direction, the company is making all out efforts for creation of storage facilities, branding, organic certification and distribution. All these activities require capital and hence, the company is making all efforts to mobilize requisite capital also.

Women Focused Activities:

a. Kitchen garden: Vegetable purchase reduced-37%, nutritive status bettered-25%, expenditure on health reduced-23% and additional income from the trade of vegetables was 15%.

Backyard poultry: Improvement in nutrition of family- 37%, reduced expenditure on health - 12%, reduction in meat expenses for the family - 20% and additional income from the sale of meat and eggs- 39%.

Besides, 10 women SHGS are producing vermi-compost, biopesticides, mushroom, value-added products from indigenous vegetable and fruit varieties and ready to eat food mixes in an entrepreneurship mode. A plan is on the anvil to integrate bio-gas with vermi-compost to encash its double benefits.

Other Services: Besides, a number of services are provided to the members. Services like capacity building of farmers on scientific crop planning, identifying good quality seeds, their treatment, improved and low cost methods on seedling development, transplantation, weeding, moisture management, plant protection, harvesting etc. are also provided.

Characteristics of the Company

State	**West Bengal**
Name of the Producer Company Company Limited	Bhangar Vegetable Producer
Products vegetables etc.	Vegetables: ladies finger, brinjal, chilli, tomato, broccoli, capsicum, french bean, cow pea, coriander, cabbage, cauliflower, bottle gourd, ridge gourd, bitter gourd, potato, pumpkin, onion, garlic, turmeric, elephant foot yam and leafy

Year of Establishment	2012
Paid up Capital	73,00,000
Number of Members	1750
Promoter	Department of Horticulture & Food Processing, Access Development Services (ADS)
Turnover	Income of the farmer was Rs 22000 in 140 days before the intervention. Comparatively, the farmers now earn Rs 85000 in 120 days
Inputs	Provided
Loan provider	Banks
Farmers Category	Mixed
Collective Action	Common Interest Groups
Value Addition	Processing, Grading and Packing
Demand for the Product	Good
Diversification	Multi Cropping and inter cropping
Associations	Dept. of FPI& Horticulture, Govt. of W.B., Indian Farmers Fertilizer Cooperative limited for subsidy on fertilizers and pesticides, Krishi Vignan Kendra for Soil testing, technical support for various types of crop cultivation in a modern and scientific manner.
Marketing Linkages	Mother Dairy, Metro Cash & Carry Outlets, Hotels and other Retail Shops

SWOT Analysis

Strengths

- Large number of women shareholders and women Directors indicating women empowerment.
- Guidance from an agency like CIKS.
- Technological support from Krishi Vigyan Kendra.
- Social mobilization and institutional structure.
- Progressive operation and governance system in place.
- Good infrastructure - its own land for erecting storehouse, Neem grounded product unit, small carrier van (TATA Ace), harvester, electronic balance, currency counting device.
- Transparent payment system-digital/ cheque payment above INR 2000.
- Farm mechanization through AMFC.
- Promoting sustainable husbandry practices similar to organic farming.

Weaknesses

- Financial - the paid up capital and credit available is still low in comparison to the demand. Delay in the recovery of sale proceeds.
- Inadequate experience in some business activities- trade relating to coconuts, chillies and paddy .
- The assets base isn't sufficient as the demand is increasing.
- The incentive/incitement structure isn't encouraging, their activities

are occasionally not satisfactory

- Subsidy or Subvention driven measures increase the anticipation and expectation position of growers which frequently inhibit them to work with a business mind set.

Opportunities

- Fiscal - credibility with Banks enhanced and they are now coming forward to give credit, so also with other NBFCs
- To work on financial services like crop insurance
- Links with traders and various other Producer Associations at district and state position can further strengthen the company.
- Creating a brand value for FPO on services or produce (especially organic) or both.
- In terms of activities - establishment of a fodder unit, production and preservation of indigenous seed varieties, production of ready to eat traditional foods in the packaged form are .prospective areas where the business can grow.
- Market/ demand study on certain produce and helping growers to produce and ensuring early entry to the market.
- Promoting protective agriculture and high value crops.
- Having a demonstration farm for hands-on training to growers.

Threats

- Private input suppliers and traders often spread disinformation amongst the member farmers. Any failure by the company becomes the game point for them.

- Natural disasters and climate change
- Price fluctuation of the produce
- Differences of opinions and conflicts when not contained at the right time

Conclusion

Farmers' groups have their own limitations and haven't succeeded to the extent it was anticipated in West Bengal as well as in India. Therefore, adequate provisions were made in the Companies Act so that growers' groups work as true business realities complying with all the statutory requirements. It may be mentioned that all other companies initiated in India are more or less by educated people or families having a traditional business for a long time. Therefore, the challenges remain when a group of growers (who do not have education, specialized knowledge, scientific aptitude) form a company to overcome the problems faced by them as well as do business. They need support like a common platform where they can manage their affairs. What support and how long and by whom is a subject that has not yet progressed or formalized in our country yet. It is still in an evolving stage. As a matter of fact, most of the non-government organizations (innately working as not-for-profit entities) have promoted patron companies either on entitlement or soft loan fiscal support. Huge investment goes into the social mobilization part. Still, NGOs have done a very good job in whatever little that has been achieved in this area.

