NABARD RESEARCH STUDY - 24

Handholding (Capacity Building and Facilitation) of FPOs: Framework to Implementation

Institute of Rural Management Anand (IRMA)

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DISCLAIMER

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About NABARD Research Study Series

The NABARD Research Study Series has been started to enable wider dissemination of research conducted/sponsored by NABARD on the thrust areas of Agriculture and Rural Development among researchers and stakeholders. The study on *'Handholding (Capacity Building and Facilitation) of FPOs: Framework to Implementation*' completed by Institute for Rural Management, Anand (IRMA) is the twenty-fourth in the series. The list of studies in the series is given at the end of this report.

Farmer Producer Organizations (FPOs) are one of the major vehicles for agricultural transformation being spearheaded by NABARD and is also the focus of the Government of India. They are envisioned as playing a crucial role in making farming sustainable and in promoting livelihoods and improving the quality of life of families dependent on agriculture. Though FPO formation has gained some traction in recent times, the current challenge is to make FPOs sustainable, viable and successful in the long run. For this purpose, it is important to investigate the critical success factors for FPOs and design a framework for handholding and scaling up of FPOs.

IRMA, in this study, has attempted to develop a framework to assess the performance of FPOs and also develop strategies to handhold them through an in-depth study of eight FPOs. The study recommends a three-pronged strategy for handholding of FPOs- first one revolves around enablers like POPI and lifecycle appropriate support to FPOs. The second component includes management of FPOs. The third is the establishment of a Resource Support Centre (RSC) at state level. For scalability of FPOs, the study recommends opportunity identification and idea ownership, stakeholder mobilization, opportunity exploitation, and stakeholder reflection.

Hope this and other reports we are sharing would make a good reading and help generate debate on issues of policy relevance. Let us know your feedback.

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ACKNOWLEDGEMENTS

I am grateful to the National Bank for Agriculture and Rural Development (NABARD) for sanctioning the study titled “Handholding (Capacity building and Handholding) of FPOs: from framework to implementation.” The study was made possible with active support from the Department of Economic Analysis and Research (DEAR) of NABARD. I am thankful to the then Chief General Manager, DEAR, Mr. Shankar A Pande, who encouraged us to visualize the project of this scale. The support from DEAR team has been vital for successful completion of this project. I would also like to express our sincere gratitude to Dr. Satyasai Kovvali, CGM, DEAR for his continuing support during the period of the study.

The fieldwork conducted during the study was possible due to active support from NABARD state teams in Gujarat and Rajasthan in identifying POPI and FPOs. The active involvement from FPOs in Rajasthan and Gujarat during the fieldwork has made it easy for us to collect primary data and develop a better sense on the functioning of FPOs.

I am thankful to my team who played their role beyond the defined assignments and demonstrated exemplary commitment to bring quality to the work. Prof. Sridhar Vishwanath from IRMA played a vital role in the first phase of the study by designing the fieldwork and carrying out the consultation with FPOs. Prof. Sushanta Sarma, another colleague from IRMA helped in capacity building of FPOs and contributed towards writing of the reports submitted from time to time. The schedule of the study was actively monitored by Mayur Bharpoda and his efficient coordination with multiple stakeholders facilitated timely completion of the project. Sreelakshmi Menon has been instrumental in collecting data for the qualitative case studies on FPOs and her insights helped us to see many new directions during the course of the work. The support from Rajesh Subburaj in compilation of the final report are appreciated.

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EXECUTIVE SUMMARY

1. The review of existing work reveals that critical factors affecting performance of FPOs can be summarized under five thematic heads. The thematic categories are: Physical and Technical Support, Organizational Governance and Management, Collaborations and Convergence, Innovation and Advancements, and Financial Determinants. These five input categories along with the output criteria forms the Critical Success Factor (CSF) model. The output criteria are: a) Average annual growth in membership b) Percentage increase in procurement quality of collective marketing.

2. The five thematic categories of critical success factor can further be elaborated across 20 success factors. These factors are as follows – 1. Physical and Technical Support - a. Physical Support, b. Technology Transfer, c. Capacity Building (Trainings); 2. Organizational Governance and Management - a. Professional management b. Frequency of board meetings c. Proportion of small, medium and large farmers among the board members d. Orientation (Inward/ Outward) e. Life cycle ; 3. Collaborations and Convergence - a. Support from External Agency b. Government Support c. Market linkage Collaborations (exports, public procurement, other markets); 4 Innovation and Advancements - a. Residue free farming, b. Market Information system, c. Fertilizer type and use, d, Innovation e. Value addition f. product differentiation; 5. Financial Determinants -a. Equity ratio, b. Profitability Ratio c. Productivity

3. The fieldwork conducted during the study revealed some of the best practices adopted by FPOs to enhance their performances. Best performing FPOs provide input supply, addressing the weak supply chain of agriculture inputs in rural area. This helps the farmers to access them in fare price, to get the best quality and use it in right quantity. Some FPOs provide farm machineries and promote custom hiring. One of the best examples of technical support offered by the FPOs is encouraging soil testing.

4. For best performing FPOs, CEOs and BoDs are actively involved in the management of their own companies. To enhance the professionalism and efficiency of management, many of these companies have appointed paid staffs. It is crucial to pump outside knowledge and expertise to widen the scope of business. CEOs play crucial role in strategic management.

Some companies also hired labour on daily basis whenever required. This too adds to the efficient management of human resource.

5. The most important pattern to be noticed among all the FPOs is that they have reduced dependence on the POPI progressively. POPI only helped them during the initial phases 310of establishment. The success of these FPOs can be accounted for their independence in business actions. Entire business activities were handled by the FPOs themselves without POPI intervention. Government schemes utilization helped all these companies in bridging certain gaps and utilizing maximum resources available.

6. Majority of these FPOs have invested a significant capital in value addition. They have also developed required infrastructure for the same. Huge investment is need for such initiatives, for the same reason many of the FPOs in India fails to reach that level and get involved in food processing industry. Other noticeable pattern is that all these FPOs promote sustainable farming initiatives such as organic farming which indeed adds value to their produce.

7. All the FPOs are keen in asset creation. Assets of a company are important to show its status and healthy functioning. Majority of the companies show high turnover and membership growth.

8. When compared the functioning of FPOs with daily cooperatives, the study found that there are fundamental differences between this two. In dairy cooperative processes are transparent and members satisfaction is considered very important. Members are given equity in proposition to patronage and business is done only with registered members.

9. Dairy as an enterprise has regular cash flow and therefore helps in sustainability of their members and organization.

10. Board members in studied dairy cooperatives are elected / selected from the community and there is appropriate member representation in the board to ensure inclusiveness in governance. Moreover, bringing professional management helps in adoption of best practices in managing the organization.

11. Dairy cooperatives have well defined financial goals for both dairy and non-dairy business initiatives that are based on bottom-up estimation of business potentials. This could be related to milk and milk products, cattle feed, biogas, and green fodder or silage production.

12. The detailed case study of eight selected FPOs revealed that the performance of studied FPOs are influenced by a set of influencers – role of external agency like POPI, role of governmental support through different institutions, opportunities to take-up value adding activities, presence of market information system and adoption of sustainable agricultural practices.

13. For handholding of FPOs, there is a need to adopt a three-pronged strategy – first one revolves around enablers like POPI and lifecycle appropriate support to FPOs. The second component include management of FPOs. Leadership quality of FPO, business plan orientation and governance structure are the components of management FPOs that has a strong influence in FPOs handholding. The third component of strategy towards handholding of FPOs is the establishment of Resource Support Centre (RSC) at state level. Such centre would provide holistic support to different aspects of FPO management in collaboration with other resource organizations.

14. For scalability of FPOs, the study recommends the following – opportunity identification and idea ownership, stakeholder mobilization, opportunity exploitation, and stakeholder reflection.

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CHAPTER 1 SYNTHESIS REPORT ON HANDHOLDING OF FPOS: FROM FRAMEWORKS TO IMPLEMENTATION

1.1 Introduction

Farmer Producer Organizations are one of the major vehicles for agricultural transformation being spearhead by NABARD. They are envisioned as playing a topical role in making farming sustainable and in promoting livelihoods and improving the quality of life of families dependent on agriculture. Support for starting FPOs have picked up in recent years but the current challenge is to make the FPOs sustainable, viable and successful in the longer run. The efforts have been fragmented and there is a need for investigating critical success factors for FPOs. A framework for handholding and scaling up of FPOs needs to be designed. The Resource Institutions should be given a manual and blueprint to manage and work with the FPOs. Keeping in mind the need for a framework to assess the performance of FPOs and also develop strategies to handholding them, IRMA has conducted a study on FPOs in the state of Gujarat and Madhya Pradesh. The objectives of the study are as follows –

Objective 1: Establishing CSFs (Critical Success Factors) for FPOs and benchmarking with the Dairy Cooperatives and Milk Producer Companies (MPCs) for making a robust hand-holding plan

Based on a composite rating score, reasons for success and failure of FPOs will be evaluated. A comparison of existing factors considered by different agencies will be conducted to ensure inclusion of all pertinent critical success factors. The framework for evaluation would be on parameters like Institutional support and credit, Governance and participation of board, Market access and credit linkages, Leadership, Operational excellence, *etc*. The framework would be able to explain the reasons for the success of FPOs in the matrix structure of classified FPOs. The second part of the Objective 1 include conducting a comparative analysis of FPOs and MPOs/Dairy cooperatives to look at learning and characteristics for development and capacity building and facilitation of FPOs which can be adopted from MPOs and Dairy Cooperatives.

Objective 2: Handholding (Capacity building & facilitation) and Strengthening of FPOs

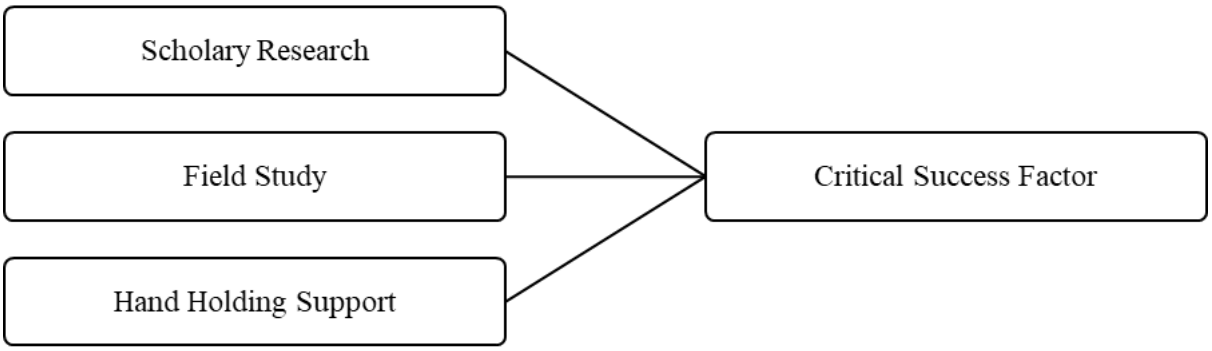
The team would take up the capacity building and facilitation of select FPOs in Gujarat and

Rajasthan and develop their sustainability and commercial viability. This experience will help in developing a comprehensive policy on FPOs

1.2 Methodology

We have adopted a three-pronged approach to explore the antecedents of critical success factors in FPOs (Figure 1). The first approach was to examine the scholarly work on CSF for collective organizations like FPOs and Cooperative. The second approach was to conduct field studies with selected FPOs in the state of Rajasthan and Gujarat. Finally, the third approach was to offer hand-holding support to selected FPOs to understand in detail the challenges to functioning of FPOs.

Figure 1: Three-pronged Approach to Study CSF



1.3 Key Findings of the study

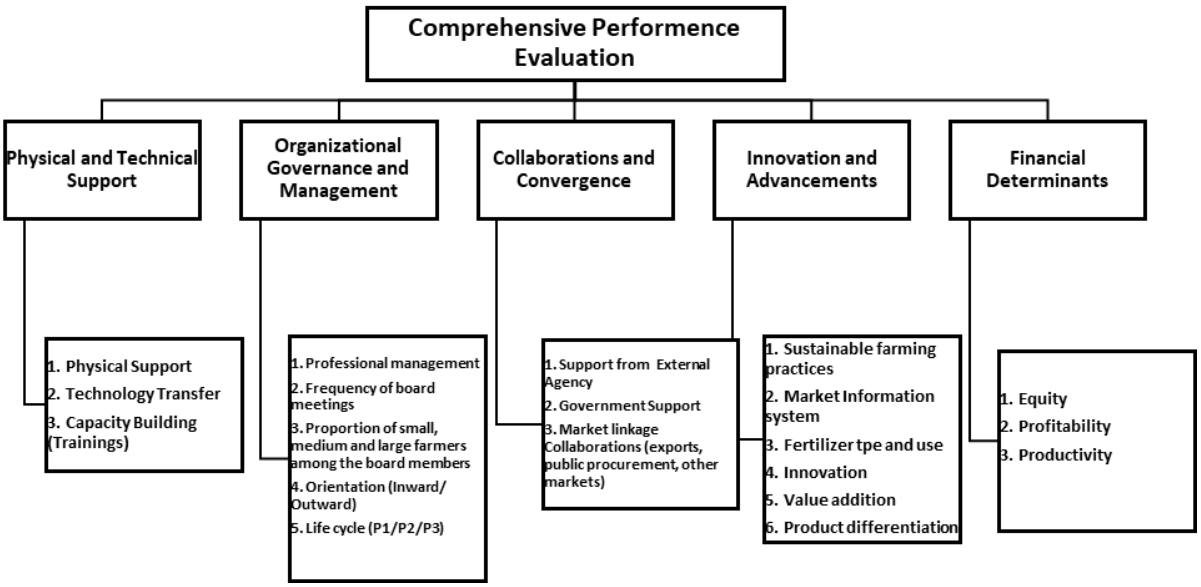
1.3.1 Critical Success Factors for FPOs

The concept of Critical Success Factors (CSF) was first introduced in 1960, and later on used to understand the factors that can influences the performance of organizations. By definition, critical success factors are the major variables or characteristics those if managed appropriately can ensure successful and competitive organizational performance. CSF method is usually applied in firm specific, industry specific and socio-political and economic environment analysis. CSF framework also aids in strategy planning and development for an organization. CSF methodology is used to identify and isolate the few factors that steer managerial or organizational success. In order to identify the CSF for FPOs we have conducted a thorough literature review of published research on collective enterprises including cooperative, and producer organizations. Our aim was to specifically search for key variables that influenced performance of these business entities. Comprehensive research based on management and business requirements of farmer collectives are scares. It is skewed towards either social functioning or economic, mutually exclusive rather than holistic studies focused on multiple

aspects of organizational performance. Most often, FPOs are not seen as pure business entities so the parameters used for performance evaluation include less of business components. We tried developing a framework that includes social, economic, managerial, technological and environmental aspects that helps these entities thrive.

The review of literature helped us to produce five thematic areas that can be considered as CSF influencing the performance of FPOs. These areas are – 1. Physical and technical support. 2. Organizational governance and management, 3. Collaboration and convergence, 4. Innovation and advancement and 5. Financial determinants. The performance of FPOs are measured in terms of 1. Average annual growth in membership 2. Percentage increase in procurement quantity for collective marketing and 3. Member participation. Figure 2 below summarizes the findings

Figure 2: CSF for FPOs



Physical and Technical support given by the FPOs to its members are particularly important in farmer collectives improving membership and member retention. Physical support in the form of availing modern faming equipment to members is found to be vital for better performance of FPOs. Capacity building of members on cost-effective practices can also play an important role in improving the performance of FPOs by helping in retaining the members. Governance

and management of the FPO includes how professionally it is being managed, how frequently did the board meets, the proportion of small and marginal farmers in it, the nature of its orientation and life cycle. Collaboration and convergence looks at the networking capability of the company. How much support from the external agency does it receives, how good it utilizes government support, what are the market linkages that it managed to develop are the main sub variables considered. Innovations and advancements are crucial in the development of any organization, be it an FPO or milk cooperative. In agribusiness sector an FPO that promote sustainable farm practices were found to have better performance. Marketing information system is another variable that can predict market linkages and performance. Fertilizer usage in alignment with sustainable practices can also predict the performance. Value addition and product differentiations are other key variables that will improve the performance of an FPO. Financial ratios are not given more importance in this framework as the FPOs are too young to be undergone such a performance evaluation. Equity, profitability and productivity are some of the key ratios that the FPO should be able to take care of in order to improve their performance.

1.3.2 Best Practices Adoption Charter from Dairy Cooperatives

To develop a better understanding what makes the dairy cooperative a successful collective enterprise and the learning can be better utilized for enhancing the performance of FPOs, we examined the research on dairy cooperatives and also undertook visits to the field site. Below are some of the findings on best practices of dairy cooperatives that contributed to their better performances

Engagement with members

- Processes are transparent and members satisfaction is considered as important.
- Members are given equity in proposition to patronage.
- Business is done only with registered members.
- Members consider the organization to be their own and provide cooperation and competitiveness to the organization.

Sustainability

- Dairy as an enterprise has a regular cash flow in business and therefore helps in sustainability of their members and organization.

- Dairy business appeals to women as facilitates their empowerment in villages. The daily interaction with members leads to increase in member engagement compared to 3 to 6 months crop cycle engagement with members.

Governance

- The organizations are professionally managed and have been able to address the issue of free riders.
- Board members are elected / selected from the community and there is appropriate member representation in the board to ensure inclusiveness in governance. Moreover, bringing professional management helps in adoption of best practices in managing the organization.
- Participation of women is encouraged leading to higher collaboration in the community and creation of complementary enterprises that enhance cooperation.

Social value creation

- Cooperative and Milk producing companies (MPCs) adhere to an establish code of ethics and give importance of stockholders and responsiveness to members through the principals of cooperation.

Economic value creation

- These organizations have well defined financial goals for both dairy and non-dairy business initiatives that are based on bottom-up estimation of business potentials. This could be related to milk and milk products, cattle feed, biogas, and green fodder or silage production. This is supported by continues customers feedback and satisfaction services.
- The financial planning helps in ensuring sources of funding for these planned initiatives as well as risk mitigation process. This ensure that the organization are measuring social as well as financial performance and ensuring viability by orienting themself to the need of both the members and customers.

1.3.3 Framework for capacity building and handholding of FPOs

In order to discuss and develop a framework for capacity building of FPOs, selected members from the FPOs were invited to the IRMA campus for a three-day Management Development

Programme (MDP). 18 participants from seven FPOs participated in the training program. The training helped the participants to understand the basics of business plan and how to elicit engagement from members of FPOs. The other sessions included discussion on agri-input requirement for FPOs. Apart from the faculty members of IRMA, professionals from Agri industry like Mr. Madhukar Chugh, Vice President, Marketing, Bharat Insecticide Ltd delivered a session on input and produce management. The members also had an opportunity to interact with students of IRMA to discuss in detail about their business plans. As a part of the MDP, the participants from FPOs were taken on an exposure visit to Amul to understand the functioning of a dairy cooperative.

1.3.4 Blueprint for handholding FPOs with replicable model

Based on the field studies and review of existing research, we presented a strategy to address the challenges to bettering of performance of FPOs. The strategy presented is both specific and generic. It aims to specify a role for stakeholders to play in FPO's progressive performance. At the same time, it offers generic flexibility to establish mechanisms towards enabling the functioning of these collectives. We present the strategy as three component- each having a critical role to play in FPOs performance

1 Enabler:

The constituents of business environment where the FPOs are operating are termed as enabler. Based on our fieldwork and reading of scholarly research on collectives, we are convinced that such constituents have a critical role to play in enhancing the performance of these collectives. Below we have explored the possible role that can be played by selected enablers-

a. POPI.

Based on our engagement with FPOs, we can claim with certainty that POPI has a very crucial role to play in the success of FPOs. They have played a critical role in mobilization of farmers for the formation of FPOs. Many of them have also attempted to work on ensuring market linkages to the produce of the FPOs. Our study reveals that many of these POPIs are functioning as non-profits focusing on community development and advocacy work. They have substantial expertise in collective action and community institutions. But lacks in developing collective enterprises. FPOs are collectives designed to engage in entrepreneurial activities. For them to succeed, FPOs must develop business acumen since inception. The business acumen should be imparted by POPI in the initial stage of formation of FPOs.

Many of these POPIs lack is an entrepreneurial orientation. As a result, they failed to train the

FPOs on business and managerial skills. Like FPOs, POPI can also be graded based on their skills of setting up a collective organization and of running a community driven enterprise. NABARD can develop an assessment scale to map the skills and orientation of the POPI. Alternatively, NABARD can assign a distinct role of POPI based on their skills. For example – POPI with skills in developing collective organizations would be entrusted with the responsibility of forming collectives and establishing mechanisms for engagement of members. For POPI with business acumen, the responsibility would be to offer handholding support to the FPO in running their enterprise. It is also important to ensure that skills of POPI are enhanced from time to time through capacity building programmes.

The other issue that requires attentions is duration of engagement of POPI with FPOs. Currently POPI are engaged with FPOs for a duration of around three years. This is not substantial time for FPOs to become self-reliant in terms of governance and business. Hence, it is advisable that POPIs are engaged for a longer duration of time to ensure sustainability of FPOs. Currently, the deliverables for POPI are thinly presented and thereby lowering their accountability in the process. This is counterproductive- while POPI plays a crucial role but their accountability towards performance of FPOs are negligible. Going forward, an accountability mechanism should be developed so that POPI would remain engaged with FPO's viability and would not limit their role only to formation of the collective. Based on our understanding of nature of engagement of POPI with FPOs, we would recommend that a regular performance evaluation of POPI should be carried out.

Summary of recommendations

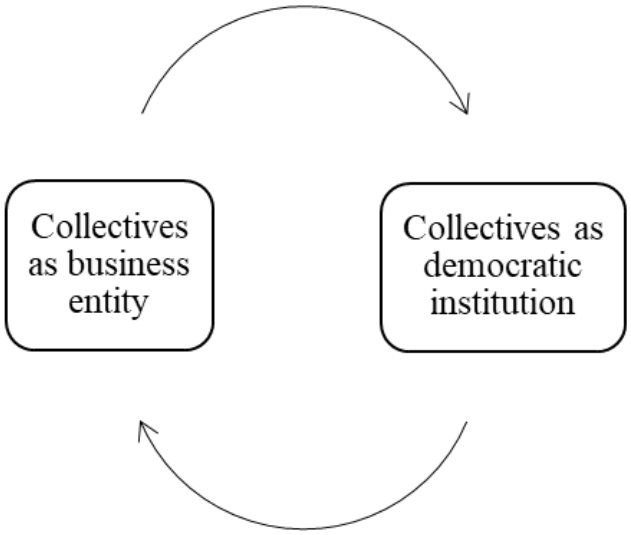
- Selection of POPI depending on their skills of supporting collective organization and of developing community driven enterprises.
- Exploring the strength of POPI and accordingly defining their role in promotion of FPOs.
- Development of an assessment mechanism or scale to map the skills of POPI and grade them accordingly
- Extending the duration of POPI's engagement with FPOs for their financial viability
- Regular review of performance of POPI
- Supporting POPI in capacity building issues relevant for the success of FPOs.

b. Support based on stage in lifecycle of FPOs

The second enabler for bettering the performance of FPOs is to establish mechanisms to support

the FPOs in a customised way focusing on the stage of the enterprise and nature of the business. In the initial stage of formation, FPOs requires support on developing a sound business idea. A successful enterprise attracts members to the FPO which in turn again improve the business performance. However, a bad performance in an enterprise leads to member disengagement and aggravate the dysfunctionality of the enterprise. It is important to note that a better business performance is unlikely to occur in absence of an effective governance mechanism. Hence, one of the central arguments we would like to make is that the better governance leads to better business performance which in turn feeds into better governance. So, in order to ensure that FPOs are functioning to the fullest of their potential, the enablers have to focus on both governance and business. Thus, looking at the stage of development of the FPO, the POPI and NABARD should extend support either on governance or business. Merely focusing on governance issues when business is doing well or working on market linkage when governance is poor won't help the FPOs to perform.

Figure 3:



The second issue is that of nature of the business that the FPO is engaged in. From input business to marketing of value-added products, FPOs are engaged in variety of businesses. The support required for each of these sets of businesses are different. Hence a uniform nature of support won't be effective. For example, an FPO engaged in the input business would require substantial support in terms meeting regulatory requirements related to licensing. On the other

hand, FPOs engaged in producing and marketing of value-added products would require support in terms quality control measures and project management. Such supports are to be arranged at the local level – preferably at the district level so to ensure timeliness and accessibility.

Summary of Recommendations

- Support should be designed based on the stage of the FPO. Newly formed FPOs would require different support compared to a matured FPO.
- Good governance practices and better business performance reinforce each other. Hence, it is important to emphasis on these two dimensions on a periodic basis.
- Nature of the business that the FPO is engaged in would also require different set of support. Hence, a uniform approach towards assisting FPOs would not be effective.

2 Management of FPOs

Handling FPOs through a managerial approach is another critical step in improving the performance of these enterprises. During the study, we have repeatedly discovered that lack of business skills like market analysis, lack of manpower, absence of business acumen are the typical challenges that FPOs face on the managerial front. Some of the action points to address these issues are listed below

a. Leadership

FPOs require to be managed across two dimensions-First, it is a membership based collective hence the interest of members is central to the entity. Second, it is a business entity that would require to ensure its profitability in order to survive independently. Thus, the leadership of FPOs would require to demonstrate the sensibility to ensure member's involvement by putting their interest at the forefront of the business. At the same time, the leadership should be aggressive enough to fight the competition in the market. It is extremely challenging to find leadership style among managers demonstrating the dual value of welfare for the members and killer instinct to fight the competition. As a result, finding the right candidate to lead an FPO is challenge. Thus, the recruitment of people to play the leader in FPO is crucial to the performance of FPOs. In most the cases, recruitment of the CEO is done by POPI and invariably the new recruit would be inducted according to the culture of the POPI. Thus, if the POPI has strong orientation towards collective organizations, the CEO would likely to be more committed to member's interest even at the cost of the business performance.

Summary of Recommendations

- We would recommend that the recruitment of leadership or spotting of talent should managed through liaising with management schools. Such schools can help in identify candidates with right kind of values required to handle the FPOs.
- The talent can also be managed through proper training. Our second recommendation is that special training programmes focusing on managerial values and skills should be organised for the leadership team of FPOs.
- The remunerations offered by FPOs are not attractive enough for professional to work in remote areas. One way of handling this issue is to hire the same professional to lead more than one FPO. In that case, the remuneration offered would be attractive enough for a manager to commit his or her time to the FPO. However, this would require skilled coordination among the FPOs to avoid any conflict of interest.

b. Business Plan Development

Lack of business acumen among FPOs is a common problem witnessed across all the FPOs we interacted. Many of these collectives are doing business for the first time -hence they lack both the experience and expertise. One of the standard ways of developing business acumen across the FPOs is to develop their ability to design a robust business plan. As we were working with FPOs to develop their business plan, we learnt that the FPOs have very little predictive ability related to market movements. As a result, they found it extremely challenging to gather market intelligence and manage their operations to meet the demand.

Summary of Recommendations

- We recommend that all the FPOs must be mandatorily trained developing business plan and implementing the same.
- Along with business plan, the FPOs are required to develop their skills in project management techniques. Such skill building would help them to plan their operations better and gain credibility among members and other stakeholders.

c. Governance Structure

Although criticality of an effective governance structure is well known, not much has been achieved for FPOs. Many of the members in the governance of FPOs are not aware of their role in enhancing the performance. The meetings of Governing body are often irregular and information flow is restricted.

Summary of Recommendations

- We recommend that FPOS should be trained regularly on issues related to Governance and member participation. FPOs should also be assessed on their performance related to issues of governance. This assessment should be fed into their support provisions and training need assessment.

d. Federated Structure

FPOs are working independently without interacting with each other. However, in order to scale up their operation, it is important to develop interdependency among the FPOs. One of the ways to build alliance and interdependency among the FPOs is through creation of a federated structure. A close study of successful milk cooperative would tell us that their federated structure is instrumental in their success. It helped in easy flow of knowledge and technology across the member cooperatives.

Summary of Recommendations

- Management schools should play a role in recruitment of leadership at FPOs
- Special training focusing on welfare values and business skills should be conducted for leadership of FPOs
- More than one FPOs should be handled by each professional acting as CEO
- Training in Business plan and project management skills must be made mandatory for the functionaries of FPOs.
- Training on Governance issues should be conducted regularly for FPOs and FPOs performance on governance issues should be tracked
- To enhance the accessibility to new technology and services, and to scale-up, FPOs should be organised under a federated structure similar to the milk cooperatives.

3 Formation of Resource Support Centre

There should be a Resource Support Centre (RSC) at zonal level. The RSC's role would be to offer variety of services to the FPOs depending upon their stage of maturity and nature of the business. The RSC should engage in facilitation, dissemination, and capacity building. Example of facilitation would include functions like helping FPOs in meeting the requirement of compliances including documentations. Dissemination would include sharing information related to various welfare schemes of government and other agencies and educate farmers on modern technology used in agriculture. The RSC should also design interventions for capacity

building of FPOs. They should make assessment for the need of capacity building and update the NABARD on the same.

1.3.5 Policy recommendations for scaling-up and sustainability of FPOs

The success of FPOs is determined by members, environment, and process. The process is crucial and complex. If the policy provisions can make the process effective, than members can adapt to the environment to make the FPOs an effective venture. The process of a venture like FPO formation constitute of multiple stages like –

1. Opportunity identification and idea ownership
2. Stakeholder Mobilization
3. Opportunity Exploitation
4. Stakeholder Refection

Apart from these stages, the success of the collective venture is also influenced by role played by network – both formal and tailor-made. Below, we highlight some of the policy recommendations at each stage of the FPO formation.

1. Opportunity identification and idea ownership

The business opportunities for FPOs are generally decided by looking at the agricultural practices of the regions. For example- in any district, if many of the farmers are engaged in cotton cultivation, the FPO would be formed with the purpose of processing and marketing cotton. This is often done without developing an understanding of the value chain and feasibility of the business idea. A formal analysis backed by local knowledge is critical before starting any social venture. Also, a universal approach in promotion of all kinds of commodity is unlikely to be effective. There is a need to have more customised support services for different FPOs depending on the commodity that they are dealing with. There is a need to experiment with different model of support to FPOs focusing on their strength and weaknesses. Current model of support does not differentiate among FPOs based on the commodity they are dealing with. This creates challenges because different commodities have varied ways of connecting to market. The support required for value addition would also vary depending on the commodity. Hence, there is a need to develop customised model of supporting the FPOs depending upon the commodity they are dealing with.

There is a need to develop a sense of ownership among the members. Currently the members view FPOs is an entity run by NGOs and not as their own collective. The ownership can be developed if the functionaries of the FPOs start actively sharing information. Formal meetings

should be designed and conducted on a regular basis to engage the members. These collectives need to be trained on community engagement strategies. POPIs may have expertise in working with communities, but such expertise does not get transferred automatically to FPOs. Hence, there is need to devise focused capacity building modules FPOs to engage with communities.

2. Stakeholder Mobilization – role of tailor-made network

Once the idea of an FPO gets formalized, there is a need for the entity to gather human, physical, financial, and technological resources. The role of network is crucial for the FPOs to succeed. While there exist, a formal network designed by the government, the need is to develop a tailor-made network. The tailor-made network would be formed based on the nature of resource dependency that the FPO would have. Followings are some of the recommendations to develop tailor made network for the FPOs

- **Develop a network alliance with management schools in the region.** The management schools are equipped to impart capacity building training to the FPOs on business skills. The business strategy and business plan development can be also assisted by these schools.
- Actively promote the idea of **internship in FPOs among students at management school**. The internship is an effective way of encouraging young minds to engage with collectives. The students equipped with management skills would be a great asset to FPOs in developing managerial skills if guided well. Some events like business plan competitions, debate etc can be organised among students on topics related to FPOs in order to make the idea mainstream.
- Setting up **of incubators for supporting FPOs**. There should incubators set up by capable institutions dedicated to supporting FPOs only. These incubators would offer handholding support the FPOs for the longer duration of time and established alliances with other players in the value chain so that the FPOs can sustain in the long run. Detailed terms of reference (ToR) for the incubators may be prepared to understand their specific role in promotion of FPOs

3. Opportunity Exploitation

Once the business idea takes step and ownership of the idea gets formalized, the next step is to formalize the collective. FPOs are to be registered to make it legally valid. The members should be properly trained on the process of registration and paperwork required for the same. This would help them to understand the efforts required for creating a legal identity for the

collective. An important dimension of opportunity exploitation is the **development of contract with resource providers**.

One of the recommendations that we have is – FPOs should explore to develop contract with many of the CSR foundations in the country. CSR foundations and CSR policies of corporate should leverage the power of collectives by working with FPOs. Many of the CSR foundations are working on community development and their association with FPOs would strengthen their cause and vice versa. The allied services offered by dairy cooperatives to its members can be replicated by FPOs through their association with CSR initiatives.

Another opportunity for contract formation can be with the agribusiness houses. Many of the FPOs offer services related to input supply. There is an assured market for the agribusiness organizations working on agricultural input through their contract with FPOs. The same is applicable for the output. Many of the food and beverage companies can have tie-up with FPOs to ensure a regular supply for their raw materials.

4. Stakeholder reflection

This is a crucial stage for making the FPOs self-dependent. There is a need for FPOs to engage in designing performance indicators for their own performance. At regular interval, the data on performance should be collected, the quality of output and its impact on community should be evaluated and feedback to stakeholders should be shared through a designed strategy. The constituents of tailor-made network like FPO incubators and management schools should be involved in designing the process of stakeholder reflection. This would help FPOs in strategy formulation and improving accountability.

CHAPTER 2 CRITICAL SUCCESS FACTORS FOR FPOS AND LEARNINGS FROM DAIRY COOPERATIVES AND MPCS

2.1 Introduction

Around 56% of India's workforce depends on agriculture as a primary livelihood. However, owing to certain agrarian problems such as land fragmentation, rise in cost of cultivation, issues in accessibility of resources and the like, farming has become unviable for small and marginal farmers. Other crises in the primary sector of the country include technology adoption, agriculture extension, poor business skills, inadequate capital, weak market linkage and inefficient infrastructure. Aggregation of primary producers to form agricultural collectives is a method experimented and succeeded in many countries across the world to reduce these risks in agriculture sector. NABARD data claims of around 6000 FPOs existing across the country, facilitated by various organizations like NABARD, SFAC, agriculture departments of various state governments etc (Farmer Producers' Organizations (FPOs): Status, Issues & Suggested Policy Reforms, 2020). These FPOs include small and marginal farmers to 70-80% of the total members. Most of such collectives are in their initial stages of growth and majority of them battle to formulate feasible as well as sustainable business strategies and earn sufficient revenues and returns to their members. Considering the situation, it is inevitable to boost their performance by scrutinizing key factors that effect FPO performance. For this we worked out on such critical success factors that affect organizational performance in three levels: organization in general, FPOs in specific and Milk cooperatives through systematic literature review.

2.2 Critical Success Factors

Although the concept of Critical Success Factors (CSF) was first introduced in 1960, it gained popularity only when Anthony, Dearden and Vancil (1972), applied it for designing management control system which not only measured profitability, but also pin pointed major factors influencing profitability. The management information system of a company will be depended on these factors and consequently becomes the benchmarks for performance evaluation and control systems. As per Hofer and Schendel (1978), management decisions on these variables can impact the position of an organization in a specific industry and are primarily a result of interaction between economic and technological factors. By definition, critical success factors are those few major variables or characteristics those if managed appropriately can ensure successful and competitive organizational performance. CSF method

is usually applied in firm specific, industry specific and socio-political and economic environment analysis. CSF framework also aids in strategy planning and development for an organization (Leidecker & Bruno, 1984). CSF methodology is used to identify and isolate the few factors that steer managerial or organizational success (Boynton & Zmud, 1984). These factors not only assist the planning process but also intensify management communication processes and assist establishing a robust information system. Consequently, these areas needs to get significant consideration from the management and the current performance status of each of those factors must be carefully recorded (Bullen & Rockart, 1981). According to Rockart, J. F. (1979), there are six procedures for identifying the executive information needs that is information on a few critical factors that a company must do well for competitive performance. Those techniques are: the *by-product* technique, the *null* approach, the *key indicator* system, and the *total study* process. We worked out majorly in lines of key indicator system that ply on selecting indicators relating to the business health and growth, specifically focusing on FPOs.

The review scrutinized three sets of research works: the ones that studied social and financial performance factors of organizations, the papers studied such factors for FPOs and the performance factors both social and economic for milk collectives or cooperatives. Our aim was to specifically searching for key variables that influenced performance of these three business entities. Comprehensive research based on management and business requirements of farmer collectives are scares. It is skewed towards either social functioning or economic, mutually exclusive rather than holistic studies focused on multiple aspects of organizational performance. Most often, FPOs are not seen as pure business entities so the parameters used for performance evaluation include less business components. We tried developing a framework that includes social, economic, managerial, technological and environmental aspects that helps these entities thrive.

2.3 Methodology

The study reviewed 34 articles after through literature search, funneling procedure and applying inclusion and exclusion criteria.

2.3.1 Research Objectives

This SLR study has given four objectives (ROs)

RO1: Through research profiling of papers selected, understand the descriptive statistics and study characteristics

RO2: To study social, financial and environmental perspectives of firm performance for

organizations, FPOs/ farmer collectives and Milk collectives

RO3: To explicit key indicators and variables used to estimate financial/ economic, social/ environmental performance of organizations, FPOs and milk collectives

RO4: To develop a comprehensive conceptual framework on critical success factors for FPOs as a business entity

2.3.2 Search Protocol

This study utilized five data bases Google scholar, Emerald, Springer, Wiley publications and J store. Funneling procedure for filtering the works included Financial, Social factors + Performance of Organizations, Financial, Social factors + Performance of farmer collectives/ FPO, Financial, Social factors+ Performance of milk collectives/ Cooperatives. Stringent inclusion and exclusion criteria were set for shortlisting the studies relevant to the research objectives.

2.3.2.1 Inclusion criteria

1. Include research works/ articles
2. Include publications between 1980-2020
3. Include articles in English
4. Include studies in SJR rated journals (peer reviewed)

2.3.2.2 Exclusion Criteria

1. Exclude all works irrelevant to the domain
2. Exclude works published in journals with no Schimago journal ranking
3. Exclude works published in Q4 journals
4. Exclude duplicate studies
5. Exclude dissertation thesis
6. Exclude works that does not provide explicit factors in search
7. Exclude the works those does not meet the quality criteria

2.3.2.3 Quality Check criteria

1. Q1: Quantitative study score: +2, for qualitative +1, not defined 0
2. Q2: Explicit variables +2, variables given scattered +!, no variables defined 0
3. Q3: Justifiable study outcome +2, partly justifiable +1, if not justifiable 0
4. Q4: Study published in Q1 journal: +3, Q2 journal +2, Q3 journal +1

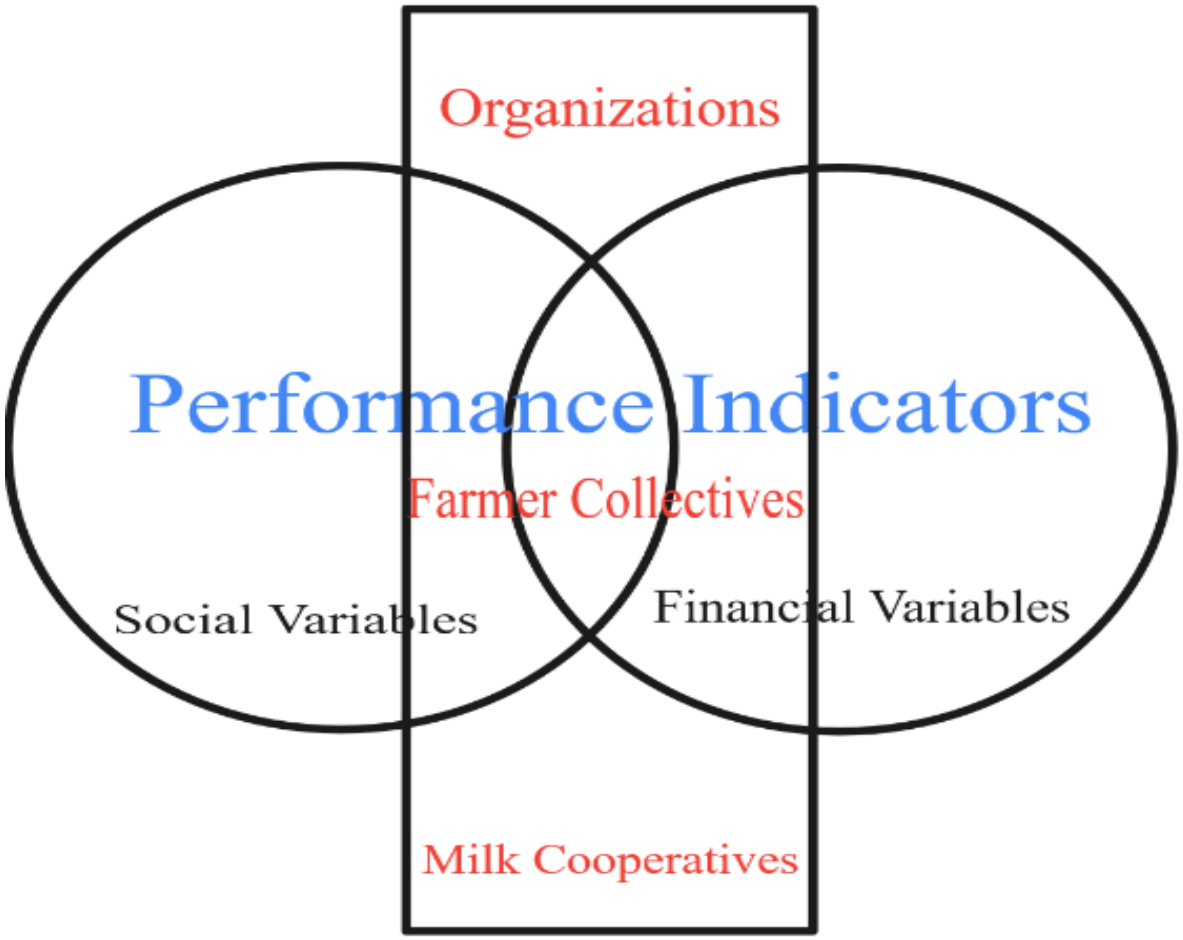


Figure 1 Search Protocol

Figure 1 shows a pictorial representation of search criteria used for funneling the studies. Some studies only defined social factors, some had only financial factors. On the other hand, a few studies considered both these factors. Social factors also included environmental. Financial factors were interchangeably used for economic factors.

2.3.3 Research Profiling

The study has considered works published in the past 40 years even though only a few works were considered from 1980s. Majority of the works considered were published between 2001-2020, around 75% of the total works reviewed. Figure 2 figure below shows the details.

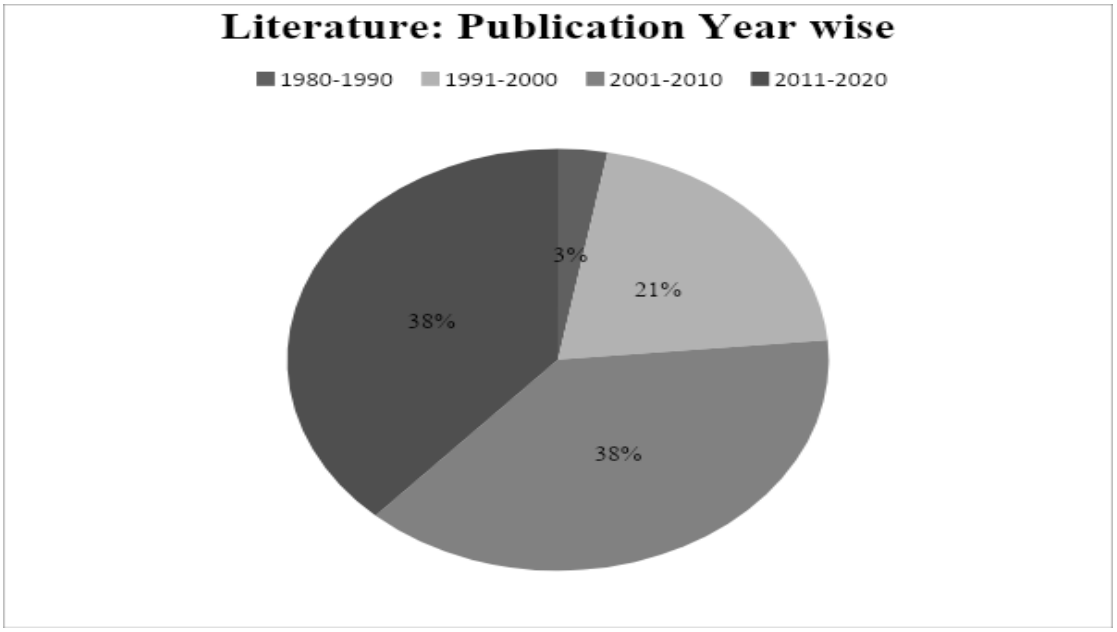


Figure 2: Literature: Publication year wise

SJR rating was checked to ensure the quality of journals in which the selected articles are published. A 51% of the works had a SJR score between 1.1 -10.9. Figure 3 shows the SJR score wise literature division.

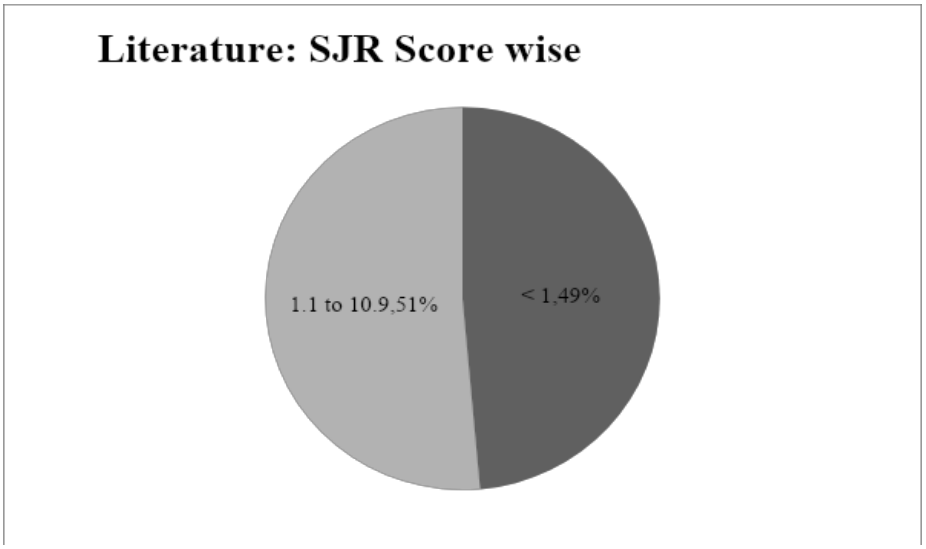


Figure 3 Literature: SJR scores

A significant percentage of journals fell below SJR core 1 mainly because of the articles in FPO domain are mostly published in such journals but are strongly relevant for this study. Majority of the studies on the performance of organizations were published in high SJR rated articles. Quartiles ranks were also looked at. Majority of the journals were in Q1 quartile followed by Q3 and Q2.

The 34 selected articles chosen for the literature review are from different journals. Figure 4

gives an insight on this.

Majority of the study were based in Africa and India followed by the US. Figure 5 shows an overall picture on the literature based on its area of study. Particularly, the studies on FPOs are majorly from African region, those on cooperatives dominated from Indian context.

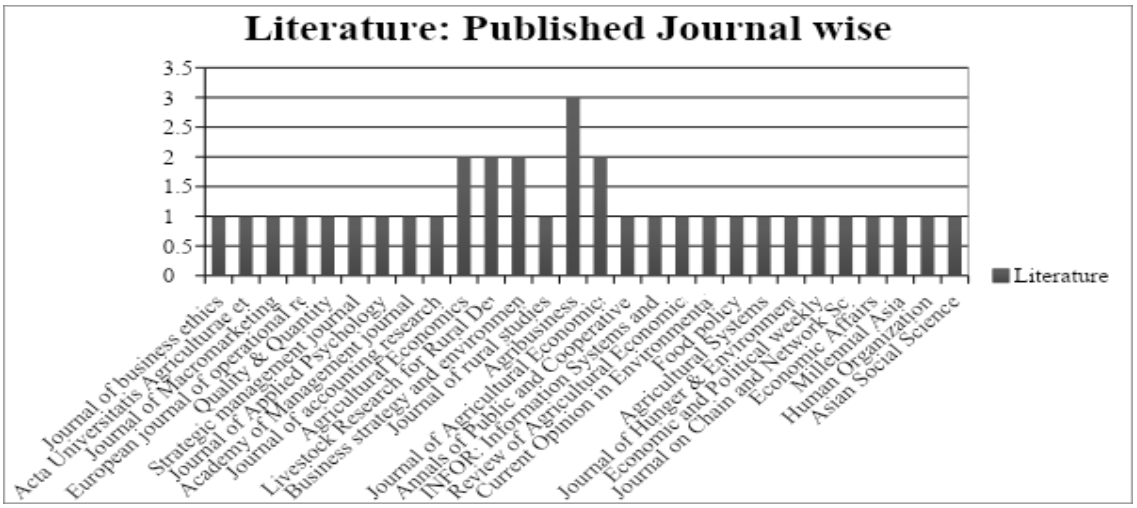


Figure 4 Literature: Journal name wise

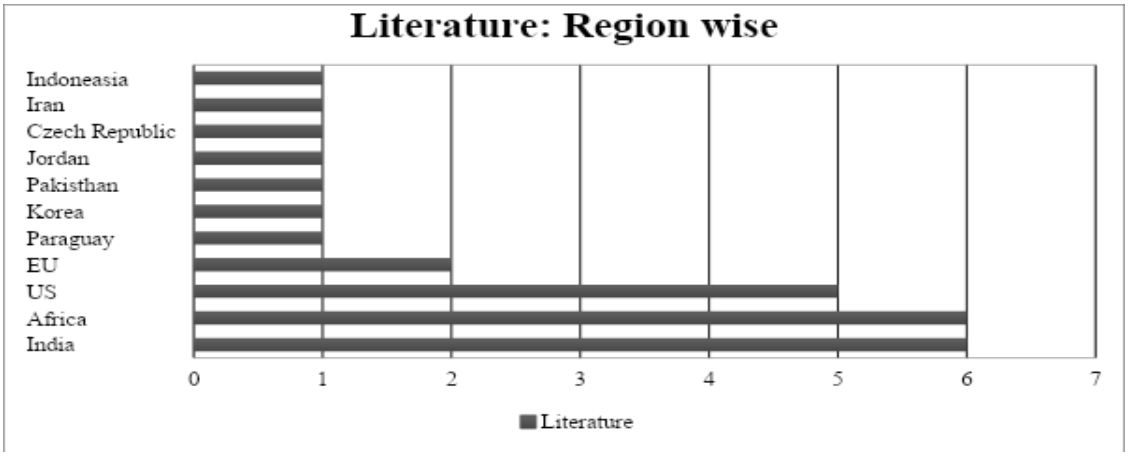


Figure 5 Literature: Study Region wise

Majority of the studies reviewed are empirical and uses different methods for its data analysis. Regression analysis topped the list of most used method for analyzing the data followed by literature reviews, econometric models and data envelopment analysis. Figure 6 shows the distribution of methods of analysis used in the reviewed articles.

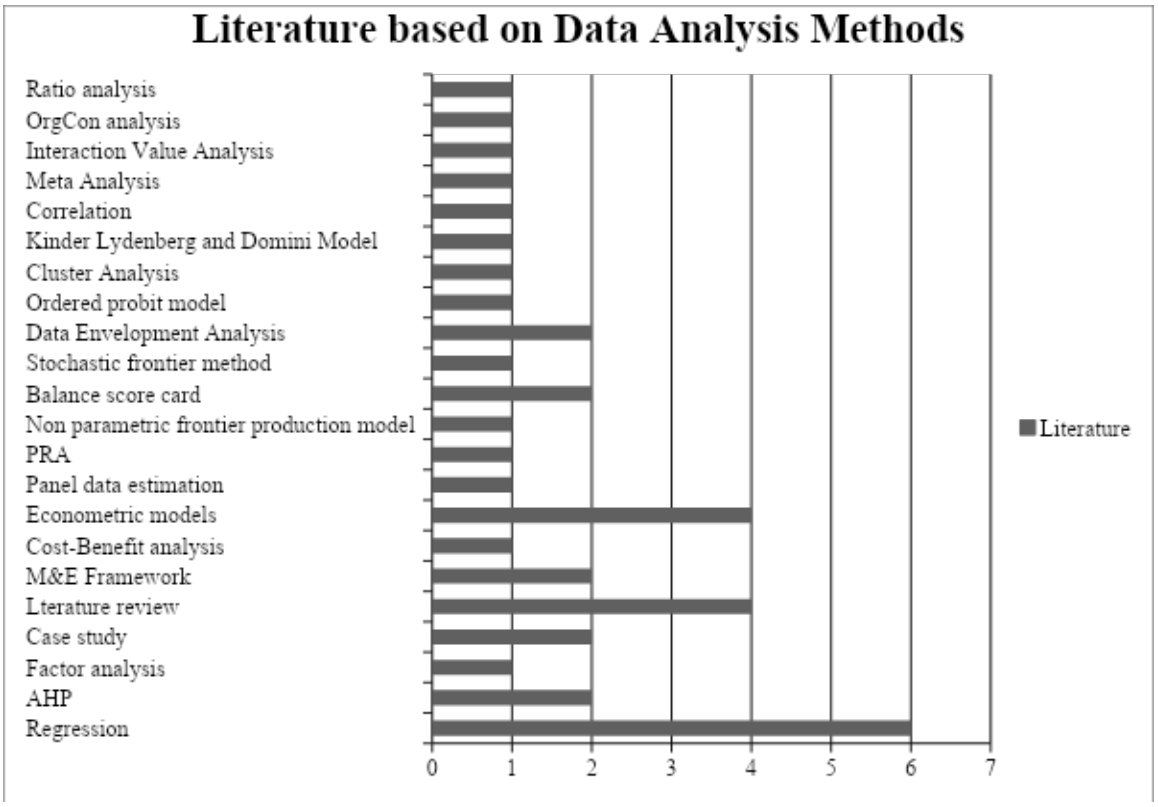


Figure 6 Literature: Data Analysis Methods used

2.4 Detailed Review of Literature

2.4.1 Literature on the performance of organizations

Consistent performance evaluation of an organization can ascertain growth and its scope in multiple domains. Different organizations follow their own methods in evaluating performance. This work intent to identify parameters used in performance evaluation of organizations specifically in Social (and environmental) and Financial (or economic) levels, through literature reviews of published studies. These indicators can help in understanding a general image of performance evaluation and can be used as one of the bases for formulating performance evaluation framework for farmer producer organizations.