Bhangar Vegetable Producer Company limited is a reliable organization engaged in wide range of activities. The team with expertise also maintains a vigil on the quality of the products. Every single work is ensured with proper quality assurance. Since their inception on 28/09/2012, they are continually improving the quality to serve their clients better. The use of modern technology, industry standards, timely and quality deliveries, experienced workforce is their USP. It is a matter of fact that the design of Producers Company has generated enthusiasm amongst directors, be they

growers, fisherfolk, or crafters. Nonetheless, a number of Directors companies haven't been suitable to establish themselves as business establishments in the real sense. There are a number of challenges faced by the company which needs attention of the policy makers.

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Economic Aspects of Mangrol Groundnut Producer Company Ltd. : Deployment of Groundnut Growers Towards the Formation of FPO in Mangrol Taluka of Junagadh District

Pooja Panchani[1] and Uday Birari [2]

Abstract

The Farmer Producer Organization is hybridizing of cooperative society and private limited company. Most of the initiatives on producer companies were started and promoted by NGOs/ development agencies/ sponsoring organizations. The core aim of FPO is to improve member farmers' income and standard of living by purchasing farm produce from them and selling the products after value addition in the market. This study was conducted to identify the economic benefits of FPOs for farmers, based on the actual trial of 100 Kgs groundnut processing. The tabular method was used to measure the economic aspects of Mangrol Groundnut Producer Company. From the study of cost and returns of groundnut processing, it was observed that the business of value addition was profitable for the Company by the traditional method done through process outsourcing. However, it would be more profitable by establishing its processing plant by the traditional method.

Keywords: Farmers Producer Organization, economic aspects, groundnut processing

Introduction

Until recently, The Companies Act, 1956 has recognized three types of companies: 1) Companies limited by share capital that means the liability of members is limited up to the share capital paid by them; 2) Companies

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limited by guarantee that means the company gives the guarantee to pay the amount. It includes non-government organizations and 3) Unlimited companies that means the liability of members is not limited up to the share capital paid by him but it is unlimited. From 2002, The Companies (Amendment) Act, 2002 has introduced a fourth type of company that is Producer Company. The producer company is a hybrid of cooperative society and private limited company. The name itself gives the meaning of the producer company. A Producer means a person engaged with primary production especially by farming. A company means a group of people occupied under the limitation of certain rules and regulations. Thus, the producer company means a group or a company formed by the primary producers. The producer company is also recognized as the Farmer Producer Organization (FPO). The producer company is limited by share capital. The shares are transferable among the members of the company only under the permission of the Board of Directors.

Meaning of Producer Organization (PO)

A Producer Organization (PO) is a legal entity formed by primary producers, viz. farmers, milk producers, anglers, weavers, rural artisans, artisans. FPO is a type of PO where the members are farmers. Small Farmers' Agribusiness Consortium (SFAC) is providing support for the promotion of FPOs. PO is a generic name for an organization of producers of any produce, e.g., agricultural, non-farm products, artisan products, etc. NABARD, SFAC, Government Departments, Corporates and Domestic & International Aid Agencies provide financial and/or technical support to the Producer Organization Promoting Institution (POPI) for promotion and handholding of the PO.

State-wise no. of FPOs

Figure 1: State-wise registered Producer Companies Status as of February 2020

(Source: Anon., 2020a)

Figure 2: Business activity of the FPOs supported by NABARD

(Source: Padmaja et al., 2019)

Fundamental features of a PO

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

Profile of Mangrol Magfali Producer Company Limited

Mangrol Magfali Producer Company Ltd. (MMPC) is endorsed by Aga Khan Rural Support Programme - India (AKRSP (I)), which is a non-government organization. Mangrol is a district that covers most of the villages in the MMPC. Magfali which means groundnut is a major crop of Mangrol district. So, the name of the producer company is selected as "Mangrol Magfali Producer Company Ltd.". The MMPC was registered under The Companies (Amendment) Act, 2013, on 3rd March 2015. It was registered under the companies act, 2013, section 7(2). The registration number is U01407GJ2015PTC082469. The MMPC is limited by share capital. It has twelve members on its Board of Directors. The main concept of the company is to enhance the profit of the member farmers by cutting down the cost of cultivation and by value addition of primary products like raw groundnut, wheat. It focuses on organic farming and conservative agriculture. It suggests to farmers to use green manure, dung manure, neem oil, etc., as organic substances. It also guides farmers about climate change, causes of climate change, problems and solutions to cope with climate change.

Objectives of the Study

The objectives of this study were to calculate the cost and returns of groundnut processing.

Methodology

For measuring economic aspects of groundnut processing, the tabular method was used for the traditional method and modern method.