Figge, Frank, Tobias Hahn, Stefan Schaltegger, and Marcus Wagner (2002) attempted

application of sustainability criteria in management strategies of organizations. The study is based out of empirical studies on correlations between the three factors: economic, non-financial and environmental. The Balance Scorecard Methodology is used for the purpose of incorporate environment and social management with general management of an organization in a hierarchal way. BSC has four parameters: financial perspective, customer perspective, Internal Process Perspective, Learning and Growth Perspective. There are three major steps in formulating SBC for a business firm portrayed in the study: Selection of business unit, Identification of environmental and social factors, determining the relevance of these factors for the chosen business in terms of financial perspective, consumer perspective, internal process perspective, learning and growth perspective and non-market perspective. Lagging indicators considered here are Financial Perspective: ***Revenue growth, Productivity growth, Asset utilization***, Customer perspective: ***Market share, Customer acquisition, Customer retention, Customer satisfaction, Customer profitability***, Process perspective: *Innovation, Operation process, Post sale service process,* Learning and growth perspective: ***Employee retention, Employee productivity, Employee satisfaction, Non-market perspective: Freedom of action, Legitimacy, Legality.*** Leading factors are defined using indicators such as Customer perspective: ***Product attributes, customer relationship, image and reputation***, Process perspective: ***Cost indicator, quality indicator, time indicator***, Learning and growth perspective: ***Employee potential, technical infrastructure, climate for action.*** Decision regarding these factors comes with practically doing SBC in a firm with the aim of translating its existing strategies to integrate social and environmental aspects to its general management. Return on Asset ratio and degree of compliance with the Contingency Theory Model were used to provide evidence on financial performance of an organization in the study conducted by Nasrallah, Walid F., and Suleiman J. Qawasmeh (2009). This model is known as Interaction Value Analysis. Twenty three companies were selected from the stock exchange trade domain in Jordan for investigation. Structured questionnaire was used to interview the company CEOs. OrgCon study parameters were considered as the base followed by OrgCon analysis. The IVA parameters considered in the study includes ***diversity***: explained as the number of skill types necessary for the functioning of the organization, ***differentiation***: skill level spread in a particular domain, ***interdependence***: activity coordination degree, ***load***: available resources, ***urgency***: failure due to delay, ***climate***: shared values within the company.

Van Beurden, Pieter, and Tobias Gössling (2008) did a review of literature that showed the relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP) using meta-analysis. The study categorized such factors into Moderating

and Control factors. CSP, which was used as a measurable indicator of CSR, has been described in three categories: Extent of social concern, Corporate action-Philanthropic and Corporate reputation rating. CFP was considered to be the measure of economic performance has two categories: based on market based measures, based on accounting based measured. Confounding variables were defined as those variables influencing relationship between the CSP and CFP. The influence could be positive, negative or nil. A monster matrix with details such as author, title, publication year and design was used to summarize and validate the results. The results included a mixture of confounding factors. Majority of the studies (68%) found a positive relation between CSR and CFP, while other set of studies came up with results that went negative (6%). Some studies indicated no relationship between CSR and CFP. Firm size, Industry, R&D and Risk are the most important factors identified in this study as per the frequency of its appearance in different literature considered.

Kocmanová, A., & Dočekalová, M. (2013) in their study aimed at formulating Key Performance Indicators for assessing economic performance of bug companies in lieu with Economic-Social- Corporate Governance (ESG) indicators. ESG indicators have three sets of indicators: ***Environment*** (climate change, environmental management systems and compliance, efficiency), ***Social*** (workplace H&S, human capital management, stakeholder management) and ***Corporate governance*** (board effectiveness, corporate conduct). Integrated reporting through which a connection between ESG and financial factors and their effects on the performance of a company in long term is tried to be brought into spotlight under this particular study. Seventy nine large companies from the manufacturing sector (more than 750 employees) were selected for the empirical study with a well-designed questionnaire. The empirical study focused on Performance indicators used y the companies, the relationship between classical approach, EVA and Balance Scorecard. A comprehensive economic performance matrix was proposed keenly observing and interpreting data obtained. The matrix has seven major indicators and five additional indicators along with key performance indicators against each of the core indicators. The explanatory variables used for the profit indicator are EBIT Earnings before Interest and Taxes, EBITDA Earnings before Interest, Taxes, Depreciation and Amortization, Earnings after Taxes /Net profit, Earnings Per Share. For Cash flow, additional indicators are Free Cash Flow, Operating Cash Flow. In addition to these the study considered revenue, turnover and profit margins as well. For the core indicator 'economic performance', the additional indicators employed are return on equity, return on investment, return on asset, return on sales, return on capital employed. Value added, Production, Investment, Market share Market share, Other Expenditure on R&D were also considered.

Polonsky, M. J., & Grau, S. L. (2008) paper proposed a multidimensional case for determining social values of charity organizations. Charity is a major domain where a good deal of money is being invested by organizations. It has become an integral factor in the domains of brand management, Customer relationship management, donor interest maintenance. The question of business orientation in charity has always been in the spotlight of debates. Henceforth, assessment of social values of such organizations is required for multiple reasonsThe four dimensions of social value considered here are operational efficiency, Achievement of organizational objectives, Return on investment, Social outcomes. Operational Efficiency: this is a basic measure of how good the organization is managed. The ratio of fundraising expenses to the allocated total budget can be used as a measure. Achievement of organizational objectives: Different organizations have different objectives and methods of achieving it. A star rating system was proposed here by the author to get a quantifiable result. 5 star implicates 100% achievement, 4 starts 75% whereas 3 star indicates 50% and so on. Returns on Investment: this is assigning dollar value to the activities. Input and output is assigned with dollar terms and the outcome is evaluated accordingly. Social Outcomes: This includes complex and diverse issues. Hence, a star rating mechanism is suggested. This case of rating using multiple dimensions will help in tracking the organizational performance, limits charity organizations from only working on easiest reachable charity domains. Alongside, donor can make thoughtful decisions depending on the evaluation results.

Building on the well-entrenched stakeholder theory based balanced score card method, Hubbard, G. (2009) developed a more inclusive, deep nevertheless simple performance measures for organizations. A Sustainable Balanced Score Card (SBSC) is developed by incorporating precisely designed social and environmental performance factors so as to widen the stakeholder base. Organizational Sustainable Performance Index (OSPI) which is a single indicator was developed further, to easily disseminate the organizational performance details to non-expert but interested stakeholders. The paper clearly mentions the developments in organizational performance measuring system that progressed from Stakeholder theory (stakeholder returns as firm performance indicator) to the Balanced Scorecard (financial, market, short term efficiency, long term learning and development factors) to the Triple Bottom Line (Economic, Social and Environment parameters) to Sustainable development based stakeholder theory. Prevailing articulation on sustainability performance newscasting is merely for the sake of developing a sustainability report which is a part of the annual report or a separate one that reflects positives in favorable light, descriptive outcomes without specific benchmarking, oriented towards the needs of management and involved in testing concepts

than practicing in pragmatic conditions. There are four major conceptual framework for assessment of sustainable organizational performance: Macroeconomic System Model, The Quality Approach, The Triple Bottom Line, Expanding the Balanced Score Card. System Model: The model considers every organization as a uniquely defined system with specific decisions in deciding the boundaries of that particular system and the degree of sustainability they opt for. Henceforth, every organization for the virtue of its uniqueness cannot be evaluated using generalized measures. Therefore a hierarchal, five level system model was conceptualized so as to integrate the facets of macroeconomic economic sustainable development to the particulars that an organizations should measure. Five ;levels are: dimensions of the systems, desired level of sustainability, processes to be undertaken to achieve these levels, practices in lines with processes, tools and matrices used for measuring success. Triple Bottom Line: Considers a wider stakeholder perspective and its impact on future generations. Recommends organizations to give importance to social and environmental factors equally as they give on financial performance. Sustainable Balanced Score Card: Ads on social and environment factors to the balanced score card. The paper proposed this model considering four general areas in social and economic domains. Economic: material use/unit, energy use/ unit, water use/unit, emissions. Social: employees, suppliers, community, philanthropy. Pursued 80/20 parity principle that advises in keeping small number of indicators to get biggest impact. Specific outcomes are to be defined by the organizations and a minimum of two is required. The report generated will be a critical one rather than a descriptive. The conclusions will illustrate the organizational performance and the trend reporting helps managers and stakeholders to reach informed decisions. SBSC has 30 measures in 6 areas including different stakeholders. Social performance include Employee satisfaction, Social performance of suppliers, Community relationships, Philanthropic investments/revenue/ profit, Industry-specific factor (community open days). Environment performance considers Key material use/unit, Energy use/unit Water use/unit, Emissions, effluent & waste/unit or as a % of total resources used, Industry-specific factor. Financial performance counts Sales growth, Return on sales, Return on assets, Return on equity, Gearing. Market performance include Market share, No. new customers, Product returns rate, Defects, Order cycle time. Internal processing performance sees Productivity, Labour turnover, Av. Unit production, Working capital/ sales, Capacity utilization. Learning and development performance has New products, New markets entered, R&D spend/ sale, Training spend/ sale, Invest/ total assets. Organizational Sustainable Performance Index Score is calculated for calculating a single weighted overall number for sustainability index. All the six components were averaged to get a single rating and finally the

overall organizational sustainable performance index was formulated. This model can help in developing industry wide score cards if utilized through area wise aggregation of performance measures.

Pakistan based study on Key Performance Indicators for firm performance in manufacturing sector was studied by Bhatti et al (2014). Data was collected by survey method followed by its analysis using AHP, Correlation method and Simple regression. AHP results revealed the most important KPIs considered by different sectors like customer satisfaction, delivery reliability and social performance. As indicated by regression analysis, the major factors positively associated to organizational performance were cost, financial, quality, time, flexibility, delivery reliability, safety, customer satisfaction, employee satisfaction, and social performance.

In a study using literature review by Van Beurden, P., & Gössling, T. (2008), CSR is seen to be answering the unpredictability and ambiguity that business organizations face owing to present day socioeconomic-technological global scenario. Recent developments in the government regulations, customer perspectives and investor preferences have prompted a paradigm shift from a narrower financial performance to a wider social orientation among corporates in both actions and outcomes. Authors quoted the argument of Freeman (1994) that to promote legitimacy in business, social performance is required. The study identified most influential factors that come to play in persuading this social-financial performance relationship. Majority of the literature considered for the review showed CSP and CSF are positively correlated. ***Firm size*** found to be a major confounding factor that influenced CSP and influence the relationship between CSP and CFP. ***Industry*** was also pointed out a confounding factor, provided that the operational and stakeholder context brought in varied results. Other variables appeared in different studies were buffering bridging, environmental, satisfaction of users, sales, quality management, investment, differentiation, ownership concentration, emission.

McWilliams, A., & Siegel, D. (2000) tried to understand the tradeoffs between CSR contribution and financial performance with a particular focus on the association between CSR and R&D. R&D investment is referred as technical capital of the firm that would improvements the knowledge base, leading to innovation in product and process. The study used variables such as introduced ***R&D investment intensity*** and ***Advertisement Intensity*** in the econometric model used for assessing the link between CSR and financial performance along with other variables like CSP, Size, Risk, Industry. Results revealed strong correlation between social performance and R&D. this could be because organizations with CSR investments understood

to have adopted differentiation measures and complimentary investments in R&D. Authors acknowledged the difficulty to filter out the effect of CSR on financial performance without controlling R&D factor.

Research on Korean based companies by Kim, K.Y et al. (2016), analyzed the application of Multi Source Feedback (MSF), a form of performance appraisal, by organizations and consequent financial performance by proposing a moderating mediation framework. MSF is a feedback system taking from different stakeholders in a company regarding their work and performance which is considered to be more valid than a single source assessment. The framework proposed in the study has ability and opportunity as mediating variables and motivation as moderator. Public data available from Korean informational services, survey from selected organizations were the primary data set used for analysis. Variables used for the analysis are ***MSF and its purpose*** (administration: promotion and compensation, development), ***MSF ability*** (job capability, Learning capability), ***Knowledge sharing*** (employee's active development of new working knowledge, spread of new knowledge and work among employees, employee's free suggestion of opinion to managers, employee engagement in team problem solving), ***Firm financial performance*** (workforce productivity). Control variables were organizational size, employee education tenure, and employee education level. It was evident from the results that the application of MSF by the organizations had improved their employee capability. Moreover, the dual use of MSF for both development and administration improved knowledge sharing among employees but not on employee ability. Employee ability and knowledge sharing found to have a positive relation to workforce productivity. Most importantly, the study found that the use of MSF had positive and direct along with indirect effects on workforce productivity. Further, the workforce productivity of organizations using MSF was found to be predictable for next four years.

Paper by Dess, G. G., & Davis, P. S. (1984) analyzed the viability of organizational categorizing to strategic groups based on intended strategies which were pinpointed using three generic strategies by Porter: ***differentiation, overall low cost and focus***. Data was collected and analyzed in three methods: field study, panel technique and perception of CEOs. Results identified that the most important descriptive statistics used for differentiation includes new product development, brand identification, marketing technique innovation, advertising, controlled distribution channels, procurement, and market forecast. For low cost parameter, the descriptive statistics those were most important were operating efficiency, competitive pricing, procurement of raw materials, innovation in manufacturing process, product quality control, experienced personal, refining existing products, reputation within industry, and market

forecast. In the last category of focus, the most important variable found were customer service, brand identification, special geographical markets, specialty product manufacturing, new product development, and products in high price market segment.

Using data from customer, business unit and firm levels, Ittner, C. D., & Larcker, D. F. (1998) studied the importance of customer satisfaction; a non-financial indicator in financial improvements of an organization. In customer level study, a customer satisfaction index was created with three assessments: ***overall satisfaction, extent of shortfall in expectation, comparison between ideal and received service***. The linear regression method assessed the relationship of variables like ***Customer Satisfaction Index, age of the business unit and size*** with ***customer retention, revenue level and revenue changes***. Results indicated customer satisfaction had significant positive impact on accounting performance but often nonlinear. Sometimes at high satisfaction level, a reduced performance was also noticed. Customer satisfaction was found to be a method to predict stock market at a lower cost and if revealed publicly, an excess stock market return would be notified in ten days indicating that it has ability to predict future cash-flows.

2.4.2 Literature on performance of Farmer collectives/ FPOs

Farmer Producer Organizations are local institutions aimed at catalyzing and renewing the rural agri economy, enhancing collective bargaining power of primary producers, employment generation, enhancing farm income through value addition, skill development and self-employment(Talukdar, 2015). Their role is quintessential in endorsing agribusiness among small farmers. They are established on the basis of collective action and supposed to have a commercial orientation (Wouterse, 2016)along with social aspects.

Indian agriculture faces different challenges such as highly fragmented landholding, limited access of public resources and markets by small/marginal farmers, the limited production quantities, lack of credit facility and modernized farm technologies, frequent crop failures, underdeveloped supply chain, exploitative intermediaries. These challenges call for a policy change and awakening of agribusiness opportunities. Realizing the opportunities in collective production and marketing with utmost use of economies of scale, NABARD has been supporting Farmer Producer Organizations across India to boost farm income and sustainability. Performance evaluation of these collective institutions is necessary for further policy development and handholding. This literature review intents in investigating and segregating social and economic parameters affecting the performance of FPOs

Collectives for agricultural produce are considered one of the keystones of many of the

economies as such initiatives could increase production, profitability and satiate needs of the members from the economic standpoint and improves professionalism of the involved individuals from a social viewpoint. There are multiple factors that affect the performance of such cooperatives. Karami.E et al, 2005, in his study based on agriculture cooperatives in Iran, developed a theoretical model 'Determinants of APC Performance' from extensive literature review, observation and experience to predict the APC performance, and tested this framework using survey method and an evaluation research method. The framework consisted of five major parameters such as ***social, natural, government support, trust and cooperative structure***. His research findings revealed little power to social factors such as solidarity and attitude towards director's ability in predicting the outcome of agriculture collectives whereas; natural parameter- annual rainfall has significant influence on the performance of APC. Government support like loan, grant and farm machineries had a considerable 24% of influence on variance of APC performance while the degree of trust is negligible. The cooperative structure parameter had two dimensions: cooperative characteristics and managerial characteristics. Karami's study revealed that the cooperative characters such as number of members, area under cultivation, age of the cooperative, number of machineries etc had significant impact on APC performance while managerial factors such as knowledge about cooperatives, education and job satisfaction had merge impact. Sustainable agriculture was set to be the major outcome from the effective performance of an APC. Analysis showed no correlation between performance of APC and use of chemical inputs, nonetheless, it showed that higher the APC performance, greater the degree of adoption of ***sustainable agricultural practices*** but farmers didn't consider that the APC had any impact in their ***usage of bio inputs***, that is, the APC performance has no straightforward impact on adoption practices.

Paper titled 'Performance measurement of the agricultural marketing cooperatives: the gap between theory and practice' reviews both theoretical empirical literature concerning Agricultural Marketing Cooperative's (AMC) performance. The work considers literature review of studies conducted on performance of AM cooperation in economic and efficiency perspectives taking into consideration of all the three types of cooperatives: Vertically integrated (single objective, decision making power exclusively with members), Independent (single objective, managers have ultimate decision making authority), Coalition (multi objective, has cooperation with other non-member stakeholders). As suggested by Beteman et al, vertically integrated entities' key objective is to increase member returns. Farmers join collectives because of challenges in market access and they would be keen about gross price than net price. Performance indicators of such institutions are Price paid to members and

Returns on patronage after one year. This type of institutions predicts highest returns to members but zero profit value of cooperation. Traditional cooperatives could be cited as an example. A second set of literature sees cooperatives as Independent firms and compares cooperatives with IOFs and are managed by entrepreneurs. Profit maximization is considered to be the major objective, consequently, performance indicator is profit and to achieve it the members are paid the lowest possible price. Literature concerning financial performance of agriculture Marketing Cooperatives majorly Economic Ratios like ***Equity ratio, Liquidity ratio, Profitability ratio, Productivity, growth***. Papers relating to Efficiency Method show forth parameters such as Production function, Allocative efficiency, Cost efficiency, X-efficiency and Scale efficiency, Technical efficiency, Economic efficiency, Cost efficiency. Members' objectives that are associated with paid prices, cooperative's long term perspectives, and profitability at lowest price are not assessed in empirical literature. Authors conclude that there are only a few equals between empirical and theoretical works. When theoretical works provides a distinction between economic performance of cooperatives and IOFs, the empirical studies do not reflect it as they view cooperatives as IOFs despite of conspicuous difference in stakeholders. Most of these studies are incomplete and for a comprehensive performance study of cooperative, rather than only going with certain financial ratios, there is a need to consider patronage, marketing and processing factors. That is, according to the author, a holistic study must consider dual objectives.

Barton et al in their case study research in the US formulated certain financial parameters in accordance with the size of cooperatives to evaluate performance of local agricultural cooperatives. Also, it analyzed feasibility of merging cooperatives selected by a regional cooperative. Economic growth of members is the prime objective of cooperatives through providing the benefits of patronage like obtaining inputs and produce marketing, better transaction prices, and sharing of profits. Major financial ratios are considered and correlated with the farms size in which ***efficiency and liquidity ratios*** found to be the most important determinants. Lower productivity ratios indicated more sales per fixed cost. Considering the ***cost factor***, it reduces in small firms and increases in the large ones. Current ratios found to be higher in smaller firms. The study proves that average firm performance is affected by ***firm size***, as a result, size economies becomes critical in performance evaluation. Product mixes also seems to have an impact on financial performance, highlighted in another work of the same author. However, the economies of size fail to explain extensive disparity in economic performance. Author suggests including factors such as crop production environment and management variables such as executive management and director leadership while assessing

the performance of agriculture cooperative firms.

Amous Gyau and others (2014) in their review paper with experiences placed in Cameroon's experience in agro-forestry collectives designed a conceptual framework for collective action for agro forestry products. The study tries to utilize '***collective action***' as a tool to enhance market linkage for small holder farmers. Action performed by cooperative, members sharing market knowledge, trade together and there by expand their market reach is defined as collective action in the study context. Collective action can be initiated through formal and informal groups and has been utilized effectively among the vulnerable groups of Africa. **Group marketing** is considered to be a tool to build trust among the stakeholders- farmers, traders and other players. Collective action strategies also includes activities like ***training of producer groups*** in areas like value chain and business development, group dynamics, conflict resolution, financial management etc. Rules establishment, fortifying member commitment, monitoring and compliance remains the major challenges in collective action. The sustainability of collectives are bound by social motivation, hence it is inevitable that the groups are formed by the farmers themselves than by any facilitating agency. ***Social benefits*** together with economic gains are crucial in deterring the success of collectives. ***Social factors*** are another influence as they are the binding force among people. Support from cooperatives, general regulations for farmer organizations and affect of free rider are considered ***enabling environment*** as per the model and this effects parameters like ***cooperation, group characteristics and norms***. A collective action that includes ***group training, marketing*** with certain group ***dynamics*** is formulated particularly by the influence of marketing issues or market failure. This action in the presences of above mentioned factors and other market interventions such as ***Market Information System*** and ***credit schemes*** and ***post harvest technologies*** lead to ***improved participation***, consequently ***improved livelihoods***. To summarize, these are the major factors, according to the authors that are crucial in the performance of a collective.

Barham and Chitemi for analyzing the impact of collective action in group marketing among farmer members of collectives in Tanzania formulated a conceptual framework determining enabling and constraining factors of group marketing. The researched proceeded as an evaluation of a government programme in Tanzania using a pre-test and post-test research framework. The conceptual framework regards ***Infrastructure*** as the largest parameter that encircles other parameters influencing group marketing and includes sub parameters like

physical access to markets, agro-ecological parameters and farming systems. Explanatory variables for infrastructure are ***distance to markets, road conditions, staple food crops, land, and reliable water source***. The ***farmer groups' composition parameters*** and ***groups assets*** are categorized under the ***social factors***. Explanatory variables in social factors include ***wealth ranking, education, partners, membership in other groups, intra-group trust, group maturity, size, activity level, gender in leadership***. The ***partner agency***, which is usually the external support agency, provides additional strength to the social factors through interventions for the betterment of human capital like ***business skills, business acumen and related trainings*** and sometimes ***market linkage assistance***. In other words, a group gets access to market chain actors through its own collective marketing and through PA. Consequent outcome as per the authors' model would be improved marketing conditions and livelihoods. The results showed that in infrastructure, the water supply system followed by commodity diversification are top influencers. In social factors, activity level takes the lead, groups with more than 2 activities had better market connect. Majority of the previously existing collectives found to have better markets than newly established ones, placing group maturity factor at great importance. When the leadership has higher male female ratio, the group had better opportunities and male headed groups had better access than female headed groups in the market, showing a variance with gender dynamics. Groups in which there were people with schooling years above seven had better market connect as their education might have made them able to absorb training insights better than others. Partner agency's success percent depended on the group's education, resource share, commodity handled and cohesion. However, PAs' intervention s tried to create a culture of entrepreneurship and thereby can be seen as an instance of social change through educational model. The study also proved that the group size had no effect on collective sales.

Frank Place and other (2004) conducted a study for measuring performance of small farmer groups involved in plant nursery activities in Kenya. The performance indicators were set using extensive survey method and tested using regression model and applied to form two group case studies. Three major variables used were ***Location and Structural Variables, Functional variables: Level of formality, characteristics of leader, Group characteristics: heterogeneity, wealth levels***. Explanatory variables for location and structural variables were geographical location, groups' age, diary group, catchment group, purpose of the group and its changes. Functional variables had explanatory variables such as group size, age of the chairperson, male chair, and level of formality. Group characteristics were explained using age diversity of groups, member proportion with secondary education, degree of democratic decision making,

and value of livestock. The study results point out that ***geographical location*** apparently did not have significant effect on performance. Group purpose and its change found to be the most crucial determinant as groups worked on ***new directions*** performed better. Catchment groups on account of receiving better trainings and extension support had comparatively good performance. Also, ***social capital*** linking in the through trust is critical than reforming a collective with various skill blend. Also, the performance seemed to have links with ***group size***, where groups with a medium size performed better than small or large groups. However, the age of a group had no connections to its performance, as per the empirical evidence. The study concluded that the structural factors were having less impact on performance of nursery groups in Kenya.

A research study by Fisher and Qaim (2014) to understand the determinants of intensity of participation mentions a random utility concept that assumes farmers join mainly if the expected cost profit would rise beyond expected cost, however, she highlights that this cost-benefit assessment could not point to the ***intensity of member participation***. Fischer and Qaim developed a conceptual framework and regression models to analyze the factors influence the members to participate in regular meetings and the degree of collective selling among the farmer members of a banana farmers' collective in Kenya. This degree of participation of an individual member may depend on marginal cost and benefit which are influenced by ***Group characteristics*** which is influenced by ***agencies like NGOs***, and ***Conduct of fellow members*** and ***Socio-economic characteristics*** (Gender, education, assets, trust, and attitudes) and all these major criteria had multiple explanatory variables. In the case on the members' decision on *attending meetings regularly*, the regression results show that ***farm size*** is insignificant. ***Area under cultivation of the specialized crop*** which the farmer group is related to has relevance in the member's decision as the ones with more land cultivating banana found to have moderate and high participation frequency. Nonetheless, for very small and very large farm size do not show this relation as in their case cost-benefit ratio for attending meetings goes negative, for the first step. ***Area under TC banana as well as banana yield, diversity in crop cultivation*** by members and ***membership in social groups*** influence participation intensity positively. ***Distance*** has a negative impact and ***group size*** a positive one as the larger groups found to have higher meeting frequencies. When it comes to *participation intensity in group marketing*, results indicate that, farmer with very small and very large farms are less likely to participate in collective marketing via groups. While adoption of TC technique remains irrelevant for marketing participation, crop yield impacts positively and reciprocity

motives could be a reason. Larger the groups size, higher the market day participation as it would be benefited more from economies of scale. Regarding the quantity of produce sold through the group, area of banana cultivation and its yield improves the quantity of produce sold through the group, whereas, area under tissue culture decreased the quantity, this could have a relation to the time required for newly established farms to have enough yield to be marketed. Crop diversification of farms had negative outcome on banana quantity and marketing, could be owing to the time intensity required for banana transportation and marketing. More educated farmers found to have sold more quantities to the group. Group characteristics like group size and delay in payments reduced the quantity of banana sold through groups.

Analyzing the data from EU's Collective Farming and Marketing Initiative (COFAMI) and National status quo report, Knickel et al (2008), identified limiting and enabling factors influencing collective marketing, spread across under ***social, cultural, political, economic, and technical*** aspects. Major forms of collective marketing mentioned in the study are of five types. Collectives focusing on High Quality Produce have ***product differentiation*** built right at the production level through quality specifications with the intention to create a premium price base or customer satisfaction. Label has a vital role in ensuring and displaying product reputation. In collectives concentrating on Regional Food Products, product differentiation is achieved using specificity of local resources, producer's traditional knowledge and practices along with other distinctive factors of the produce (like taste, smell). One of the challenges of this model is that market expansion is difficult and they generally do not intend for it. There are collectives in EU, discussed in the study with an aim to build Direct Producer - Consumer relationships and are interested in creating direct market deals with the customers and there by forming a good producer- customer relationship. This is mostly to dodge middlemen. Authentic and transparent business transactions are more important in this typology another type of collectives were to create non- food market. This type of marketing provided either Agri environmental and Rural Services or Non-food products (Industrial / Fuel crops), thereby creating a new supply chain model. However lack of market information/ knowledge and weak networks are challenges in this sector. As the last type of collectives, the paper discussed certain Initiatives to create regional brands. Farmers and small regional processors together created a label/ brand for a range of product baskets that is used by customers in that particular region. In economic and market factors, Knickel says, ***existence of a large retailer*** with less interest in product quality, limited the collective action in northern, central and eastern Europe where

as in the southern states, small and medium processors held a strong base in food supply chain. Regarding the ***technical*** front, lack of proper channels of ***telecommunication and rural infrastructure*** along with less access to ***advisory services*** are limiting factors in Central and Eastern Europe; technological modernizations in these regions are hindered by ***lower levels of education***, consequently ***limited managerial ideas***. Nonetheless, the situations are exactly the opposite in North-Western Europe, where technological advancements played an enabling role for collectivization of farm marketing initiatives. Compliance with food safety standards appeared to be an enabling factor where as high logistic costs limited collective marketing. Considering socio- cultural and geographical factors, ***Relocalization of food*** is a positive trend. Presence of ***part-time farmers*** are considered to have both enabling and limiting impacts. Distance to market areas and farming conditions can limit collective marketing in remote areas. ***Social capital, entrepreneurial skills, acceptability*** can be both limiting and enabling in nature. In ***political and institutional setting***, support from the government and awareness on new agricultural patterns are crucial. Explicitly, the limiting factors are: lack of decentralization, research and development, cost for organizing a large group, logistic costs, lack of group feeling, and compliance with food safety systems. Enabling factors are: policy support for differentiating market, having small scale processors, locational proximity to urban centers, new food networks, public procurement and the like.

Dey.K (2018) used framework of stakeholder potential of cooperation and life cycle along with literature review, formulated a diagnosing mechanism for FPOs to determining its performance and viability. Three FPCs were selected for case study each from the states of Maharashtra, MP and West Bengal for the case study. Ten factors were introduced to measure performance viabilities of the FPOs under study. ***Incorporation of producer company*** (Year of registration and registration number and typology and location, Type: A/B/C/D), Business domain (Procurement/production/distribution/marketing/others), ***Promoting agency*** (Profit/non-profit entity), Orientation (Inward: Intercommunity trade and input supplies; Outward: Marketing and business expansion), ***Stakeholder*** (Core/secondary and their competence in business or market linkage and capabilities in collective action and cooperation), ***Life cycle stage and identifiable features*** (P1: Incentive structure and design; P2: Growth and glory; P3: Problem with attributes) were some of them. Also, non-financial determinants related to ***Governance and management*** (Professional management, frequency of board meeting, proportion of small, medium and large farmers in the board of directors, Leadership style, Participatory decision-making, Family influence in decision-making Internal mobilisation of funds/earnings surplus

management, Group composition and degree of heterogeneity Member commitment to business and expansion) were also used. ***External agencies and stakeholder support*** (Linkage with consortium of FPCs/state union/ membership in higher level organization; External support during set-up; Type of strategy stakeholder adopted to enhance cooperation), ***Community and agroecological factors*** (Type of community/religion/caste Frequency of communal riot/strike/ natural calamities and other perils; Rainfall variation and other agroclimatic conditions) were also considered. ***Financial determinant*** such as Earnings/net income, patronage bonus, equity dividend drawn from balance sheet and income statement were also included in the list of determinants. It was found from the study that leadership, management, formalization, competitive advantage, support from external agency are critical factors for success of FPCs in the initial stages. Membership can be increased with patronage bonus and share benefits given to the members. Both operational and financial determinants are equally important in determining the viability of FPCs.

An African based study by Wouterse, F., & Francesconi investigated the Organizational Health of Smallholder Producer Organizations (SPOs), which are local village institutions with a commercial orientation based on collective action for promoting agribusiness. Determinants of organizational health of SPOs in African context are scrutinized using data collected from 253 SPOs in three countries: Ethiopia, Senegal and Malawi, among which Only ten percentage of the selected SPOs were established with offensive goals: Value addition, collective marketing and remaining majority were focusing on defensive goals: adding value to the member's farm assets. Observable indicators used in the latent variable model are***: Collective Marketing***, ***Growth in investment in last 12 months, Average annual growth in membership, Side selling of outputs/ side buying of inputs***. Organizational descriptive statistics used are: ***Annual profits (US$), Start-up characteristics and incentives*** (Age of organisation, Size at creation, Established by members, Established with external support, Established with offensive purpose) ***Design rules*** (Open membership, Sanctions, Shares sold to members) ***President Characteristics*** **(**Formal education, Age, Female) ***Member characteristics at establishment*** (Herfindahl index age, Herfindahl index gender, Herfindahl index landholdings, Number of ethnicities), ***Market environment*** (Distance to capital, Distance to regional centre, Distance to nearest market place). Results of data analysed found that healthier SPOs were smaller during establishment. Organizations with offensive objective right from the establishment are observed to be less healthy. Similarly, less healthy SPOs included those obtained external support during establishment. Organization which gives importance to patronage by selling their shares to members is healthier. Organizational health and value chain engagement of

SPOs doesn't found to have any relation. SPOs lead by females found to have fewer profits as they focus more on social performance. Herfindhal index creates a positive impact. More proportion of young members creates a negative impact on profit. Age and experience factors remained debatable.

Paper by Talukdar, U., &Vatta, K. (2015) scrutinized economic and financial performance of capital that is invested in Farm Produce Promotion Society (FAPRO) in Punjab's Hosiarpur district meant for promoting value addition of turmeric and honey. Analysis is drawn from primary data collection using pre tested questionnaires from 40 selected turmeric farmers and as well as secondary data sourced from published journals regarding FAPRO. Notions of cost, returns, operational efficiency, and financial efficiency are considered. ***Current ratio*** is used for assessing financial wellbeing of ***Profit to total assets*** and ***Profit to total sale*** is used for assessing the profit of the capital invested. Benefit –cost analysis was also executed. After analysis, it was found that the total operational cost has a sheer increase in 4 years indicating a growth of activities over the period. Administrative costs and Cost of production as well has seen a shot up.

FAPRO total revenue has correspondingly shown an increasing trend. An increase to was shown in the case of revenue from sales. The B-C (Benefit-Cost) revealed that is FAPRO was in loss due to more investment and less activities during the initial two years and slowly reached the break even in 2008-09 and subsequently in the next years followed, it started generating profits out its activities. Current ratio trends indicates that FAPRO's capacity to meet the current needs were not thorough; henceforth a focus on assets accretion is required. Profit to sale ratio found to be increasing whereas profit to asset ratio remained negative. The utilization of processing capacity of the plants was below 5% which is very less. This is because of different reasons like lack of power supply, difficulties in continuous supply of raw materials through the year, lack of storage capacity, primary processing inefficiencies and the like.

Jain, R., &Narnaware, P. (2018) through systematic literature review, tried to assimilate regional contexts that affect the Farmer companies to be sustainable and effectual. Typologies of factors given in the paper were collective characteristics, local context, externality, level of collective, relationship with higher collective and performance of collective and have inter and intra connections. Economic performance of an FC has different measurements such as earnings, yield, technology adoption, market action and innovation. Pesticide residue, deforestation, fertilizer type and use come under the parameters for measuring environmental performance of the company.

A Paraguay based case study (Bray, D. B. (1991)) explained political, economic, sociological and technological sustainability of small farmer organizations. ***Politics of sustainability*** deals with problems arising in *leadership, participation, autonomy, and links with the state.* Participation is considered to be a training ground for leadership. The definition of participation is confined to a small active group and sustainable participation is developing this minority group. To establish member participation and leadership, skilled leadership is required. The economic sustainability emphasize on creating local development models which would the farmer collectives to contribute more to the national economy and policy. Regarding the ***Sociology of sustainability***, connection of farmer collectives *with NGOs* is considered to bring reformation to the former. Nonetheless, the author highlights *'transference problem'* that arise in the relationship between these two entities by the way assets, authority and training. Strata existing with the farmer collectives inhibit benefits reaching from poorest of the poor though upper poor communities would avail it. ***Technological sustainability*** highlights that in order to suit the requirements of small farmers; ***technology*** must be developed by making them a part of it and ensuring their participation.

A study carried out in Yogyakarta Province of Indonesia (Raya, A. B. (2014)) used survey and regression models in determining factors influencing collective performance with an emphasis on collective marketing. The study used multiple variables and conducted a survey of 120 farmer members from two different farmer groups. ***Socio- economic factors*** like age, education, cultivable land, agriculture revenue and expenditure, other sources of income from remittance or off-farm activities, application of fertilizers with no subsidies and plastic were as well taken in to consideration. To assess performance of collective action, members' attitude towards sales of chilli, approach to find seeds and labour sources were the set variables. Both collectives facilitated seed supply. Collective marketing performance was measured using percentage of sales of chilli through the collective. The two groups considered had different set of mechanisms to work towards the goal of collective marketing. The second group was more stringent in norms of marketing contribution, meeting regulation and quality of produce compared to the first group. Findings from the study suggest that ***age and seed distribution*** has a positive impact on marketing collectively. Older members were more likely to contribute higher quantities to the collective than young fellow members. Members who purchased seeds from the collective tend to sell the produce through collective as it eliminated agreements with traders in one case. In the second case, there was an absence of trader that motivated the farmers

to purchase input and sell back the produce through collective. Farmers having an off farm income was not totally depended on the collective as they got better chances of keeping relationships and negotiating with traders compared to full time farmers. Early ***adoption of innovations*** such as using plastic cover to economize labour and produce more yields is shown to had happened with the off farm farmers who had higher education and opportunities outside the village. However, it was capital intense and they had to get in to debt agreement with traders to buy plastic covers, consequently selling the produce to them and thereby having a lesser contribution to collective marketing. A delay in ***payment after marketing*** collectively hindered the farmer participation in this as they would need immediate cash to pay for the hired labour during harvesting. Approaching a trader, as before, reduced the contribution of produce for collective marketing. ***Remittance*** helped some farmers to manage this situation to an extent. In the second case farmers were made focus on both quantity of collective selling as well as quality while the group.

2.4.3 Literature on Milk cooperatives

Hirsch and Hattman (2014), analyzed persistence of profitability in the US dairy firms using quantitative techniques such as Auto regression models and Arellano-Bond dynamic panel estimation method. Findings suggest that ***competitive norm*** is the major influencer on firm profit. Firms that earned long term profit fell mostly below the competitive norm. However, most of the firms found to have lower short term profitability compared to other firms in the food processing industry. Companies having profits higher than the norm were a small fraction. Large and young firms ***(Age and size)*** with less risk factor have higher profits. Characters such as hike in number and development of firms (***Market share***), improved R&D spending in the sector that could announce industrial competitiveness, found to reduce profitability persistence. That is, Market share was found to have a negative impact on long term persistence of profit whereas a positive touch on short term persistence. Higher ***proportion of retail sectors*** also reduces persistence of profit. ***Diversification*** of firm activity impact positively only short term persistence and actually lowers the long term persistence. The results indicated in order to reduce risk; the firm should not only expand in scale but also balance assets and liabilities.

In their study conducted in Andrapradesh, India, Roy, S., & Rangnekar, D. V. (2007) used Farmer Participatory Need-Based Extension for improving the of village level dairy cooperatives. The method involves five steps: situational analysis, data collection, intervention design, implementation of intervention, monitoring and evaluation, and situation reanalysis. Situational analysis in the selected five milk unions gave a myriad of needs suggested by milk

producers such as fodder varieties used on regional basis, quality perceptions, understanding on artificial insemination and the like. Constraints in the local dairy sector were analyzed in the situational stud, subsequently; intervention strategies were drafted and implemented. To address fodder related problems of the farmers, technological assistance including hybrid varieties were provided to the milk unions to set up commercial fodder farms. Feed material access issue was dealt by the union through affordable supply of rice polish to the farmers. Infertility cases in buffaloes were treated in selected milk sheds along with artificial insemination by collaborating with a private breeding service provider. A two-year long study to understand the economic perspective of dairy farmers also initiated. Five DCS were selected for developing as model dairy societies with lady resource persons to conduct extension services o farmers. Convergence with other schemes like watershed development, fodder development schemes etc were also started.

Birthal et.al (2017), conducted a research on efficiency, inclusiveness and financing of dairy value chain in India through survey and Multinomial treatment effects model. Four parameters were observed to understand the efficiency and inclusiveness of value chain. Firstly, the ***Herd size and structure of milk production*** indicated commercialization of milk in high proportion (not subsistence), as heard size is positively correlated to volume of sales. ***Choice of value chain*** proves that majority of the dairy farmers depend on formal sources of value chain such as cooperatives or private dairies; one third of this went to the cooperatives. Looking in to the ***participation of small farmers in the value chain***, scale of production was not influencing the farmers' association with formal value chain. Nonetheless, fraction of small farmers linked to formal sources are less but were not totally excluded from it; many of them are associated with cooperatives. Farmers with large landholding were strongly associated to the formal sources whereas; the landless were more in to the informal players. Consequently showing that resource rich farmers joined with formal sources or formal sources wanted that group. ***Milk yield and profit realization*** represented production efficiency and economic efficiency of the value chains respectively. Members of MNCs and cooperatives had higher yield. Farmers sold milk to MNCs had slightly higher profits. Selling to houses found to be more profitable than sourcing to small traders, in the case of informal sources of value chain.

A study on European Dairy sector (Soboh, R. A. M. E., Oude Lansink, A., & van Dijk, G. (2011)) tried to assess the difference between cooperatives and investor owned firm in terms of financial parameters gives an insight to determinants defining economic or financial performance of cooperatives. Authors used financial indicators like ***Profitability*** (Profit before tax, Material cost to total asset), ***Capital financing*** (Total debt to total asset, Long term debt to

equity, Current assets to current debit), ***Operational efficiency*** (Turnover to fixed assets, turnover to inventories), ***Growth of nonissued equity***. The results differentiate a cooperative from IOF by stating that firms with higher profit were to be IOF whereas those likely to be cooperatives were found to have higher material cost that included its money given to the farmer and other processing costs. Higher total debt ratio associated with a dairy firm indicated that it do not belong to the genre of cooperatives. Analyzing operational efficiency, the study suggest that if a firm has high turnover to fixed asset, most probably that would be cooperative and those with high level of turnover to inventory ratio might not be a cooperative. Similarly if the firm has a higher growth rate, it could not be in cooperative domain. The non-financial parameter- Size, indicate that cooperatives were usually with a larger size than IOFs and the size did influence the financial indicators. Results clearly indicate that cooperatives in Europe were heterogeneous and were completely distinguishable from IOFs.

Msaddak, M et al (2017), worked on the performance of dairy value chain in Tunisia by understanding the influence of different types of institutional mechanism on it. Authors used Participatory Rural Appraisal method to place social networks through cooperative action as the center of sustainability of dairy value chain. The conceptual framework developed in this study argues that the cooperative structure sets up in a way to curb challenges in dairy value chain such as opportunistic behavior, uncertainty, low produce quality and the like. The cooperative structure involves dairy characteristics, group characteristics, external environment, institutional arrangement and network of institutions. Also, the performance of a cooperative could be enhanced by trust, sharing goods and knowledge, coordination and so on. Results suggest that many issues faced by the farmers in dairy value chain are due to asymmetry of information which found to have a direct influence on milk quality. This was proved to be effectually countered by regular meetings by cooperative members. Extension works from the state was another issue and the study revealed that in the absence of state extension, cooperatives could play a crucial role. Interrelationships with different actors in the value chain appeared to be more organized in a cooperative set up, providing a stage for better collective action. Moreover, the study found that cooperative instilled more trust and stronger social networks.

Using non-parametric frontier production model, Ferrier & Porter (1991), conducted a study to relatively assess the production efficiency of cooperatives and non- cooperatives in dairy processing industry. ***Cost efficiency, technical efficiency, scale and allocative efficiency*** measures were used to study selected cooperative and non-cooperative firms. Estimations showed higher inefficiency levels for both the firms in the US dairy processing. Cost efficiency

of a non-cooperative firm outraced that of cooperatives. Technical inefficiency became the domain of major inefficiency in both the cases, consequently increasing the cost. For both the firms, allocate efficiency was high compared to other factors and non-cooperatives had higher levels of this factor compared to the cooperatives. Firms falling under non-cooperatives had better efficiency in utilizing economies of scale.

Technical and allocative efficiency were used to measure the cost efficiency of cooperatives and privately owned dairy plants in India in a work by Singh et.al (2001). The results proved that the cost efficiency of cooperative plants were slightly higher than private plants. Nevertheless, there has been no improvement in this measure after liberalization of Indian economy and there would be more advantages to the private firms in near future than for the cooperatives.

To find farmers' degree of satisfaction on the American milk marketing cooperatives' performance, Misra, S. K., Carley, D. H., & Fletcher, S. M. (1993) used certain variables/ coefficients in ordered probit model. The degree of satisfaction varied significantly with ***regional location*** as the cooperatives in different places functioned differently. Farmers' response on ***price variable*** indicates that those who were satisfied with the price provided are more likely to have satisfied with overall cooperative performance. Not receiving prices or being dropped by a milk handler had negative impacts on the farmers. As the ***term of affiliation*** to the cooperative increased, the satisfaction level also went up among the farmer members. Farmers involved in the study seemingly acknowledged the capability of cooperatives to bring down ***operating and marketing costs***. To summarize, farmers had varied opinion on satisfaction with cooperative performance. Price received and operation cost, however, remained the most crucial variables.

Performance of Indian dairy cooperative in marketing was assessed by Ali, A. I., & Bhargava, M. (1998) using data envelopment analysis. Cooperatives found to have high ***Production index (***Age of the cooperative, Processing capacity, Number of cities served***).*** However, this was in no way associated with marketing efficiency. ***Marketing index*** (Number of varieties of milk marketed, Quantity of milk sold. Demand for milk. Market share, Stability in market share, Average price per liter charged, Average price per liter paid) in the study had distinguished cooperatives that sell liquid milk and those involved in the sales of value added products. These indices reflect the way cooperatives balancing the requirements of customers and producers and the impact of technology adoption in milk processing. Study also revealed that value added products of milk such as milk powder production happened in the areas where plant capacity was higher than demand.

2.5 Discussion and Conceptual Framework

The review gathered valuable insights on multiple variables used to determine the performance of organizations, FPOs and milk cooperatives. Table given below shows the variables sorted out from existing studies.

Sr. No.	**Study**	**Variables**
1	Figge, Frank, Tobias Hahn, Stefan Schaltegger, and Marcus Wagner. "The sustainability balanced scorecard–linking sustainability management to business strategy." Business strategy and the Environment 11, no. 5 (2002): 269-284	1. Financial Perspective: *Revenue growth, Productivity growth, Asset utilization* 2. Customer perspective: *Market share, Customer acquisition, Customer retention, Customer satisfaction, Customer profitability* 3. Process perspective: *Innovation, Operation process, Post sale service process* 4. Learning and growth perspective: *Employee retention, Employee productivity, Employee satisfaction, Non-market perspective: Freedom of action, Legitimacy, Legality.*
2	Nasrallah, Walid F., and Suleiman J. Qawasmeh. "Comparing multi-dimensional contingency fit to financial performance of organizations." European journal of operational research 194, no. 3 (2009): 911-921	Return on Asset Ratio

3	Van Beurden, Pieter, and Tobias Gössling. "The worth of values–a literature review on the relation between corporate social and financial performance." Journal of business ethics 82, no. 2 (2008): 407	1. Firm size 2. Industry 3. Buffering bridging 4. Environmental 5. Satisfaction of users 6. Sales 7. Quality management 8. Investment 9. Differentiation 10. Ownership concentration 11. Emission
4	Kocmanová, A., & Dočekalová, M. (2013). Construction of the economic indicators of performance in relation to environmental, social and corporate governance (ESG) factors. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 60(4), 195-206.	1. Profit indicator: Earnings before Interest and Taxes, Earnings before Interest, Taxes, Depreciation and Amortization, Earnings after Taxes /Net profit, Earnings Per Share. 2. Cash flow: Free Cash Flow, Operating Cash Flow 3. Return on equity 4. Return on investment 5. Return on asset 6. Return on sales 7. Return on capital employed 8. Value added 9. Production 10. Investment 11. Market share 12. Expenditure on R&D
5	Polonsky, M. J., & Grau, S. L. (2008). Evaluating the social value of charitable organizations: A conceptual foundation. Journal of Macromarketing, 28(2), 130-140	1. Operational efficiency 2. Achievement of organizational objectives 3. Return on investment 4. Social outcomes

6	Hubbard, G. (2009). Measuring organizational performance: beyond the triple bottom line. Business strategy and the environment, 18(3), 177-191.	1. Social performance [Community relationships, Philanthropic investments/revenue/ profit, Industry-specific factor (community open days)] 2. Environment performance [Key material use/unit, Energy use/unit Water use/unit, Emissions, effluent & waste/unit or as a % of total resources used, Industry-specific factor] 3. Financial performance [sales growth, Return on sales, Return on assets, Return on equity] 4. Market performance [Market share, No. new customers, Product returns rate, Defects, Order cycle time] 5. Internal processing performance [Productivity, Labour turnover, Av. Unit production, Working capital/ sales, Capacity utilization.] 6. Learning and development performance [New products, New markets entered, R&D spend/ sale, Training spend/ sale, Invest/ total assets]

7	Bhatti, M. I., Awan, H. M., & Razaq, Z. (2014). The key performance indicators (KPIs) and their impact on overall organizational performance. Quality & Quantity, 48(6), 3127-3143.	1. Cost 2. Financial 3. Quality 4. Time 5. Flexibility 6. delivery reliability 7. safety 8. customer satisfaction 9. employee satisfaction 10. social performance
8	McWilliams, A., & Siegel, D. (2000). Corporate social responsibility and financial performance: correlation or misspecification?. Strategic management journal, 21(5), 603-609.	1. R&D investment 2. Advertisement Intensity
9	Kim, K. Y., Atwater, L., Patel, P. C., & Smither, J. W. (2016). Multisource feedback, human capital, and the financial performance of organizations. *Journal of Applied Psychology*, *101*(11), 1569.	1. MSF and its purpose (administration: promotion and compensation, development) 2. MSF ability (job capability, Learning capability) 3. Knowledge sharing (employee's active development of new working knowledge, spread of new knowledge and work among employees, employee's free suggestion of opinion to managers, employee engagement in team problem solving) 4. Firm financial performance (workforce productivity

10	Dess, G. G., & Davis, P. S. (1984). Porter's (1980) generic strategies as determinants of strategic group membership and organizational performance. *Academy of Management journal*, *27*(3), 467-488.	1. Differentiation (new product development, brand identification, marketing technique innovation, advertising, controlled distribution channels, procurement, and market forecast) 2. Low cost (operating efficiency, competitive pricing, procurement of raw materials, innovation in manufacturing process, product quality control, experienced personal, refining existing products, reputation within industry, and market forecast) 3. Focus (customer service, brand identification, special geographical markets, specialty product manufacturing, new product development. And products in high price market segment)
11	Ittner, C. D., & Larcker, D. F. (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of accounting research*, *36*, 1-35.	1. overall satisfaction 2. extent of shortfall in expectation 3. comparison between ideal and received service 4. Customer Satisfaction Index 5. age of the business unit 6. size 7. customer retention 8. revenue level 9. revenue changes
12	Karami, E., & Rezaei-Moghaddam, K. (2005). Modeling determinants of agricultural production cooperatives' performance in Iran. Agricultural	1. Social 2. Natural 3. Government support 4. Trust

	Economics, 33(3), 305-314.	5. Cooperative structure
13	Soboh, R. A., Lansink, A. O., Giesen, G., & Van Dijk, G. (2009). Performance measurement of the agricultural marketing cooperatives: the gap between theory and practice. Review of Agricultural Economics, 31(3), 446-469	1. Economic Ratios: Equity ratio, Liquidity ratio, Profitability Ratio, Productivity, growth 2. Efficiency Method : Production function, Allocative efficiency, Cost efficiency, X-efficiency &Scaleefficiency, Technical efficiency, Economic efficiency, Cost efficiency
14	Barton, David G., Ted C. Schroeder, and Allen M. Featherstone. "Evaluating the feasibility of local cooperative consolidations: A case study." Agribusiness 9, no. 3 (1993): 281-294.	efficiency liquidity ratios Cost
15	Gyau, Amos, Steven Franzel, MarybenChiatoh, GodwillNimino, and KwadwoOwusu. "Collective action to improve market access for smallholder producers of agroforestry products: key lessons learned with insights from Cameroon's experience." Current Opinion in Environmental Sustainability 6 (2014): 68-72.	1. Social factors act as binding bond among members 2. Enabling environment : cooperation, group characteristics and norms 3. Market interventions: Market Information System and credit schemes and post-harvest technologies

16	Barham, J., & Chitemi, C. (2009). Collective action initiatives to improve marketing performance: Lessons from farmer groups in Tanzania. Food policy, 34(1), 53-59.	Infrastructure 1. physical access to markets 2. agro-ecological parameters 3. farming systems Social factors 1. education 2. partners 3. membership in other groups 4. intra-group trust 5. group maturity 6. size 7. activity level 8. gender in leadership Partner Agency 1. business skills 2. business acumen and related trainings 3. market linkage assistance
17	Place, F., Kariuki, G., Wangila, J., Kristjanson, P., Makauki, A., & Ndubi, J. (2004). Assessing the factors underlying differences in achievements of farmer groups: methodological issues and empirical findings from the highlands of Central Kenya. *Agricultural Systems*, *82*(3), 257-272.	1. Location and structural variable 2. Functional variables: Level of formality, characteristics of group leader 3. Group Characteristics: Heterogeneity, wealth levels