Results and Discussion

The cost and returns of groundnut processing were calculated from the actual trial of 100 kilograms of groundnut. The company is engaged with the value addition process of raw agricultural products to increase the value of the product and the company tries to provide the maximum price of the

product to the farmers as far as possible. By value addition process, the company produced salted peanuts from 100 kilograms of groundnut. Salted peanuts were produced by process outsourcing and the data related to the packaging of the salted peanuts were estimated as per market rates of packing materials. From the data of groundnut processing, the cost sheet was prepared as given below. Table 1 presents the cost sheet of a 100 Kg trial by process outsourcing by traditional method and Table 2 represents the cost sheet of salted peanuts if the company would produce by its plant by traditional method and data were collected from a local producer of Mangrol. Table 3 represents the cost sheet of salted peanuts produced by modern method or by roaster machine and the data of the owned plant was collected from Khodiyar House at Keshod.

Table 1: Cost Sheet of Groundnut Processing by Process Outsourcing by the Traditional Method

S. No.	Particulars	Rs./kg	Per 100 Kgs (Rs.)
1	Raw material (varies as per price)	67.50	6750
2	Process outsourcing (Includes: loss by reduction of the weight Rs. 6 (10%, varies as per price of peanuts), labour charges Rs. 3, fuel Rs. 3, profit for its own Rs. 3)	15.00	1500
3	Labour charges for packing	1.60	160
4	Packing material	0.50	50
5	Electricity	0.20	20
6	Sales commission	5.00	500
7	Building Rent	0.20	20
8	Machinery charge	0.07	7
	Staff salary	2.00	20
9	Total cost	92.06	9206
10	Sales price	100	10000
11	Profit	7.94	794

Table 1 shows the cost sheet prepared from the actual trial of 100 kilograms of groundnut. From the groundnut, salted peanuts were prepared by process outsourcing by the traditional method at Mangrol. For this purpose, peanuts were purchased at Rs. 6750 per 100 Kgs from the members of the producer company. The production company had to pay Rs. 15 for process outsourcing that includes loss of weight Rs. 6, labour charges Rs. 3, fuel charges Rs. 3 and its profit Rs. 3. From the table, it can be seen that by process outsourcing the company can earn a profit of Rs. 7.944 per kg. It can be concluded that, if the producer company starts the business, then it will be profitable.

Table 2: Cost Sheet of Groundnut Processing by Own Plant by a Local Producer at Mangrol by the Traditional Method

S. No.	Particulars	Rs./kg	Per 100 Kgs (Rs.)
1	Raw material (varies as per price)	67.50	6750
2	Loss by reducing weight	6.00	600
3	Labour charges	3.00	300
4	Fuel	3.00	300
5	Labour charges for packing	1.60	160
6	Packing material	0.50	50
7	Electricity	0.20	20
8	Sales commission	5.00	500
9	Building Rent	0.20	20
10	Machinery charge	0.07	7
11	Staff salary	2.00	200
12	Total cost	89.06	8976
13	Sales price	100	10000
14	Profit	10.94	1094

Table 2 presents the cost sheet of processed salted peanuts produced by the local producer by own plant by the traditional method. From the table, it can be observed that if the company produces by establishing its own plant, by the traditional method, profit will be more than the process outsourcing. The profit is more because the cost of process outsourcing is reduced in the producer company's plant. Thus, the process by own plant is more profitable than process outsourcing.

Table 3: Cost sheet of Groundnut Processing by the Modern Method by Khodiyar House at Keshod

S. No.	Particulars	Rs./kg	Per 100 Kgs (Rs.)
1	Raw material (varies as per price)	67.50	6750
2	Loss by reducing weight	6.00	600
3	Labour charges	5.00	500
4	Electricity for roaster	5.00	500
5	Depreciation	5.00	500
6	Labour charges for packing	1.60	160
7	Packing material	0.50	50
8	Electricity	0.20	20
9	Sales commission	5.00	500
10	Building Rent	0.20	20
11	Staff salary	2.00	200
12	Total cost	98	9800
13	Sales price	100	10000
14	Profit	2	200

Table 3 presents the cost sheet of salted peanuts processed by modern method i.e. Roaster by Khodiyar House at Keshod. The production cost by the modern method is higher than the traditional method. In the modern method, depreciation of machinery will increase; due to the depreciation

cost, the production cost is increased. The Khodiyar House does not engage with the packing of the processed salted peanuts. It engages with the retail selling of products. Thus, the packing data are estimated from the actual trial of 100 Kg groundnut.

Summary and Conclusion

The cost and returns of groundnut processing were calculated from the actual trial of 100 kilograms of groundnut. The cost sheet was prepared from the actual data of the trial. The producer company produced the salted peanuts by process outsourcing from which, the producer company earned a profit of Rs. 7.944 per kilogram by the traditional method. If the company produces the product by establishing its own plant, then the company will earn a profit of Rs. 10.944 per kilogram by the traditional method. If the producer company establishes a modern plant for the processing, the profit will be Rs. 2 per kilogram. Thus, it can be concluded that the producer company could earn more profit by establishing its traditional plant.

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