18	Fischer, E., & Qaim, M. (2014). Smallholder farmers and collective action: what determines the intensity of participation?. *Journal of Agricultural Economics*, *65*(3), 683-702.	1. Group characteristics 2. Conduct of fellow members 3. Socio-economic characteristics (Gender, education, assets, trust, and attitudes) Explanatory variables • Farm size • Area under banana cultivation • Area under Tissue Culture • Banana yield • Membership in social groups • Group size • Distance
19	Knickel, Karlheinz, CorinnaZerger, GundulaJahn, and Henk Renting. "Limiting and enabling factors of collective farmers' marketing initiatives: results of a comparative analysis of the situation and trends in 10 European countries." Journal of Hunger & Environmental Nutrition 3, no. 2-3 (2008): 247-269.	Limiting factors 1. Lower degrees of Decentralization 2. Large retailer 3. Scare Research and development 4. High cost for organizing a large group 5. High logistic costs 6. Lack of group feeling 7. Low levels of education and 8. Less Entrepreneurial and management skills 9. Compliance with food safety system Enabling Factors 1. Policy support for differentiating market 2. Rural infrastructure 3. Technological advancements 4. Having small scale processors 5. Locational proximity to urban centers 6. New food networks 7. Public procurement

20	Dey, K. (2018, September 1). Farmer Producer Companies in India Determinants of Performance and Viability. Economic and Political weekly, 53(35), 44-52.	1. Incorporation of producer company (Year of registration and registration number and typology and location, Type: A/B/C/D) 2. Business domain (Procurement/production/distribution/marketing/others) 3. Promoting agency (Profit/non-profit entity) 4. Orientation (Inward: Intercommunity trade and input supplies; Outward: Marketing and business expansion) 5. Stakeholder (Core/secondary and their competence in business or market linkage and capabilities in collective action and cooperation) 6. Life cycle stage and identifiable features (P1: Incentive structure and design; P2: Growth and glory; P3: Problem with attributes) 7. Non-financial determinant Governance and management (Professional management, frequency of board meeting, proportion of small, medium and large farmers in the board of directors, Leadership style, Participatory decision-making, Family influence in decision-making Internal mobilisation of funds/earnings surplus management, Group composition and degree of heterogeneity Member commitment to business and expansion) 8. External agencies and stakeholder

		support (Linkage with consortium of FPCs/state union/ membership in higher level organisation; External support during set-up; Type of strategy stakeholder adopted to enhance cooperation) 9. Community and agroecological factors (Type of community/religion/caste Frequency of communal riot/strike/ natural calamities and other perils; Rainfall variation and other agroclimatic conditions) 10. Financial determinant (Earnings/net income, patronage bonus, equity dividend drawn from balance sheet and income statement)
21	Wouterse, F., &Francesconi, G. N. (2016). Organisational health and performance: an empirical assessment of smallholder producer organisations in Africa. Journal on Chain and Network Science, 16(1), 29-40.	1. Collective Marketing 2. Growth in investment in last 12 months 3. Average annual growth in membership 4. Side selling of outputs/ side buying of inputs 9. Organizational descriptive statistics used are: a) Annual profits (US$) Start-up characteristics and incentives b) Age of organisation (years) c) Size at creation (number of members) d) Established by members

		e) Established with external support f) Established with offensive purpose Design rules g) Open membership h) Sanctions i) Shares sold to members President characteristics j) Formal education k) Age l) Female Member characteristics at establishment m) Herfindahl index age n) Herfindahl index gender o) Herfindahl index landholdings p) Number of ethnicities Market environment q) Distance to capital r) Distance to regional centre s) Distance to nearest market place
22	Talukdar, U., &Vatta, K. (2015). Economic and Financial Efficiency of Farmers' Produce Organisation: A Case Study of FAPRO in Hosiarpur District of Punjab. Economic Affairs, 60(3), 439.	1. Current ratio 2. Profit to total assets 3. Profit to total sale

23	Jain, R., &Narnaware, P. (2018). Role of Local Context in the Success of Farmer Collectives: A Review. Millennial Asia, 9(3), 318-335.	Social 1. Impact of FC on members Economic 1. Earnings 2. Yield 3. Technology adoption 4. Market action 5. Innovation Environmental 1. Pesticide residue 2. Deforestation 3. Fertilizer type and use
24	Bray, D. B. (1991). " Defiance" and the Search for Sustainable Small Farmer Organizations: A Paraguayan Case Study and a Research Agenda. *Human Organization*, 125-135.	Politics of Sustainability 1. Leadership 2. Participation 3. Autonomy 4. Relations with the state Economics of sustainability 1. Alternative economic model 2. Influence on state economic models 3. Sociology of sustainability 4. Alliance with NGOs 5. Transfer of skills, resources 6. Class structure in small farmer movements Technology of sustainability 1. Issues of technology adaptation research

25	Raya, A. B. (2014). Farmer group performance of collective Chili marketing on sandy land area of Yogyakarta Province Indonesia. *Asian Social Science*, *10*(10), 1.	Social 1. Impact of FC on members Economic 1. Earnings 2. Yield 3. Technology adoption 4. Market action 5. Innovation Environmental 1. Pesticide residue 2. Deforestation 3. Fertilizer type and use
26	Hirsch, S., & Hartmann, M. (2014). Persistence of firm-level profitability in the European dairy processing industry. Agricultural Economics, 45(S1), 53-63.	1. Competitive norm 2. Age , size of firm 3. Market share 4. Research and development 5. Concentration of retail sector 6. Diversification of firm activity
27	Roy, S., & Rangnekar, D. V. (2007). Farmer Participatory Need-based Extension (FPNE) approach: a sustainable model adopted by cooperative milk unions in Andhra Pradesh, India. *Livestock Research for Rural Development*, *19*(144).	Interventions 1. Commercial fodder farms 2. Supply of rice polish 3. Artificial insemination, infertility treatment 4. Model DCS 5. Linking with other programmes
28	Birthal, P. S., Chand, R., Joshi, P. K., Saxena, R., Rajkhowa, P., Khan, M. T., ... & Chaudhary, K. R. (2017). Formal versus informal: Efficiency, inclusiveness and financing of dairy value chains in Indian Punjab. Journal of rural studies, 54, 288-303.	1. Herd size and structure of milk production 2. Choice of value chain 3. Participation of small farmers in the value chain 4. Milk yield and profit realization

29	Soboh, R. A. M. E., Oude Lansink, A., & van Dijk, G. (2011). Distinguishing dairy cooperatives from investor-owned firms in Europe using financial indicators. *Agribusiness*, *27*(1), 34-46.	1. Profitability (Profit before tax, Material cost to total asset) 2. Capital financing (Total debt to total asset, Long term debt to equity, Current assets to current debit) 3. Operational efficiency (Turnover to fixed assets, turnover to inventories) 4. Growth of nonissued equity
30	Msaddak, M., BenNasr, J., Zaibet, L., & Fridhi, M. (2017). Social networks for the sustainability of the dairy sector: the role of cooperatives. Livestock Research for Rural Development, 29(2), 2.	Trust
31	Ferrier, G. D., & Porter, P. K. (1991). The productive efficiency of US milk processing co-operatives. *Journal of Agricultural Economics*, *42*(2), 161-173.	1. Cost efficiency 2. Technical efficiency 3. Allocative efficiency 4. Scale efficiency
32	Singh, S., Coelli, T., & Fleming, E. (2001). Performance of dairy plants in the cooperative and private sectors in India. Annals of Public and Cooperative Economics, 72(4), 453-479.	Cost efficiency 1. Technical efficiency 2. Allocative efficiency
33	Misra, S. K., Carley, D. H., & Fletcher, S. M. (1993). Dairy farmers' evaluation of dairy cooperatives. Agribusiness, 9(4), 351-361.	1. State variable 2. Price variable 3. Marketing and operating costs 4. Term of affiliation to the cooperative

34	Ali, A. I., & Bhargava, M. (1998). Marketing capability and performance of dairy cooperatives in India. INFOR: Information Systems and Operational Research, 36(3), 129-141.	1. Age of the cooperative 2. Processing capacity 3. Number of cities served 4. Number of varieties of milk marketed 5. Quantity of milk sold 6. Demand for milk 7. Market share 8. Stability in market share 9. Average price per liter charged 10. Average price per liter paid

2.5.1 Specifying the factors affecting performance: Critical Success Factors

Literature review revealed many factors that could influence the performance of organizations, FPOs and milk cooperatives. Researchers have used different methods to analyze the impact of those variables on their data segment. Broadly they can be classified in to five themes as shown in figure 7.

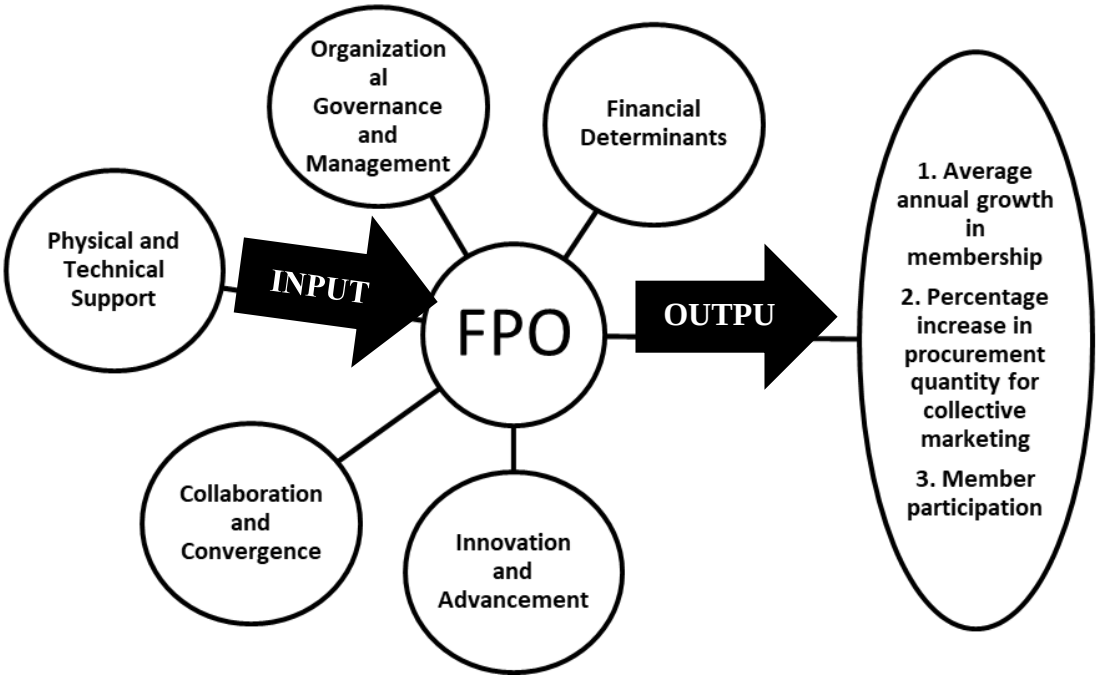
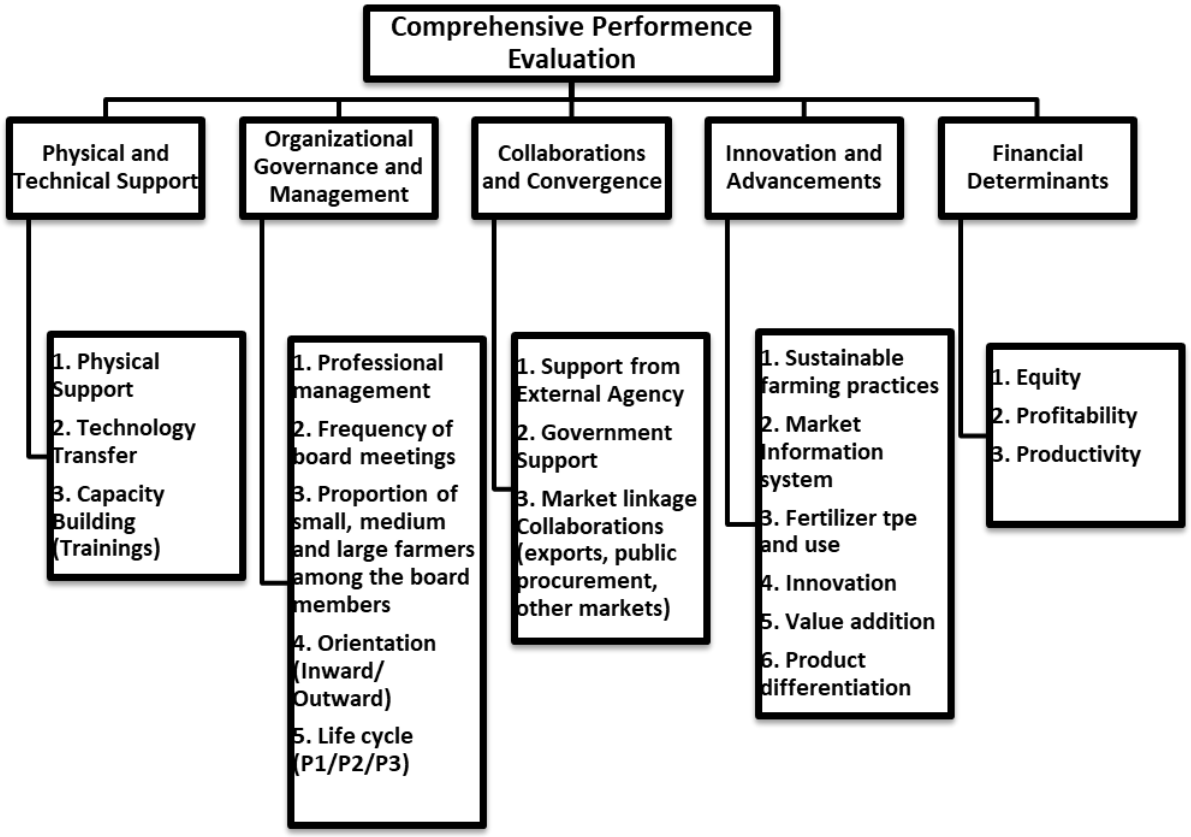


Figure 7 Factors influencing performance: Themes

Membership growth, member participation and rise in procurement quantities can be categorized as major outcomes for FPO performance.

Hence, the five major areas effecting the performance of an FPO can be summarized as

Physical and Technical support, Governance and Management, Collaboration and Convergence, Innovation and Advancement, and Financial determinants.



Figures 8 Critical Success Factors: Conceptual framework

A conceptual framework is developed by incorporating sub factors for each of the major factors sorted out in figure 7. Figure 8 represents the final framework which is a by-product of the review findings, customized in lieu with the practical ground realities of farmer producer organizations in India. Physical and Technical support given by the FPOs to its members are particularly important in farmer collectives improving membership and member retention. Governance and management of the FPO includes how professionally it is being managed, how frequently did the board meets, the proportion of small and marginal farmers in it, the nature of its orientation and life cycle. Collaboration and convergence looks at the networking capability of the company. How much support from the external agency does it receives, how good it utilizes government support, what are the market linkages that it managed to develop are the main sub variables considered. Innovations and advancements is crucial in the development of any organization, be it an FPO or milk cooperative. in agribusiness sector an FPO that promote sustainable farm practices were found to have better performance. Marketing information system is another variable that can predict market linkages and performance.

Fertilizer and use which is aligned towards sustainable practices can also predict the performance. Value addition and product differentiations are other key variables that will improve the performance of an FPO. Financial ratios are not given more importance in this framework as the FPOs are too young to be undergone such a performance evaluation. Equity, profitability and productivity are used instead.

2.6 Conclusion

This study aimed at conducting a detailed understanding of the prior relevant studies on factors influencing performance of business entities in general and there by formulating critical success factors for the performance of FPOs in particular. For this we utilized 34 relevant studies in all the three domains of organization, FPOs and milk collectives. Study findings reveal the fact that there are many variables that can be used to define performance of business entities. However, every component cannot be suited in lines with ground realities of FPOs. Moreover, critical success factors are those few areas which are customized for and entity in a particular industry. Keeping this is mind, we reduced the factors in to five themes and defined a few more sub variables in the conceptual framework we worked out. This study attempted to organize fragmented literature in three areas of study (organization, FPOs, milk collectives) and to formulate a comprehensive framework that could assess the performance as well as to define the critical factors. Majority of the existing studies speak little about comprehensive performance evaluation or critical success factors. We looked at this theoretical gap in this attempt and the conceptual framework covers the most crucial five thematic indicators for the best performance of FPOs.

CHAPTER 3 BEST CASES ON SUCCESSFUL FPO

Five successful FPOs were selected to understand the best practices in business operations and company functioning. Selection of these FPOs is in accordance with their balance sheet

and activities performed. The selected FPOs are from UP, Maharashtra and Gujarat. The documentation is done on the basis of the in-person interview with the CEOs of respective FPOs. description of each case is as follows. All the cases are outlined on the basis of five critical success factors of the CSF framework. The interviews are conducted so as to get a clarity on the five parameters: physical and technical support, governance and management, convergence and collaboration, innovation and advancement, and financial parameters.

3.1 Case Description

3.1.1 Case- 1: Girimala Farmers Producers Company Limited, Gujarat

Girimala FPO was started on 8th July 2016 with 700 farmer members, progressively increasing the membership to 995 in 2019. The first-year turnover of the FPO is 25 lakh, and the current year turnover of FPO is 1.5 crore. Before six months of forming FPO, few members started conducting meetings in 15 villages and spread the concept of FPO also leaders visited successful FPOs in nearby areas. The first year FPO received required **licenses** like APMC license, Input distribution license, etc. The FPO started providing **inputs** to its members from the second years of the formation of FPO as their farmers faced a supply shortage of adequate and required types of seeds, fertilizers, and pesticides. The chairman says, *'we started the procurement of wheat in the second year, and we didn't get prices due to market fluctuation'*. Further FPO, started procurement of soyabean, castor, etc along with other produce thereby **widening its product basket**.

FPO has appointed one **paid staff**; however, the business responsibilities taken by BOD's and FPO have also designed its conflict resolution strategies. For the growth of FPO, frequent meetings and training are needed.

The company has **limited dependence on the promoting agency**. POPI supports the company only during the mobilization of members, capacity building, financial assistance and documentation. Government scheme utilization has been keen support for the company since its establishment.

FPO took the lead in promoting organic farming from 2019. More than 600 farmers are practicing organic farming, but without certification, they were getting good prices for vegetables (chairman). FPO started silage (green fodder) processing plant with an investment of around 1.50 crore. It is keen on supporting animal husbandry practices among its members. Value addition has been initiated in the current year. The FPO also approach Banas dairy and sign MoU for silage and got an order of 10 tones.

3.1.2 Case- 2: Somanath Farmers Producer Company, Gujarat

FPO was started on 9th March 2013 with 937 farmer members, progressively increasing the membership with 1811 in 2019. The first-year turnover of the FPO is 25 lakh, and the current year turnover of FPO is 5.5 crore. The first year FPO received required **license**s like APMC license, Input distribution license, etc. The FPO started with 5 to 6 input distribution centers for providing inputs to its members from the first years of the formation of FPO. Further, they focused on creating a **post-harvest marketing infrastructure** with internal resources. For the benefit of the farmers, in 2018, the FPO aggregated the cotton produce. In 2018, the farmer producer company delivered & sold **value-added cotton** directly on the Multi Commodities Exchange – bypassing intermediaries. FPO also has a tie-up with GUJPRO.

The Board of directors takes the lead in the management of the company. FPO has appointed three **paid staff**. Also, whenever required, it hires **daily base labor**. One director is from POPI. The company has a mixed-orientation that focuses on both input supply and marketing. The directors are monthly conducting meetings.

POPI supports the company during the mobilization of members, capacity building, financial assistance, technical support, and documentation. POPI also gives training to professionals of FPO. POPI support FPO to market linkages. Government scheme utilization has been keen support for the company since its establishment.

FPO started a **cattle feed processing** plant in 2017. It is supporting animal husbandry practices among its members. The FPO sells its products to the nearby area of Junagadh.

3.1.3 Case- 3: Saurastra swanirfar Farmers Producer Company, Gujarat

This FPC was started on 1st August 2016 with 999 farmer members, progressively increasing the membership 2631 (non-registered members around 3000) in 2019. The first-year turnover of the FPO is 7.24 crore, and the current year turnover of FPO is 54.28 crore. The FPC’s effort

is to strengthen the value chain of farm produce, enhance its marketability, help the marginal farmers and livestock owners realize better prices and thus, achieve income security for themselves. The first year FPO started trading of cotton cake and procurement of groundnut on minimum support price (MSP). The second-year FPO started **input distribution** centers for providing inputs to its members to reduce their farmers faced a supply shortage of adequate and required types of seeds, fertilizers, and pesticides. FPO also has collaboration with GUJPRO.

The Board of directors takes the lead in the management of their company. FPO has appointed five **paid staffs** and whenever required, hires daily base labor. Regular meetings maintain organizational discipline and transparency. The company has a mixed-orientation that focuses on both input supply and marketing.

POPI supports the company during the mobilization of members, capacity building, financial assistance, technical support, and documentation. POPI also gives training to professionals of FPO. POPI has supported it in finding market linkages. Government scheme utilization has been keen support for the company since its establishment. It has utilized schemes like SFAC support, gov. subsidies, drip irrigation promotion and mandi license, etc.

FPO has started **vegetable collection centers**, but they didn't succeed. The FPO started **Oil mill business** with investment around 25 lakh. Value addition initiated in 2017. FPO has also encouraged its members to the start-up of small enterprise.

3.1.4 Case 4: Dharmapur Krishak Producer Company UP

Dharmapur FPO was started in 2016 with 100 farmer members, progressively increasing the membership to 300 in 2017 and 679 in 2018 and more than 500 unregistered but contributing members with a turnover of thirty lakhs. The FPO started providing **agriculture inputs** to its members' right from the beginning to reduce their farmers faced a supply shortage of adequate and required type of seeds, fertilizers and pesticides. The company promotes **custom hiring** of farm equipment. It owns **machineries** like mulcher, tractor, land leveler, MB Plough. The company CEO spearheaded the mass **soil testing** of around 500 farmers, but the test facilities were not satisfactory. Company also grows quality seeds and sells t to farmers and outside. Company has taken physical and technical support for their members seriously as the members are in acute deprivation in those terms.

FPO has appointed two **paid staffs**; however, business management is a difficult task for them. The CEO is a graduate in science stream and lacks business skills and knowledge. Organizational discipline and transparency is maintained by regular meetings; "*A good management is likely to have more meetings*" (CEO). The board of directors consists of small farmers as they are already exploited by large farmers and creamy layers outside the FPO. The company has a **mixed orientation** that focus on both input supply and marketing. FPO has also designed its own conflict resolution strategies. The FPO considers life cycle to be crucial in FPO performance as a company would do more work with age.

The company has **limited dependence** on promoting agency. POPI supports the company only during mobilization of members, capacity building, initial financial assistance and documentation. POPI has not supported it in finding market linkages. "*Our POPI is good in social service terms, but not in business strategies. So they don't help us in doing business*" (CEO). POPI virtually withdrew its support in 2018. Government scheme utilization has been a keen support for the company since establishment. It has utilized schemes like AATMA, schemes for farm equipment, drip irrigation promotion, mandi license and the like. Market linkage is limited to local and regional markets in Uttar Pradesh. They sell their seeds to UP Beegvigas, organic produce to Sahajan- Lucknow and has subzi mandi e license.

FPO took lead in **promoting organic farming** from 2019. "*Everything is available with the nature. It's high time we go back. Urea affects humans and animals. Organic is also value addition*. More than 100 farmers in 50 hectors are practicing organic farming but without certification. FPO is advocating integrated farming with three crops cultivation. It has pilot projects to demonstrate new farming techniques to its members. It is keen in supporting sustainable agricultural practices among its members. However, value addition has not been initiated because of a deficiency in capital. If product differentiation could be executed, the market is all set. But the FPC is not in a stage to develop such strategies. It strongly desire marketing information system and further market research.

"Profit is necessary to keep a business going like a cycle". Nonetheless, the company instead of focusing on profit but is eyeing on **asset creation** as it is in an initial stage of growth. It has purchased land for demonstration of pilot projects, some farm equipment and tube wells as their assets. 10 per cent of profit is added to the reserve fund. Dividend has not been given to the members.

3.1.5 Case- 5: Ramaling FPO- Maharashtra

Ramaling is an FPO with 350 marginal farmer members and 2000 non registered members operating in the tribal belts of Maharashtra with 80 lakhs turnover. A small market research conducted by the CEO revealed that the input price was high and there is a lack of branded products in the market. So the FPO decided to enter in **input supply** service for its members. It also facilitated soil testing but the facilities available were unsatisfactory. For the reason, the company initiated a **soil testing lab**. After this, to make the use of fertilizers precise, they designed soil cards for farmlands. Need based supply of fertilizers and pesticides were accomplished mostly through direct inspection of farm land.

CEO takes the lead in management of the company and **upgrades his own skills** for fulfilling the company's needs. He is currently doing bachelors in agriculture as he felt the need of understanding agriculture better for taking his company forward. There has been no CEO rotation. All of them are small and marginal farmers. FPO has a mixed orientation.

Market linkage for the farm produce is facilitated by **collaborating with local traders**. **On the spot** money transfer for the farmer is ensured to maintain transparency and trust. It also facilitates produce sales to residue free vegetable mall. POPI helped in documentation, finance and capacity building. It had **limited interventions** for market linkage. The company also tried utilizing different government schemes.

Company insisted in **crop diversification** and introduced watermelon and green peas to the region. It developed a whatsapp **(digital) marketing** group including traders and farmer members, through which the members get price of the produce based on market trends and the trader would get to know the quantity of produce each farmer willing to sell. Another initiative taken by the company is the soil testing lab. Value addition and product differentiation has not yet started. *"It would be difficult to get actual price for organic products in the market but product differentiation can help in gaining more money"*.

Company has **assets** like invertor, software for accounting, soil test lab set up. No dividend is given as the profit margins have not reached a higher level.

3.2 Best practices worth pin pointing

These five cases reveal a particular pattern in adopting and implementing certain practices that accounts for their economic as well as social performance.

a. **Physical and technical support**: One of the most interesting facts to be noted is that all these FPOs are concerned about the services it provide to its members. Farmer welfare is seen as one of the main objective and is fulfilled primarily through physical and technical support. All these successful FPOs are involved in input supply, addressing the weak supply chain of agriculture inputs in rural area. This helps the farmers to access them in fare price, to get the best quality and use it in right quantity. Some FPOs provide farm machineries and promote custom hiring. One of the best examples of technical support offered by the FPOs is encouraging soil testing. One FPO has started its own private lab for the same.
b. **Governance and Management**: CEOs and BoDs are quite responsible in the management of their own companies. Feeling of ownership is the sole motivation to work to the best for one's own initiative. However, to enhance the professionalism and efficiency of management, all of these companies have appointed paid staffs. It is crucial to pump outside knowledge and expertise to widen the scope of business. CEOs play crucial role in strategic management. A CEO must be ready to undertake skill development initiatives for better performance. This has been done by many of the CEOs. Some companies also hired labour on daily basis whenever required. This too adds to the efficient management of human resource.
c. **Convergence and Collaboration**: The most important pattern to be noticed among all the companies is that it has reduced its dependence on the POPI progressively. POPI only helped them during the initial phases of establishment. The success of these FPCs can be accounted for their independence in business actions. Entire business activities were handled by the FPOs themselves without POPI intervention. Government schemes utilization helped all these companies in bridging certain gaps and utilizing maximum resources available.
d. **Innovation and Advancements**: Commendable initiatives were taken by all these FPOs to bring in new innovative ideas to its company's business domain. Value addition is the most important step to be pointed. Majority of these FPOs have invested a significant capital in value addition. They have also developed required infrastructure for the same. Huge investment is need for such initiatives, for the same reason many of the FPOs in India fails to reach that level and get involved in food processing industry. Other noticeable pattern is that all these FPOs promote sustainable farming initiatives such as organic farming which indeed adds value to their produce.

e. **Financial parameters**: Some of the FPOs have less important to acquire profit as they believe they are still in an early stage of development. However, all the FPOs are keen in asset creation. Assets of a company are important to show its status and healthy functioning. Majority of the companies show high turnover and membership growth.

CHAPTER 4 BEST PRACTICES FROM DAIRY COOPERATIVES

4.1 Introduction about MPC

A Producer Company combines the institutional and ideological strengths of cooperatives with the flexibility and autonomy available under company law. A Producer Company is a business enterprise registered under provisions of Part IX A of the Companies Act, 1956 but is run on the basis of principles that are by and large the same as those adopted by the International Cooperative Alliance. There are, however a few key enabling features in a Producer Company's legal framework which differentiate it from cooperatives.

Even though a Producer Company is a private limited company, there are certain distinct features which differentiate it from other companies (Producer Company vis-a-vis Other Companies).

4.2 Why Producer Companies in the Dairy Sector ?

About 50% of the milk produced in the country is retained for local consumption. Of the remaining 50% – or the marketable surplus – cooperatives procure about 17% of the milk produced from around 20% of rural milk-producing households in 23% of the country’s villages.

Meanwhile, the organised private sector unlike the cooperatives (barring some exceptions) is rapidly expanding its operations into the dairy business and could overtake cooperatives in the years to come. While the organised private sector will grow in the years to come, it is important – in the interest of livelihoods and inclusiveness – that cooperatives and other producer organisations continue to handle at least 50 per cent of the milk handled by the organised sector. A substantial part of the marketable surplus continues to be handled by traders and vendors. To ensure that consumers get good quality milk and milk products processed under hygienic conditions, it is necessary that cooperatives continue to be strengthened, and that more Producer companies are incororated and operationalised.

NDDB Dairy Services is working in the states indicated below and has assisted producers in these states to establish Milk Producer Companies. Together, the five milk producer companies enrolled about 2.67 lakh milk producers as members as of 31st March 2015. Among them about 36% were women and 52% were small and marginal milk producer-members. All the five companies put together procured about 18 lakh Kg per day of milk during the year. An amount of Rs. 473 million had been collected as share capital by these five companies.

Features	Producer Cooperative	Producer Company
Registration	Cooperative Societies Act	Companies Act
Membership	Open only to individuals and cooperatives	Only those who participate in the activity
Relationship with other corporates/business houses /NGOs	Transaction based	Producers and corporate entity can together float a producer company
Shares	Not tradable	Not tradable but transferable
Voting Rights	One person, one vote, but Government and RCS holds veto powers	One person one vote. Those not having transactions with company can't vote
Reserves	Created if there are profits	Mandatory to create every year
Role of Registering authority	Significant	Minimal
Administrative control	Overbearing	None
Borrowing Power	Restricted	More freedom and alternatives
Dispute Settlement	Through mechanism	By Arbitration

(Source: Murray, E. V. "Producer company model-current status and future outlook: opportunities for bank finance." Financing Agriculture 40.4 (2008): 18-26.)

4.3 Learning from MPCs and Dairy co-operatives

4.3.1 Competitive Advantage

4.3.2 Legitimizing

- Processes are transparent and members satisfaction is consider very importantly.
- Members are given equity in proposition to patronage.
- Active user membership guide participation in business and governance.
- Business is done only with registered members.
- Hence, members consider the organization to be their own and provide cooperation and competitiveness to the organization.

4.3.3 Sustainability

- Dairy as an enterprise is a regular cash flow business and therefore helps in economy, sustainability, for their members and organization.
- Dairy business also motivate socially because it empower women in villages. This also leads to increase member engagement compare with 3 or 6 month crop cycle engagement with members.

4.3.4 Governance

- The organizations are professionally manage and do not have free riders.
- Board members are elected / selected from the community and there is appropriate member representation in the board to ensure inclusiveness in governance. Moreover, bringing professional management helps in adoption of best practices in managing the organization.
- Participation of women is encourage is leading to higher collaboration in the community and creation of complementary enterprises that enhance cooperation.

4.3.5 Social value creation

- Cooperative and Milk producing companies (MPCs) are adhere to an establish core of ethics and give importance of stockholders and responsiveness to members through the principals of cooperation.

4.3.6 Economic value creation

- These organizations have well defined financial goals for both dairy and non-dairy business initiatives that are based on bottom-up estimation of business potentials. This could be related to milk and milk products, cattle feed, bio gas, and green fodder or silage production. This is supported by continues customers feedback and satisfaction services.
- The financial planning helps in ensuring sources of funding for this plans initiatives as well as risk mitigation process. This ensure that the organization or measuring social as well as financial performance and ensuring viability by orienting them self to the need of both the members and customers.

CHAPTER 5 CAPACITY BUILDING FOR FPOS

National Bank for Agriculture and Rural Development (NABARD) has been supporting the promotion of FPOs through different schemes and policies. Institute of Rural Management Anand (IRMA), in collaboration with NABARD, is working on the project: Handholding and Capacity Building of FPOs. As a part of the project, the Management Development Program organized by the Institute of Rural Management Anand (IRMA) from 16th Dec. 2019 to 18th Dec. 2019 on the title of Facilitation and handholding of FPOs under the NABARD project. IRMA invited 24 participants, including Chairman, Secretary, and One board member from each FPO.

5.1 Schedule

Handholding of FPOs of NABARD: Coordinator(s): Profs. Rakesh Arrawatia and Sridhar Vishwanath					
Dates	**9**	**9:30-11**	**11:30-1**	**2-3:30**	**4-5:30**
16th Dec	Welcome	Introduction and Business Plan `	How to Collaborate and Get Results?	Input and Produce Management	Business Plan Workshop: Interactions with PRM'39 ENFPO 1. Pushkar Rural Agricultural Youth & Employment Producer Company Limited 2. Shreekamal Dairy and Horticultural Exports Producer Company Limited 3. Vanganga Tribal Farmer producer Company Limited – Vansda Others FPOs: Interactions with IRMA-NABARD Consulting Project Team

17th Dec		Difficult Conversations	DCS+Amul Dairy+Video+Amul Chocolate plant visit	Business Plan Workshop: Interactions with PRM'39 ENFPO 1. Vananchal Farmer Producer Co., Chikhali 2. Bio Agricultural Produce and Processor Producer Company Limited 3. Adivasi Utthan FPC, Vansda 4. Krishakmitra Agricultural Marketing and Export Producer Company Limited 5. Krishicare tribal farmers producer company Limited Others FPOs: Interactions with IRMA-NABARD Consulting Project Team
18th Dec		Business Plan Workshop: Interactions with PRM'39 ENFPO		Debrief sessions with FPOs & Valediction:

5.2 Participants Details

Sr. No.	Participant's Name	FPO's Name	Degisnation
1	Vimalbhai Dhansukhbhai Patel	Adivasi Utthan framers Producer Company ltd, Gujarat	Secretary
2	Jayantibhai Mangalbhai Bhoya		Chairman

3	Devajubhai Zulubhai Patel		Board Member
4	Ashwinbhai Sunilbhai Kokni	Vanganga Tribal framers Producer Company ltd, Gujarat	Secretary
5	Ramanbhai Dadabhai Mirza		Board Member
6	Jigneshbhai Champakbhai Patel	Vananchal Tribal framers Producer Company ltd, Gujarat	Secretary
7	Shaileshbai Jaisingbhai Patel		Chairman
8	Thakorbhai Zinabhai Patel		Board Member
9	Rameshbhai Sukhbhai Bhimsen	Krishicare Tribal framers Producer Company ltd, Gujarat	Secretary
10	Rajeshbhai Khandubhai Patel		Chairman
11	Vimalbhai Dhirubhai Patel		Board Member
12	Lokendra	Krishakmitra Agricultural Marketing and Export Producer Company Limited, Rajasthan	Chairman
13	Rahul Ghanchi		Board Member
14	Nand Ram Mali	Pushkar Rural Agricultural Youth & Employment Producer Company Limited, Rajasthan	Chairman
15	Shaitan Singh		Board Member
16	Prahladram	Shreekamal Dairy and Horticultural Exports Producer Company Limited, Rajasthan	Secretary
17	Oma Ram Gurjar		Chairman
18	Rafik		Board Member

In the first round of Management Development Programme, a total of 18 participants were present from each of the FPOs. On 16th December 2018, the first session was led by Prof. Dr.Rakesh Arrawatia,principle investigator, NABARD Project. He welcomed all participants and gave a brief outline about the entire training and glimpse of business plan. To ensure participation from the attendees, and to understand the problems they faced during most of the

other trainings they attended, a two-way discussion was motivated. Participants were active and without reluctance, they shared the general issues they had with previous trainings organized by other stakeholders. Further sessions were designed by taking care to avoid such notified issue and contextualized as per the needs raised by the participants. Lucid language with examples was the highlight of the entire training. Simple team activities were also promoted.

The second session was held by Prof. Sushanta Kumar Sarma on "How to Collaborate and Get Results?" Collaboration being one of the critical success factors for an FPO, in that session, professor briefed about the importance of member engagement and shareholder mapping (interest, alternative, and resource) of FPOs. Trust, shareholders, traditional thinking, life affect, etc were pointed out as significant needs on which strategies to be developed by the FPOs for improving membership and member participation. Professor also conducted a group activity using activity kit for members to practically demonstrate strategic management and collaboration.

Prof. Sridhar Vishwanath discussed the importance of agriculture input as a business. Input supply is one of the prime business activities that can be promoted through FPOs. It is both a service to its members and revenue generating activity to the company.

The third session was led by Mr. Madhukar Chugh, Vice President, Marketing, Bharat Insecticide Ltd. He has 19 years of experience in agri-input marketing and he delivered a session on input and produce management. In that session, he discussed the marketing and business plan on providing agri- input as a pure business and suggested the FPOs some hacks for developing a brief database of members and the procurement of agri-input. After completion of the session, three groups of PRM '39 ENFPO students interact with FPOs members for understanding the needs of FPOs and collect needful information to prepare business plans. Other members watched a short film about the **Amul**.

On 17th December 2019 morning session was held by Prof. Sushanta Kumar Sarma on "Difficult Conversations." In that session, professor started with a small activity for members; he selected three members from each group and gave them a task. From that activity, members understood the importance of motivation and interest of the stakeholders in business management. He also discussed the understanding of members about the FPO, membership growth, board members (active membership).

Furthermore, Prof. Sushanta Kumar Sharma facilitated a group discussion on the objectives for the formation of FPO and evaluation practices of member and FPO growth. The intent was to reveal the organic nature of the FPOs and convey the hybridity within these local institutions. After that session, all members were taken for the pre-planned exposure visit to Amul Dairy and Amul Chocolate plant. After completion of the session, five groups of PRM '39 ENFPO students interact with FPOs members for understanding the needs of FPOs and collect needful information to prepare business plans. Other members watch a short film about the **Amul**.

On 18th December 2019, first half PRM '39 ENFPO students interacted with FPOs members and Research Associates engaged the members Gujarat FPOs with AHP & Case study interviews. In the second half focus group discussion held by Prof. Sushanta Kumar Sharma and Research Associates.

At the end of the MDP program, certificates were distributed to the participants by Prof. Sridhar Vishwanath, Prof. Rakesh Arrawatia, Prof. Sushanta Kumar Sharma. And participants shared learning from the MDP program.

The sessions were coordinated by research associates Mr. Mayur Bharpoda and Ms. Sreelakshmi Menon on the behalf of NABARD Project team of IRMA.

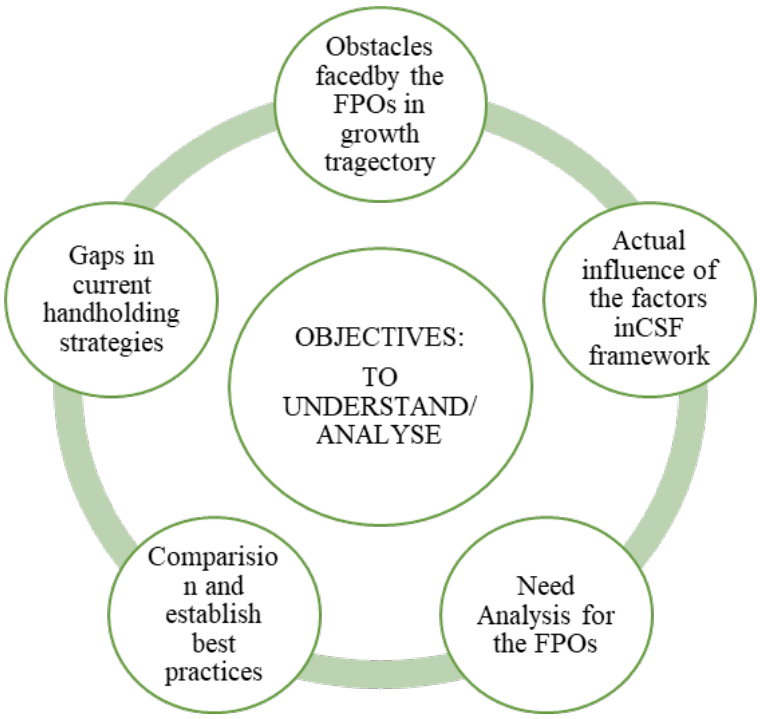
5.3. Introduction - Cases from Field

For understanding the sustainability aspects of the performance, in-depth case studies were conducted for the selected seven Farmer Producer Organizations in Rajasthan and Gujarat. This analysis would enable the team to understand necessary conditions to make FPOs sustainable and also the conditions and reasons that have created hurdles for the FPOs. The cases would give ground-level perspectives and experience in the support strategies given to these institutions.

5.4. Objectives

Case study objectives are set to execute a comprehensive analysis of factors affecting the performance of Farmer Producer Organizations. The research objectives are the following:

- To analyse the detailed ground level influence of the five categories in the CSF framework
- To perform a need analysis for the FPOs in its sustainable management
- To compare the selected FPOs and ascertain the best practices
- To figure out obstacles faced by the FPOs
- To recognize the gap in current handholding strategy and formulate an all-inclusive handholding design



5.5. Conceptual Framework

The study is embedded in the conceptual context of the Critical Success Factor framework (CSF Framework) developed from an extensive literature review and cross-verified using the Analytical Hierarchal Process method. The framework is established considering the performance factors of organizations in general and FPOs in particular. All the concepts illustrated in the framework are able to be gauged using qualitative explanations.

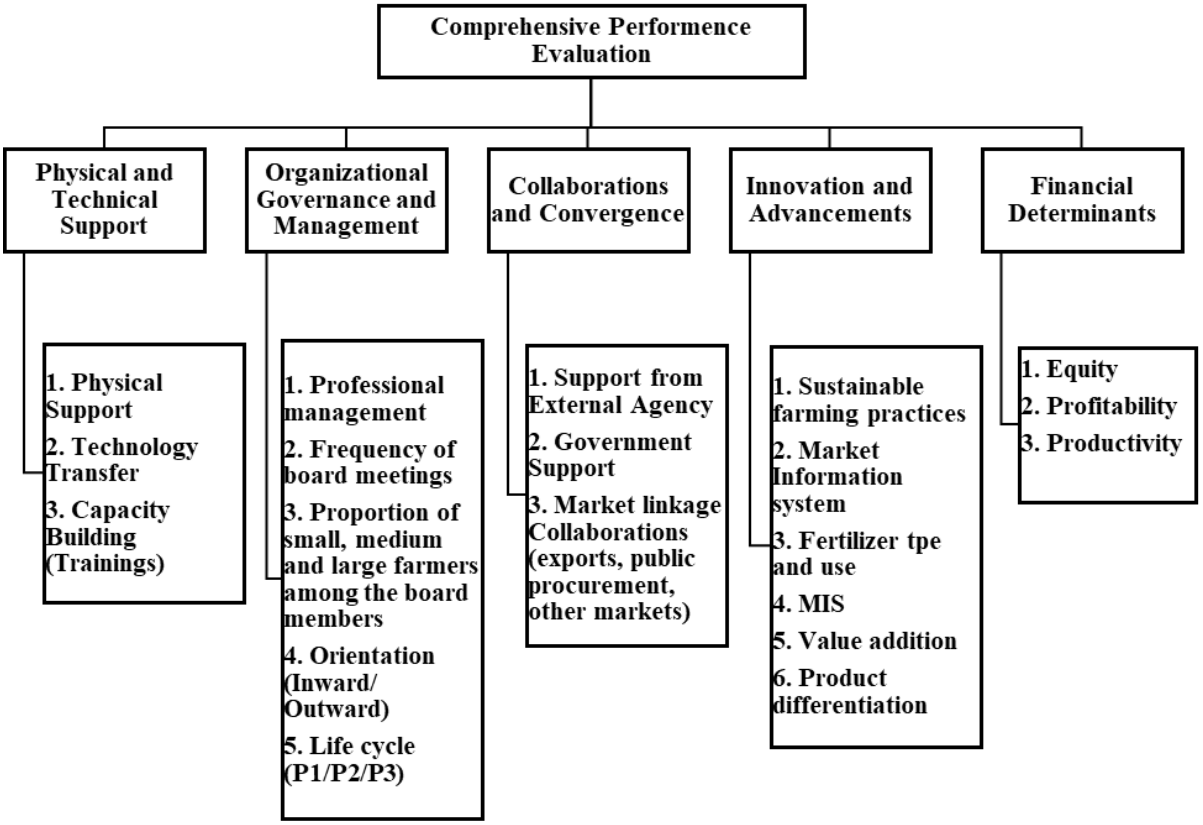
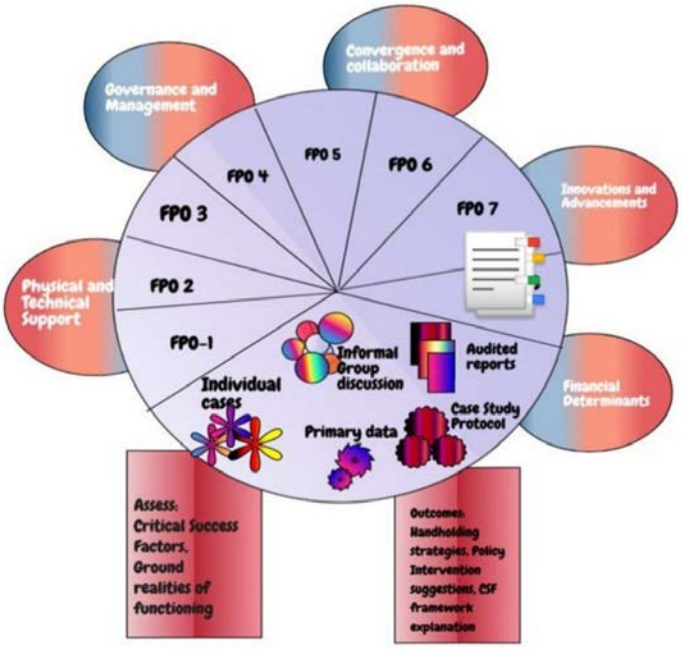


Figure 1 CSF Framework

By definition, critical success factors are those few major variables or characteristics those if managed appropriately can ensure successful and competitive organizational performance. CSF method is usually applied in firm specific, industry specific and socio-political and economic environment analysis. CSF framework also aids in strategy planning and development for an organization (Leidecker & Bruno, 1984). CSF methodology is used to identify and isolate the few factors that steer managerial or organizational success (Boynton & Zmud, 1984). These factors not only assist the planning process but also intensify management communication processes and assist establishing a robust information system. Consequently, these areas needs to get significant consideration from the management and the current

performance status of each of those factors must be carefully recorded (Bullen & Rockart, 1981).



5.6. Methodology

This research follows the **Multiple Case study method**. Cases are selected considering all the stakeholders of the FPO that is, Directors and the Members.The case study started with setting a Quintain. **Quintain** is the phenomenon or condition we seek to study fundamentally. Here for this study, the quintain is *"Critical Success Factors influencing the performance of Farmer Producer Organizations."* The case study aims at analyzing the five factors/ parameters of the Critical Success Factor (CSF) framework, which is ultimately the conceptual framework used for the study.

The *Case study protocol* and the *Interview guide* are developed with open-ended questions along with intension and evidence of the question mentioned in it. The interview guide is designed separately for various stakeholders.

The unit of analysis selected was designed to be a group rather than an individual case unit. (a group of farmer members, a group of BODs from each FPO). The group members were selected using a **purposive sampling** method considering their landholding data, experience in farming, and membership tenure in the case of BODs. Convenience sampling was used in the case of farmer members.

Sources of evidence include observation, documents available with FPO, POPI, FGD, open-ended interviews, and archival records.

Identifying data sources, data collection tools, and sampling strategy:

Table 1 Sampling details

Sr. no	Data Source	Data collection tool	Sample size	Sampling strategy
1	Group of Board of Directors (BODs)	Semi-structured group interview	1 Group per FPO (5-10 members)	Purposive
2	Farmer members	Group Interview/discussion	1 group per FPO (5-10 members)	Convenience sampling
Total number of cases		16 Cases (2 from each FPO)		

Table 2 FPO s under the study

FPO. No	Name	Area of Operation and Business	Product Basket
FPO 1	AdivasiUtthan Farmers Producer Company Ltd, Gujarat	Vansda	Vegetables and Fruits: Ladies finger,Mango,Baby corn
FPO 2	Vanganga Tribal Farmers Producer Company Ltd, Gujarat	Vansda	Vegetables and Fruits: Ladies finger , Mango ,Baby corn
FPO 3	Krishicare Tribal farmers Producer Company limited, Gujarat	Khergam	Vegetables, Fruits: Coriander, Sarsov, Chilli, Baby corn, Brinjal , Ridge guard, Paddy seeds, Mango
FPO 4	Vananchal Tribal farmers Producer Company limited, Gujarat	Chikhali	Vegetables, Fruits: Coriander, Sarsov, Chilli, Baby corn, Brinjal , Ridge guard, Paddy seeds,

			Bottle guard, Pointed guard, Small guard, Mango
FPO 5	Krishakmitra Agriculture Marketing and Export Producer Company Limited, Rajasthan	Nagur	Vegetables Coriander, groundnut,, Bajra, Barley, Moong, Guar Value addition: Dried vegetables
FPO 6	Pushkar Rural Agricultural Youth and Employment Producer Company, Rajasthan	Ajmer	Rose, Amla Value addition: Gulkand, Amla candy
FPO 7	Srikamal Diary and Horticultural Eport Producer Company Limited, Rajasthan	Ajmer	Vegetables Onion, Cauliflower, Pea, Chilli

5.7 Case – Analysis

5.7.1 BOD perspective

A group of five or more Board of directors were interviewed using the pre designed open ended questionnaires to understand what each of the critical success factors mean to them and how these are being functionalized in their respective FPOs. Their perspectives are keen in developing development strategies for FPOs as they are the real managers of these entities.

5.7.1.1 Section A- Physical and Technical support

Physical and Technical support segment was segregated in to three subcategories for the comprehensive learning, as per the CSF framework. Input supply, Technical Support and Capacity building were the subcategories. Inputs to agriculture include seeds, fertilizers, planting materials, machinery and equipment. Production and distribution of these agricultural inputs is one of the business activities by the FPO as well as a service it provides to the farmer member. FPOs help in decentralization of the supply chain. It is widely acknowledged that bulk purchase of inputs will result in reduction in price; consequently farmers have to pay less compared to individual purchase in small quantities. Availing this service would help the FPO

generate revenue and create member loyalty. Technical assistance efforts from an FPO would be highly effective in improving small holder farmer's agronomic skills. Technical support can be extended by providing trainings and experimenting new initiatives on value addition, financial decision making, business orientation in farming, new sustainable farming practices and the like.

Most of the BOD groups considered for the study stated that input supply was important for the growth of the FPO for many reasons. Inferior quality of inputs would ultimately deter the quality of farm output. The centralised supply of farm inputs from the FPO lowers the input cost and removal of middlemen playing in to the farming domain. Physical and technical support, specifically input supply will effectively help to motivate the members and ensures member retention. To mould the farmers into the company, the company ought to provide certain benefits too. An appropriate input supply system by the FPO would assist farmers to reduce unnecessary wastage of their resources and guide them in sustainable farming practices. Famers are illiterate and they have little knowledge about the precise measures or types of the fertilizer or pesticide to be used. Efforts from the FPO in those lines would support the member to do better and healthier in farming. FPOs can get enhanced access to the farm inputs in bulk at lower fares than an individual farmer. The strength of collectivisation and benefits of superior negotiation capability of an FPO needs to be utilized to support the members with affordable and quality inputs.

However, only two among seven FPOs are providing input supply for their members. This has been done in a systematic manner. A need assessment and survey is conducted in 'wadimandal' (village) level to finalise the quantity of fertilises, seeds and pesticides required by each farmer member. Advocacy is also provided for those who lack knowledge on the type and quantity of purchase. Two FPOs in Gujarat are interested in initiating the service, but they lack initial capital required for the purpose. Also, as farmer members grow multiple varieties of crops, every variety has got a different fertilizer or pesticide which is a larger procurement responsibility that the FPO would have to take with no sufficient capital. One of these FPOs also suggested an interlinking of services between the two FPOs having input supply licence and the two not having that. That is, the possibility of the FPOs having licence providing inputs for the members of other FPOs on request. All the four FPOs in Rajasthan were not interested in focusing on input supply as they are more concerned of business and marketing. The reason for this is as explained by them is that they see business ahead of welfare. Input supply business will not be profitable for the FPO.

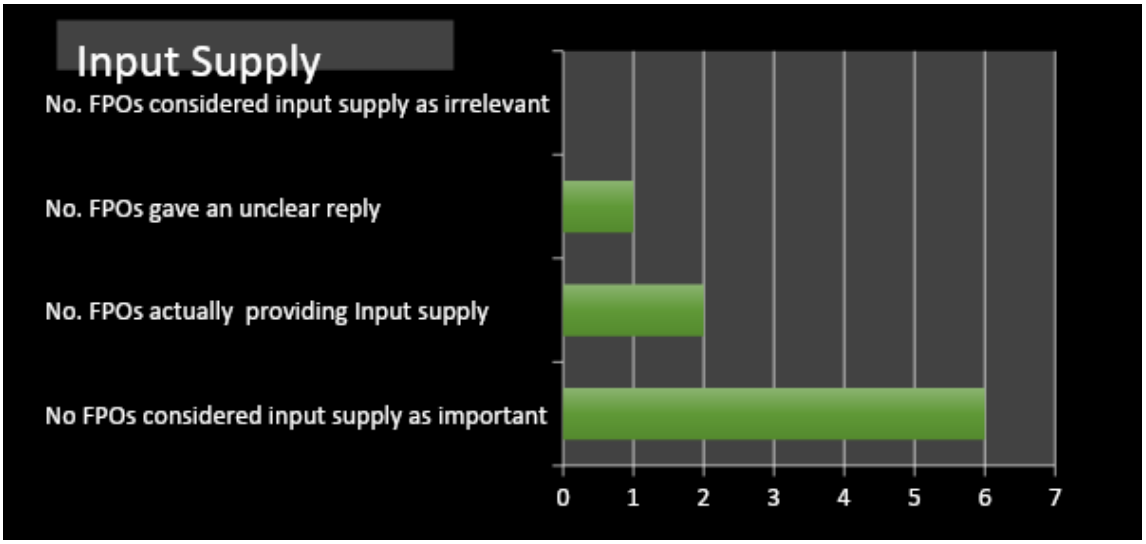


Figure 3 Input Supply: Perception v.s Reality

Technical support can help farmers in betterment of the produce. It helps farmers in knowing and using new methods of farming. BODs of all the FPOs opined that the FPO should create a platform for assisting the producer to understand and make use of interventions to enhance production. Majority of the farmers belong to the old generation with no knowledge of novel farming systems. Hence the FPOs recognise that they need to act as a consultant for handholding them to promote farm sustainability. Though the majority of the BODs considered farm equipment assistance significant for the farmer members, they haven't committed towards the goal yet. Firstly because there believed that there is no point in providing machineries like tractor as many of the farms either own it or has already find their way to get it hired. Capacity building programmes and trainings for the farmer members is facilitated through convergence with government schemes. No new trainings or workshops are organized by the FPOs on their own rather than mobilising members for government led training sessions. FPOs in Gujarat had included farmer members as well in exposure visits to various established FPOs and sustainable farming practices adopted. Capacity building for BODs is also considered vital for the performance of the FPO than farmer trainings as ultimately the managers of the FPO are the directors. Furthermore, the BODs opined that the training programmes and MDPs given for them needs to be in a intensity that matches their comprehensive skills, simplifies enough to make them understand and adequately lengthy to get a hands-on experience. Most of the trainings they received till date were not of that kind.

It can be assessed that FPOs are not actively involved in providing Physical and Technical support despite they are clear about the farmer member's needs. Two major reasons for this

can be cited: a) lack of capital b) lack of awareness on the impact of input supply on the growth and performance of the FPO. Lack of capital is the key ground for not providing inputs for Gujarat FPOs while ignorance of its importance or not having concern is the reason in the case of Rajasthan FPOs. None of the FPOs support custom hiring of farm equipment mainly because they have not prominently thought about that notion of technical support. It can also be seen that FPOs are highly potent agencies for agriculture extension works.

Table 3 Status of providing input supply, technical support, capacity building

FPO	**Input supply**	**Technical supply**	**Capacity building**
FPO 1 Gujarat	Not providing	Provides materials required for primary value addition, packaging kits, new initiatives in farm practices experimented	Organic, residue free farming, drip irigation
FPO 2 Gujarat	Not providing	Provides materials required for primary value addition, organic farm kits	Organic, residue free farming, drip irigation
FPO 3 Gujarat	Provides organic fertilizers, pesticides, seeds	Provides materials required for primary value addition, organic farm kits, packages	Organic, residue free farming, drip irigation
FPO 4 Gujarat	Provides organic fertilizers, pesticides, seeds	Provides materials required for primary value addition, organic farm kits, packages, new methods practiced in other places is tried out	Organic, residue free farming, drip irigation
FPO 5 Rajasthan	Not providing	Provides materials required for primary value addition	Farming related trainings
FPO 6 Rajasthan	Not providing	Provides materials required for primary value addition	Drip irrigation
FPO 7 Rajasthan	Not providing	Poultry shed	Poultry

5.7.1.2 Section B- Governance and Management

Governance and Management theme has five sub themes: Professional management, Board meeting frequency, Proportion of small/ medium farmers, Orientation, Life cycle. A general view of 'professional manager' is an official skilled in finance, production, accounting and personnel with a recognized education in a business school. That is, a company having professional managers will excel in finance, business planning, accounting and the like. This is what professional management means in this case study. We try to assess if there are professionals employed in FPOs, in practical are they able to carry out these works and support the business and operations of the company. A company can have two types of orientation: inward or outward. A company prefer to provide only input supply has inward orientation whereas the one provides only business services has an outward orientation. A mixed orientation will have both input supply and marketing assistance. An ideal orientation is nothing but what feels the best of these types of orientations for their company in the view point of the stakeholder being interviewed. Life cycle in simple term is the age of the FPO and functions it perform at that particular age.

Rajasthan FPOs have 5 BODs in each of their FPOs while Gujarat FPOs have 10 BODs. All the FPOs understand the importance of professional management that it helps the FPO in getting in to cutthroat competition in the market. Also, links ground knowledge and professional experience. Professional management of the FPO not only contributes to the company but also to the entire members and farmlands under its governance. Except one FPO all others claimed that they are receiving professional management for their companies. The FPOs have mainly two noticeable concepts relating to the term professional management. For the FPOs from Rajasthan, professional management is finding more business and making profit where as for the ones from Gujarat it is maintaining social capital through constant networking with members and equal sharing of responsibilities among the BODs and their capabilities of fulfilling the goals assigned. However, all the FPOs required additional support in management of the FPO. All of them wanted to have an external mentor/ professional for handholding further.

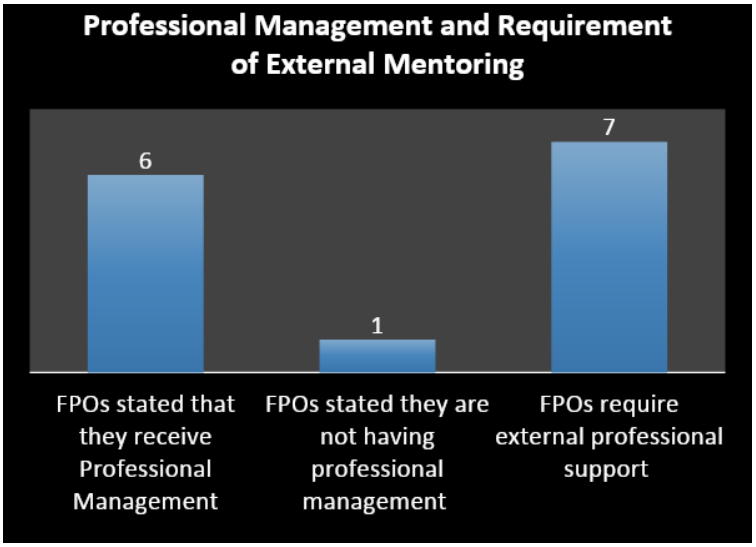


Figure 4 Professional Management and External Mentoring requirements

In order to maintain professionalism, the Gujarat FPOs have certain strategies: selecting BODs who are active and willing to work for the community, adding at least one graduate in the director's team, regular meetings among BODs and village level meetings between BODs and farmers are ensured, rules and regulations are informally set, review meetings for checking BOD performance. One of the FPOs (FPO 1) also suggested having a feedback assessment system from the farmers to rectify the mistakes committed and enhance their trust in the FPO. Rajasthan FPOs ensure professional governance through unified decision making, attending trainings, meeting farmers for discussions regarding procurement of produce.

Table 4 Educational qualification and farming experience of BODs

FPO	Educational Qualification of BOD				Farming Experience			
	Post-Graduation/ Graduation/ Diploma	10th/ 12th pass	5- 9th grade	Total no. BODs	More than 20 years	11-20 years	6- 10 years	5 years and below
FPO 1	2	5	3	10	5	5	0	0
FPO 2	2	4	4	10	4	6	0	0
FPO 3	1	4	5	10	6	4	0	0
FPO 4	4	5	1	10	3	7	0	0
FPO 5	2	0	3	5	0	4	0	1

FPO 6	2	0	3	5	4	0	1	0
FPO 7	2	0	3	5	3	0	0	2

Source: Primary data

FPOs consider board meetings and meetings with farmers with utmost importance, though the meeting frequencies of the FPOs vary. However, there is one Annual General Meeting conducted by all the FPOs once in a year. BOD- Farmer meetings happen frequently. Mostly, the village level farmer groups are led by an assigned BOD in Gujarat. In case of Rajasthan, no such leadership is facilitated.

Majority of the FPOs have marginal farmers as its directors. Only two FPOs have *small farmer representation* and only 1 FPO has women farmer representation. The FPOs do not practice any reservation system for small and women farmers. This needs to be taken on a serious note. Women and small farmer representation is crucial for other farmers of this category to join the FPO and be an active shareholder than a passive stakeholder. Gujarat FPOs have more marginal and small farmers in their BODs whereas Rajasthan FPOs have more large and medium farmers. FPOs are functional mainly for benefiting marginal small and medium farmers; henceforth their representation should be assured.

Table 5 Landholdings of BoDs

FPO	**Landholding of BODs**				
	Marginal (below 1 hectare)	**Small (1-2 hectare)**	**Semi-Medium (2-4 hectare**	**Medium (4-10)**	**Large (12 hectare and above)**
FPO 1	3	6	1	0	0
FPO 2	4	6	0	0	0
FPO 3	10	0	0	0	0
FPO 4	10	0	0	0	0
FPO 5	1	0	1	3	0
FPO 6	0	1	1	2	1
FPO 7	0	2	0	1	2

Source: Data provided by the FPO

There has been no BOD rotation in practice. Incumbent BODs claims that others are not willing to take the responsibility. Nonetheless, in a large group consisting more than 300 people, it is the responsibility of the FPO to provide opportunity to maximum possible members to be a part of active managers of the company.

An assortment of replies appeared on the question of *ideal orientation* (the orientation that they feel would be the best suit for their company) that an FPO should possess. Around 57% of the FPOs suggested the FPO ought to have a mixed orientation and focus on both input supply as well as on marketing services. Rest of the FPOs preferred to choose Outward orientation that plunges exclusively on marketing to be the ideal orientation. However, while considering the actual orientation of the FPOs, above 70% (5 out of 7 FPOs) follow an outward orientation. Linking this with their responses on input supply, it can be seen that the FPOs preferred only outward orientation reported to have less interest in input supply as they believe marketing is the only target of the FPO. Furthermore, the FPOs interested in mixed orientation, but currently follow an outward orientation reported to have interest in input supply assistance but due to financial issues and other internal issues, they are unable to take it forward. In this scenario, additional concern should be given to encourage the FPOs in providing Physical and Technical Support as well.

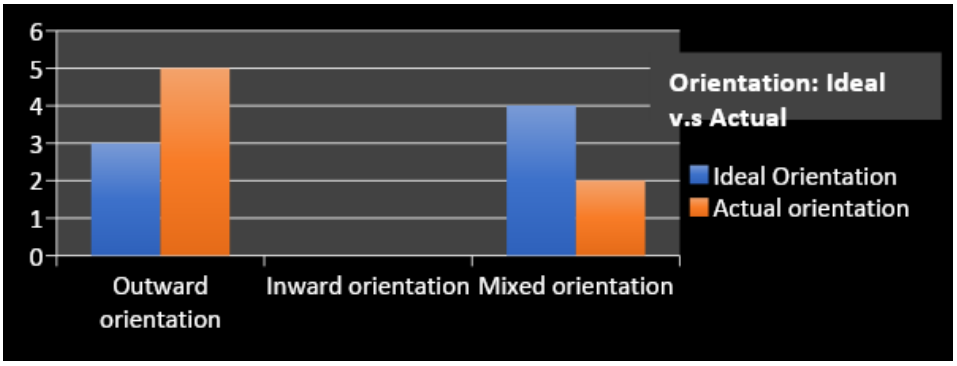


Figure 5 Ideal Orientation v.s Actual orientation of FPOs

Source: Data from interviews

Majority of the BODs are not clear about the business plan. It has been drafted with the support of POPI not with absolute knowledge on it.

Life cycle was given least importance by the FPOs as years of functioning cannot reflect the efficiency of operation. They suggested different parameters of growth such as membership growth, member retention, marketing, profit, innovation and new initiatives, equity share, and

capacity building. Membership was suggested by 34% of the FPOs, followed by New initiatives and Marketing, sharing a proportion of 17% each.

Figure 6 Growth determinants

Source: Data from interviews

Membership Growth in all the FPOs was inconsistent during four consecutive years after establishment. In the first and the last year under consideration showed less number of members joining the FPOs, except in FPO 7. Most of the FPOs show a decline in membership in year 4. This could be of many reasons including deficiency of outreach, benefits availed from the FPO, lack of trust between members and BODs.

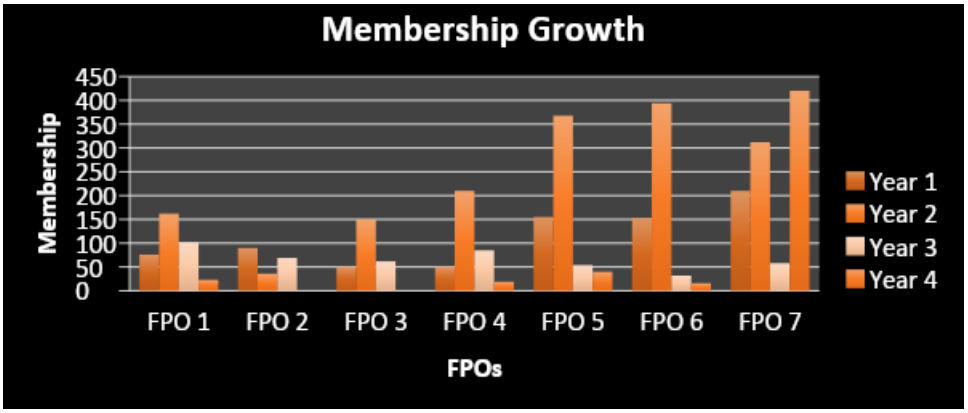


Figure 7 Membership Growth

Source: Primary Data provided by the FPOs

FPOs in Gujarat, is seen to have kept their scale of procurement to a lower level compared to the Rajasthan FPOs. Gujarat FPOs have members less than 500 while Rajasthan FPOs have more than 500 members in every FPO. This could be the reason for keeping the scale lower. Value addition could be also a determinant for procurement quantity. FPO 5, FPO 6 are involved in tertiary level value addition, consequently they could collect more produce from the members. Promoting value addition can improve scale of procurement and business.

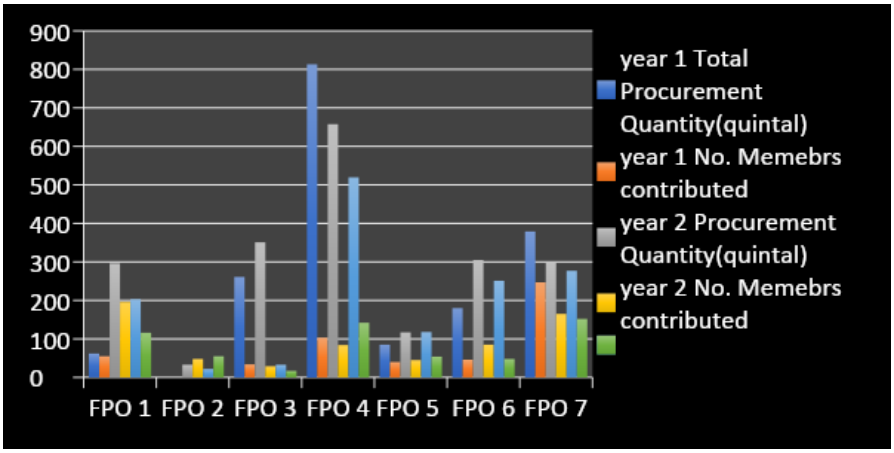


Figure 8 Procurement v.s Contribution from members

Source: Primary Data provided by the FPOs

Data on member contribution to the procurement, cross-analysed with total membership highlight certain relevant trends. Quantity of produce collected by FPOs in Gujarat is less compared to that of the FPOs in Rajasthan. But Member contribution to total member proportion (Number of members in the FPO compared with the number of Members contributed their produce to the FPO) is higher for Gujarat and extremely lower for Rajasthan. That is, Gujarat FPOs have more members contributed to the collection of produce whereas FPOs in Rajasthan managed to procure from only a few members while compared to their total number of members. This in one way indicates participation of members in business activities of the FPO. To be precise, there are more passive members than active shareholders in the FPOs in Rajasthan. Higher quantities of procurement had come only from a few members below 100, given that these FPOs have more than 500 member farmers affiliated to it. This gap is vital to be look at. This could imply inefficiency of the FPO in reaching out to its members, promoting social inclusion and elite capture. Mere membership growth cannot be a parameter of performance of the FPO. Member participation should also be assessed as the main motto behind FPOs in India and developing countries is social inclusion and ultimately welfare of marginalised poor farmers in a large scale.

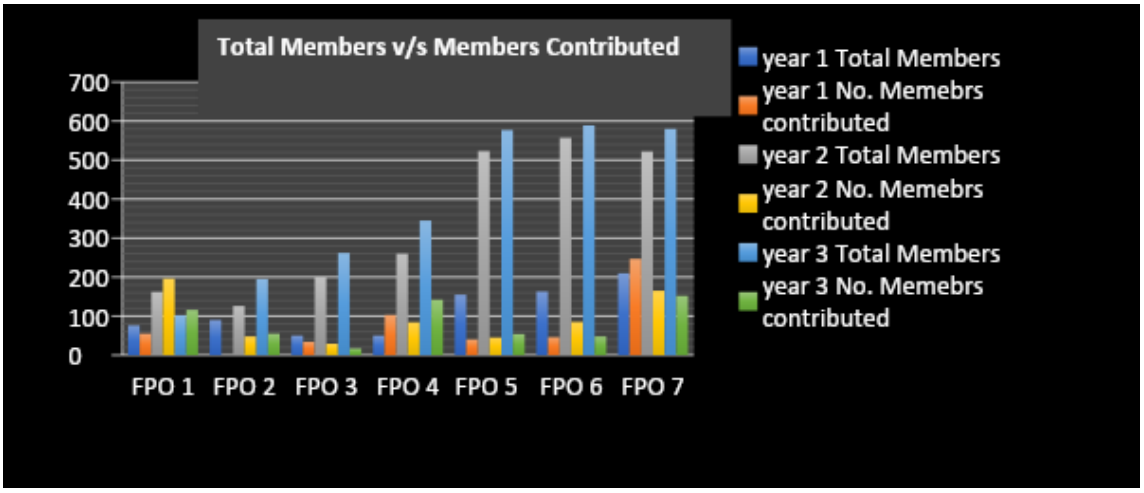


Figure 9 Total members v.s Members contributed to FPO procurement

Source: Primary Data provided by the FPOs

Good governance in an FPO is reflected by its member participation rather than membership. FPOs should be emboldened to increase their scale of procurement and get contribution from more farmer members, both hand in hand. Also, this could possibly direct them towards value addition and find better markets.

5.7.1.3 Section C: Collaboration and Convergence

Collaboration and Convergence covers areas related to the External agency, Government support, and Market linkage collaborations.

Producer Organization Promoting Institution (POPI) is the forerunner external agency in handholding FPOs. POPI has changing roles during a 0- 10 years timeframe as per NABKISAN Guidelines. POPI starts as an initiator then becomes a facilitator and finally moves aside as an advisor. Orientation of this institution is mirrored in the way it supports an FPO and the way the FPO progress towards the goal of holistic development. POPIs of the selected FPOs have been giving technical, legal, documentation assistance, marketing, convergence of government schemes and the like for the FPOs. Promoting agency of Rajasthan FPOs concentrate more on marketing so as the FPOs. Here the convergence degree is meagre and is only for trainings from government departments. It has not promoted any sustainable farm practice ideas for the FPO and subsequently to its members. Promoting agency of Gujarat, however, has been vigorous in promoting sustainable agriculture through introducing organic farming and residue free farming by convergence with government schemes. The POPI and the FPOs under it gives

more importance to welfare of the farmer members through social change actions like reducing alcoholism, advocating on health of farmers amongst others.

Nevertheless, promoting agencies are playing a role beyond that of a facilitator which is valuable on one hand and risky on the other. Considering the flip side of the ground reality, the FPOs are completely dependent on the POPIs for all critical decision making process including its governance and management decisions. However, the FPOs are confident that they can survive even if POPI is not assisting them further. To the contrast, when asked upon the requirement of an external professional other than POPI, all the FPOs suggested a strong need for it. Also, most of them had stated that their company received professional management. Inter linking these information shows instability in opinion and put forth the sustenance of the FPO without an external mentor under question.

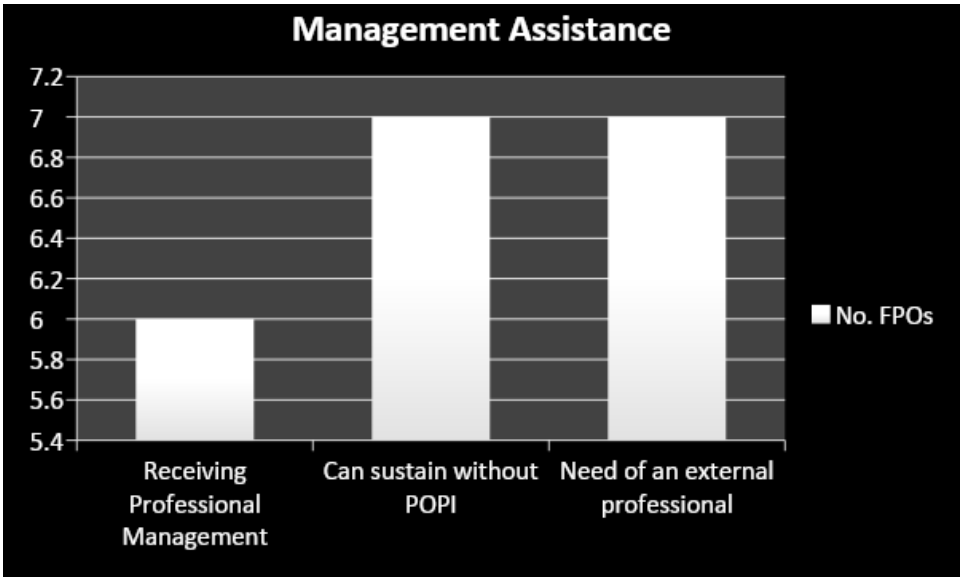


Figure 10 Management Assistance

Source: Data from interviews

FPOs can be utilised as flagship platforms for convergence with government schemes related to agriculture domain so that the welfare can reach to more number of farmers. Currently, Gujarat FPOs have utilised schemes for organic farming and related trainings. Rajasthan FPOs promotes trainings like water management, micro-irrigation system etc from other departments with convergence. However, FPOs had better utilise convergence in other zones like public procurement for farming, promote new initiatives in farming and marketing, for promoting use of technology based farm equipment and more.

FPOs suggested certain government support they require for functioning. It includes support in technical assistance and innovation; facilitate convergence in an effective way, assistance in market linkage such as modern outlets, financial. Financial requirements top the list followed by convergence facilitation and Technical support.

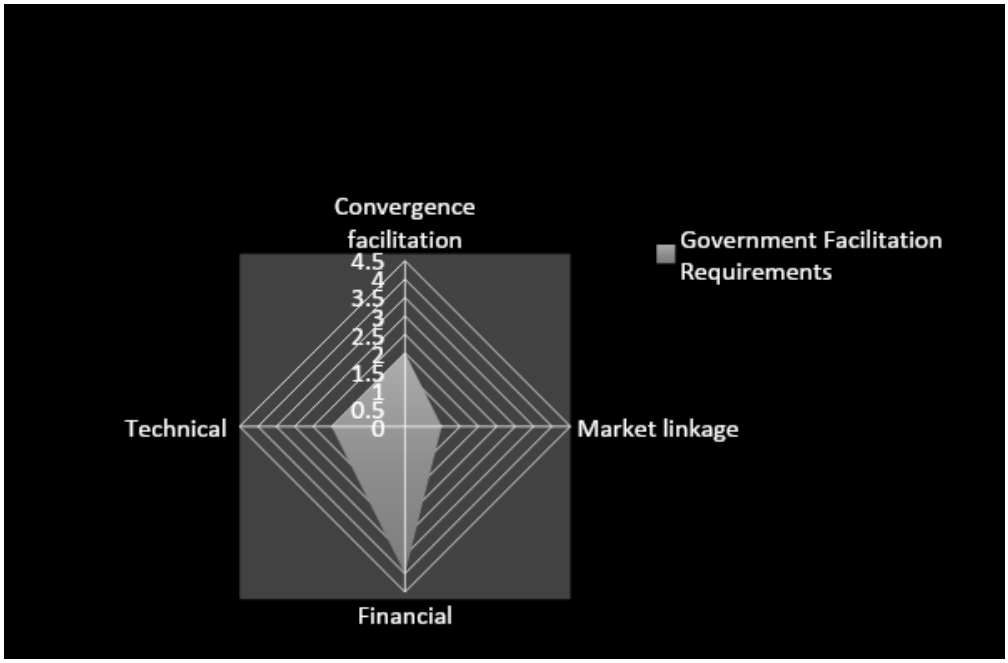


Figure 11 Government facilitation requirements

Source: Data from interviews

There are many schemes that can be linked to the FPO such as KUSUM, SKY (for solar farming), Agricultural Mechanisation Programme under National Agriculture Development Programme, and National Project on Organic Farming and so on.

FPOs have been struggling to establish marketing channels. Gujarat FPOs had MoUs with Vadilal, Field fresh on a contract basis. They are in the final phase of initiating Farmer to Family concept of selling fresh organic vegetables directly from the farm to residential societies in cities nearby. They also sell in the local mandis. Among the three FPOs in Rajasthan, only Pushkar FPO managed to create considerable markets in different cities like Jaipur, Bangalore, Calicut and Ajmer. They also export their Gulkand through an external agency. Srikamal FPO working on Diary had MoU with Patanjali for Ghee, however it no longer exist. The other FPO, KrishakMitra is slowly exploring markets for dried vegetables. All these FPOs face a risk of having limited market access. Forward linkage of all these FPOs need to be further strengthened. This is mainly because of a mix of reasons including inefficient business

orientation, less exposure, sparse idea of diversification, not having apposite market research and the like.

5.7.1.4 Section D – Innovations and Advancement

Innovation and Advancements take account of 6 criteria: New initiatives taken up by the FPOs-both for farming and value addition, Sustainable Agriculture Practices, Fertilizer type and Use, Marketing Information System, Value Addition, Product Differentiation.

While Gujarat FPOs took up new initiatives in production phase, Rajasthan FPOs did it mostly in value addition phase. Gujarat FPOs actively promoted sustainable farming practices such as organic farming, residue free farming, and minimum usage of water and so on. Rajasthan farmers added value to their products by converting raw products to processed forms. For instant, one FPO prepares Gulkand from rose and another one makes dry vegetables out of fresh vegetables collected from farmers.

Table 6 New initiatives

FPO	**New Initiatives**
Gujarat	
FPO 1	Organic Farming, Residue free farming, Crop Diversification
FPO 2	Residue free farming, Crop Diversification
FPO 3	Organic Farming, Residue free farming, Crop Diversification
FPO 4	Organic Farming, Residue free farming, Crop Diversification
Rajasthan	
FPO 5	Vegetable Dryer
FPO 6	Flavours of Gulkand, Amla Candy

FPO 7	Poultry Farming

Source: Data from interviews

Leading new initiatives in both farming practice and in value addition would be more fruitful for the FPOs in making business.

Sustainable farming practices includes organic and residue free farming. FPOs in Gujarat held a strong positive approach and are interested towards these modes of cultivation whereas the FPOs in Rajasthan showed negative approach and were uninterested in promoting anything new in farm practices. Foremost motives for positive approach of Gujarat FPOs were reduced inputcost, improved market value, less impact on earth and human life, quality of the produce and prospective for contract farming. Reasons for negative approach and disinterest among Rajasthan FPOs towards sustainable farming practices were less market potential and geographical feasibility dilemmas. It is evident that these FPOs have not got sufficient exposure on sustainable farming practices and their benefits. Extra focus needs to be given in this aspect since FPOs are effectual podiums for inculcating these new initiatives to a large number of farmers.

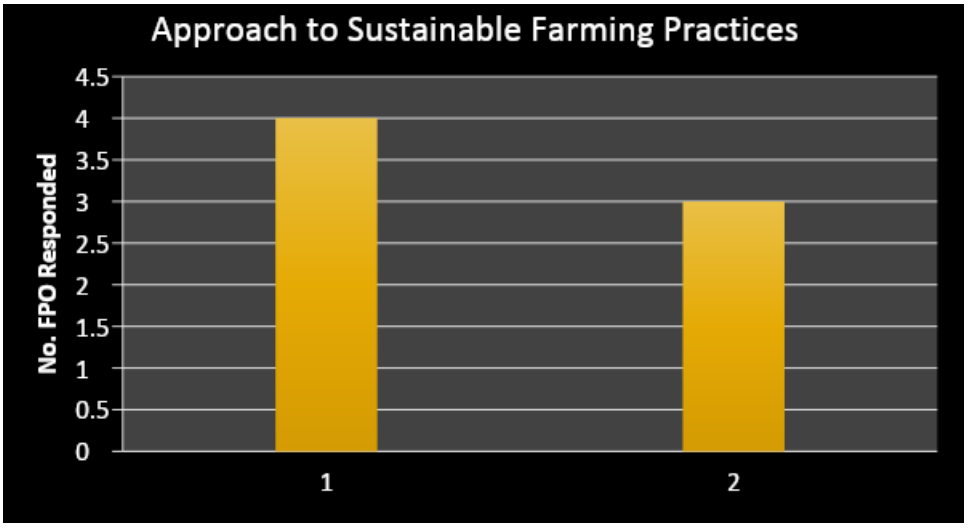


Figure 12 Approach to sustainable farming practices

Source: Data from interviews

Alike to the above discussion, BODs of Gujarat prefer reducing the use of chemical fertilizer by promoting residue free and organic farming. On the contrary, BODs of Rajasthan FPOs

strongly goes ahead with the use of chemicals except for products that is meant for exporting, for instance, Gulkand.

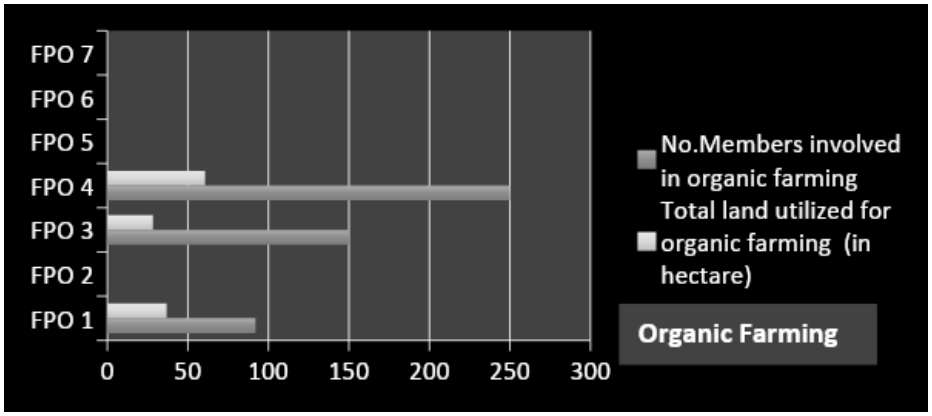


Figure 13 Land utilized for organic farming and Number of members involved

Source: Data from interviews

FPOs get to know the market price of their produce mostly from the markets directly. Some farmers in Gujarat use apps like Agri- Media. No proper market research is executed by the FPOs. Henceforth all, the FPOs strongly preferred for a Marketing Information System. MIS includes Internal Reports System, Marketing Intelligence System, Marketing Research System, and Marketing Decision Support System. For the complexity associated with this process, FPOs should get an external professional support or practically oriented training sessions exclusively on the marketing segment.

In the theme of Value Addition, all the FPO understood it as the most important factor for fetching addedworth in the market. Tertiary value addition is implemented only by two FPOs; one in Rose and Amla, other in Vegetables. FPO involved in Diary had also produced Ghee and had MoU with Patanjali, however, now they have back dropped from the contract and the FPO stopped Ghee manufacturing. All the FPOs based in Gujarat are doing only primary value addition. They severely lack capital for investing in value addition and these FPOs have a membership below 500. FPOs have need of additional support for value addition in terms of investment, capacity building, market research and branding.

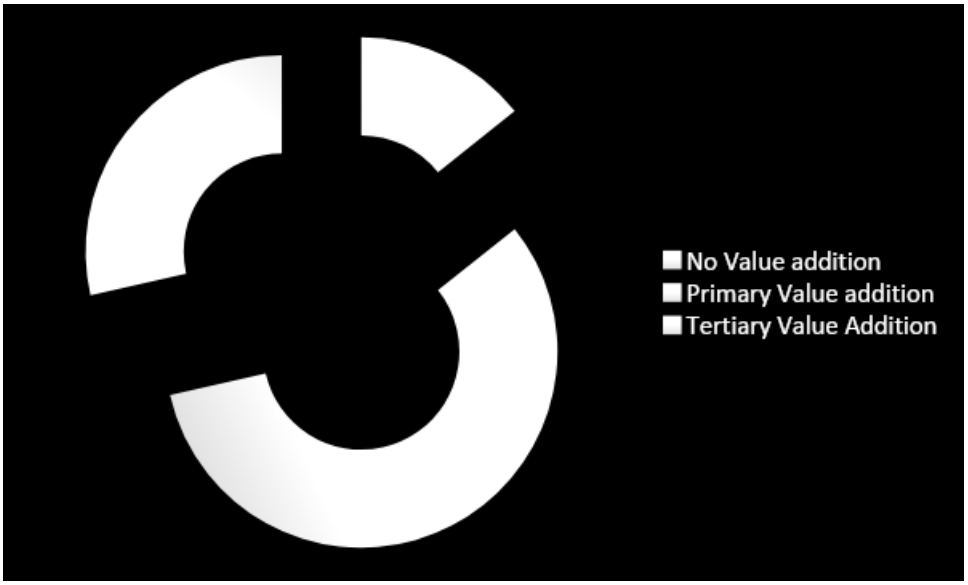


Figure 14 Stages of value addition

Source: Data from interviews

Product differentiation is a concept less known for majority of the FPOs. Many of them, especially the FPOs in Gujarat relate it to the quality of produce, as they maintain quality with organic and residue free farming. Some FPOs related it to value addition. In addition, a wide majority do not understand the concept. Product differentiation is an important concept closely linked to value addition and marketing. FPOs should be oriented to differentiate their products from others in the market.

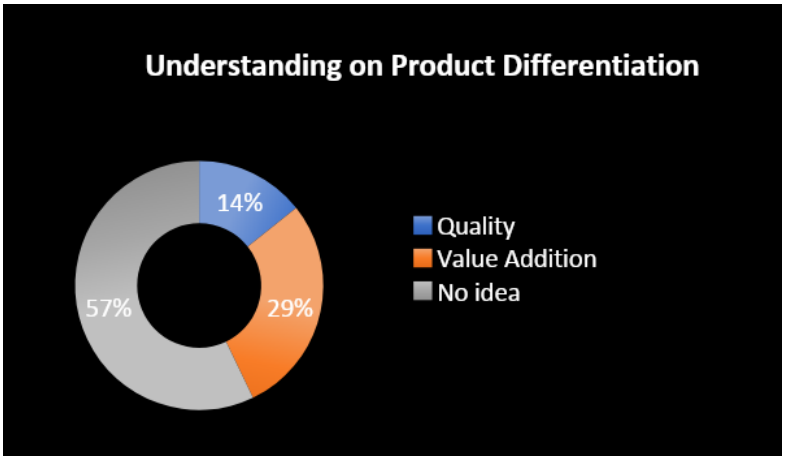


Figure 15 Understanding on Product differentiation

Source: Data from interviews

5.7.1.5 Section E-Financial Parameters

Financial determinants consider Profit, Equity share, Dividend and Procured produce in two consecutive years. Data is cited from audited reports of the FPOs. For Gujarat, the data is available for 2018-2019 and for Rajasthan FPOs it is during 2017-2018.

BODs of all the FPOs claimed that their company makes sufficient profit.

Table 7 Profit and Equity share

FPO	Profit (in Rs.)	
	Year 1	Year 2
FPO 1	2038	3097
FPO 2	1279	2967
FPO 3	6417	16,490
FPO 4	5865	4286
FPO 5	1,73,464	11,401
FPO 6	9,373	7,090
FPO 7	1,78,355	74,443

FPO	No. Equity Share	
	Year 1	Year 2
FPO 1	375	375
FPO 2	212	212
FPO 3	634	634
FPO 4-	461	461
FPO 5	1000	51,000
FPO 6	1000	51,000
FPO 7	1000	51,000

Source: Audited Reports (Year- 2018, 2019 for FPO 1-FPO4 and Years- 2017, 2018 for FPO-5-FPO7)

However, it is evident from the above table that FPOs are not making sufficient profit margins. The data is cited from audited reports provided by the FPOs. FPOs in Gujarat are having comparatively less profit margins, ranging between Rs. 2000/- to Rs. 6000/-. However, the trend shows that their profit improved, marginally for FPO 1, FPO 2 and significantly for FPO 3. FPO 4 had a slight decline in the profit margin in the second year. FPOs in Rajasthan earned higher profits in the year 1. FPO 5, FPO 7 had profits above 1 lakh and FPO 6 around Rs.9000/. Nevertheless, their profits reduced drastically in the next year.

Equity share of FPOs in Gujarat remained the same in two consecutive years. For Rajasthan FPOs shares have relevant increment in equity shares.

None of the FPOs are giving dividend to their members despite the suggestion to divide profits among the members by official documents of NABKISAN. This is mainly because FPOs are not generating profits adequate to be divided.

5.8 Farmer Perspectives

A group of farmer members were interviewed from each of the selected FPOs. Intention was to understand the real impact by the FPOs among the beneficiaries and to assess the extent of its reach out. Also, it is important to hear from the members about their perspectives on success factors of their own institutions. A different questionnaire was designed for the purpose adding on certain context specific questions but without changing the organic structure of the CSF framework.

5.8.1 Section A- Physical and Technical support

Farmers face multitude of challenges within and outside the farm. Produce as well as seed quality problems, marketing without primary value addition, lower market prices, inadequate knowledge and technology orientation, water scarcity, pest attacks, fertilizer use and consequent ill health of the farmers and the like were expressed as the major problems faced by the farmers. They often faced difficulties to balance between input cost and selling price. Farmers who have membership in the first four FPOs, in Gujarat, stated that their problems were solved to a greater limit as the FPO assisted them in adoption of new technology in water management, insinuated the notion of organic and residue free farming. Also, these FPOs had given training and exposure visits to those farmers interested in organic and residue free farming. Such sessions said to have motivated them. Gujarat FPOs are giving financial assistance to their farmer members. Farmers from FPO 3 and FPO 4 were contented with the input supply provided by their FPOs.

"The main intricacy as a farmer is the difficulty to balance between input cost and selling price. Input supply is provided by the FPO as per the needs of farmers. As input is provided in a lower price and only precise amount required for the farm area, there is reduction in input cost."- Farmer member, FPO 3

Farmer members in Rajasthan said that there is more support from other government departments after the FPO was constituted. However, they do not receive any input supply or technical assistance. Trainings are received from KVK not organised or communicated by the FPO. Nevertheless, their produce acquires assured prices if sold to the FPO.

None of the FPOs are providing any farm equipment for the farmers. Both the BODs and farmers are less aware of the technologies used by grass roots innovators across rural India and the modern technological farm gadgets.

All the farmer members across different FPOs suggested that the FPOs should work on providing better input supply and farm equipment.

5.8.2 Section B- Governance and Management

All the farmer members opined that their FPOs are receiving professional management. Gujarat farmer members supposed that they trust their BODs as they are always present in the hour of need and members are their priority. They are educated and initiatives taken by them are trust worthy. This implies the effect of *technical rationality*, where people trust the information by virtue of the validity of its source. BODs organises meetings in village level and often lead those meetings. They were also satisfied about the attempts from the FPO and its BODs to bring about social change and member welfare.

"…during wadi project members were mandated to stop drinking to be a part of the group. Similarly in the FPO also, prior importance is always placed on social responsibility and benefits". – Farmer member, FPO 4

Farmer members of Rajasthan said that their BODs organise meetings, communicate about new ventures of the FPOs and how much produce would be collected from them.

Majority of the farmers interviewed wanted to be one among the board of directors. They believed that everyone should get an opportunity to be among the prime decision makers and to make their sounds heard.

"Often no one hears our opinion. We wish to get that power to be heard and do more better…"– Farmer member, FPO 7

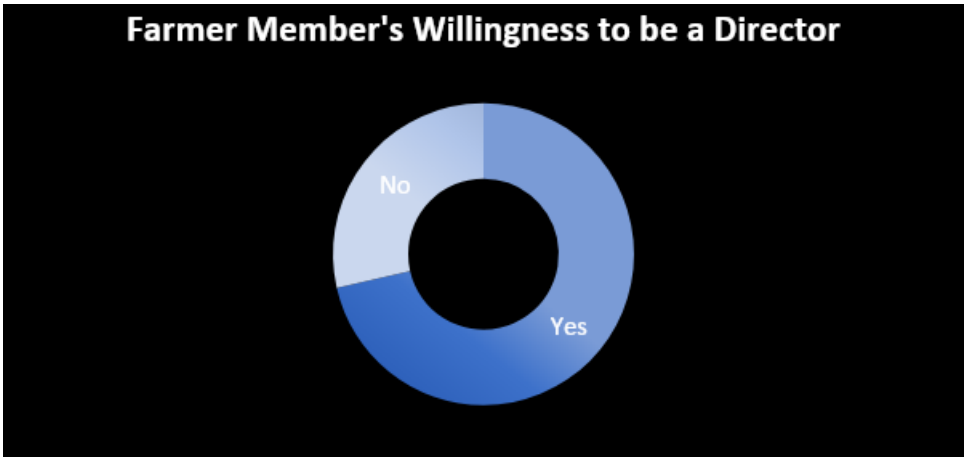


Figure 16 Farmer's willingness to become a director

Source: Data from interviews

Regular meetings at village level are conducted in all the FPOs. For FPOs 1-4, the meetings serves as a needs assessment platform as they take survey for input supply or internal lending during such meetings. They also get guidelines for better farming practice during those sessions. For the farmers in FPOs 5-7, meetings are plausible areas to connect with other farmers and to know about the recent happenings in the FPO.

Majority of the farmers preferred the FPOs have a mixed orientation. Five out of 7 farmer groups wanted their FPOs to assist them in both production and marketing.

"If we get quality input we get better output. If we produce better output we find high market price that motivates us to produce even more"-Farmer member, FPO 1

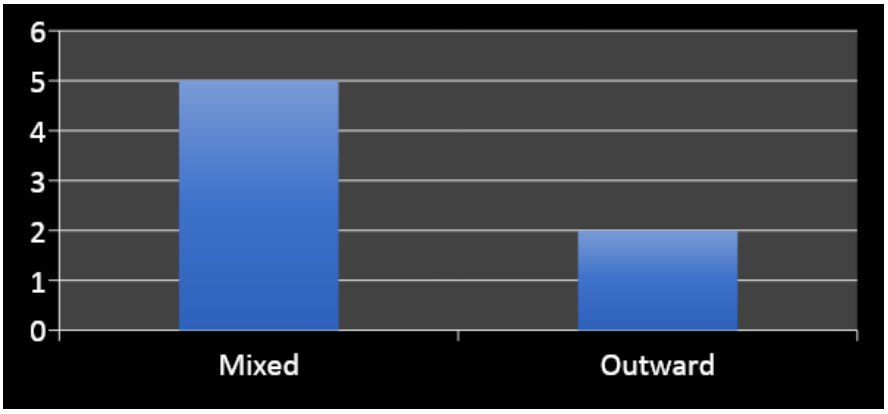


Figure 17 Orientation preferred by farmer members

Source: Data from interviews

5.8.3 Section C- Convergence and Handholding

As per the accounts of FPOs 1-4, of Gujarat, POPI is seen as a social transformer who helped them to change their lives and livelihoods. POPI helps in new farming practices, market linkage, social welfare and management of the FPO. For the farmer members of FPO 5-7, in Rajasthan, the POPI support is purely for the management of the FPO and for adding new members to it.

Most of the farmer members hesitated to share their suspicions on the sustainability of their FPOs if POPI stops to assist them. A majority of them suspect that their FPOs may stop functioning if there is no support from an external source.

"POPI assists in every area of the FPO. Directors acts as per the POPI's instructions. If POPI is not there who will tell them what to do?"– Farmer Member, FPO 5

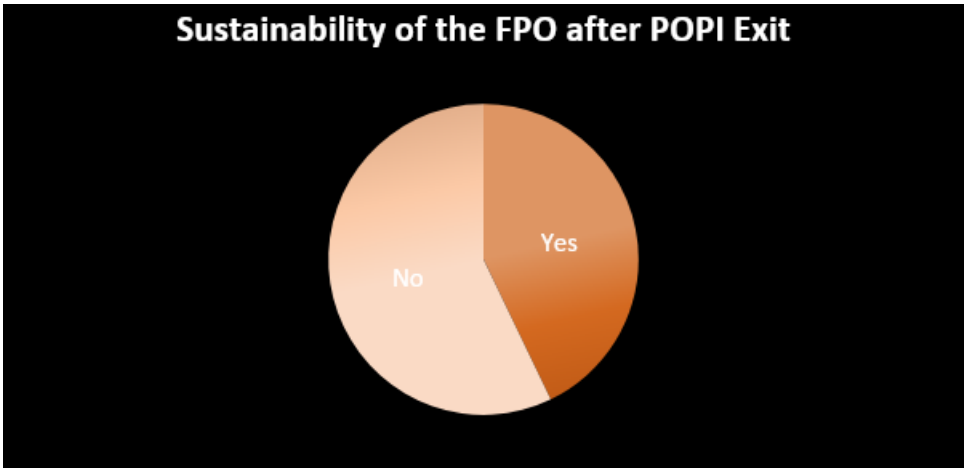


Figure 18 Farmer's thoughts on sustainability of FPOs after POPI exit

Source: Data from interviews

Although the farmers were happy about the price they receive for their produce, they stated that only a few quantities are received by the FPO from them. Rest of the produce is sold in the local mandi and they face problems of middlemen and lower prices as usual. Nonetheless, some members of the FPOs in Gujarat said they got more prices from the middlemen because the FPO is paying them more.

"We can sell only some vegetables to the company. Rest needs to be sold in the market. There we get lower prices"- Farmer member FPO 5

"We got more power in bargaining after we joined the FPO. Middlemen knew we have a second market other than them- the company and they pay us more. Also our produce quality also improved as we do good farming practices guided by the FPO. So they can't degrade our produce quality" – Farmer member, FPO 2

5.8.4 Section D- Innovations and Advancements

FPOs 1-5 have initiated sustainable farming practices and is handholding them for the same. On the other hand, FPOs 5-7 has not initiated any new or sustainable farming practices.
Farmer members of the FPOs 1-4 seemed extremely and proud to have joined the FPO, because they felt that they are change makers as they are in a venture of saving the soil and people from hazardous chemicals. These FPOs have initiated sustainable farming practices such as organic and residue free cultivation.

"We started new farming initiatives like organic farming and residue free farming only because of the FPO. Otherwise we didn't have any idea about these initiatives. Now we are saving the soil and humans. – Farmer member, FPO 1

Health issues among farmers because of the contemporary farming practices were the highlight point during the discussion by farmers of every FPO. Farmers of the Gujarat FPOs have experienced the way their health started improving after they shifted to organic farming, though in smaller proportions of land. Farmers of the FPOs in Rajasthan were critical about the contemporary farming practices. All they know is their health is under peril and it is caused by the chemicals they use. However, they are helpless; they do not know the way out of chemical oriented farming. There's no one out there to assist them. All the farmers across the FPOs responded positively to sustainable farming practices. They wish to switch from contemporary farming practices.

"Health issues among farmers were common. Using chemical pesticides and fertilizers are extremely difficult. FPO motivated to go for organic farming that is improving the soil and farmer health"- Farmer member, FPO 4

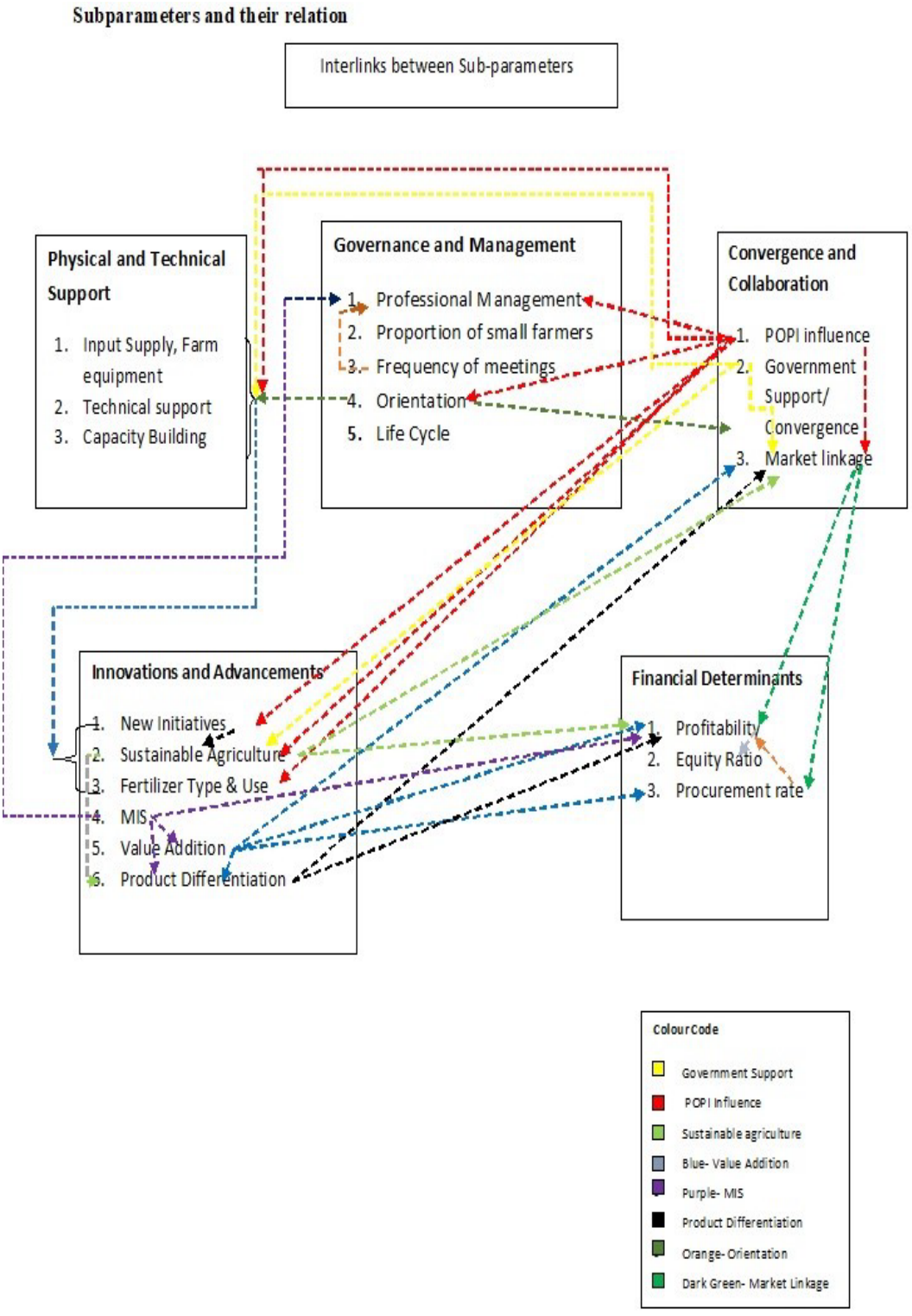
"Is there any way to improve our health? We have heard about Organic farming. But they say it is not profitable. We don't have knowledge about it. We are sick and helpless, we are illiterate." – Farmer member, FPO 7

As they get market prices only from the local market, they preferred to have MIS so that they can find better markets. None of the farmers were aware about concepts of value addition or product differentiation, though many of them do primary value addition by sorting and grading.

5.8.5 Section E- Financial Parameters

Farmer members are not aware about any market linkage or transactions their company is doing. They responded that their FPOs are making sufficient profit, because that's what they hear from the directors. Moreover, they do not know the concept of dividend, they are happy that they receive higher prices than the market rates.

5.9 Subparameters and their relation



5.10 Top Influencers

Case study reveals certain qualitative inter linkages between sub parameters. This is demonstrated using the diagrammed below. Arrows indicating relationships portray the number of linkages arising from a particular.

Table 8 Influencer and nature of influence

Sr. no	Influencer	Influenced	Outcome
1.	Producer Organization Promoting Institution	1. Orientation 2. Technical Support 3. Input supply 4. Capacity Building 5. Professional Management 6. New Initiatives 7. Sustainable Agriculture 8. Fertilizer Type & Use 9. Market linkage	1. Restrict 2. Improves 3. Improve/Impair 4. Improves 5. Improves 6. Improves 7. Improve/Impair 8. Improve/Impair 9. Restrict
2	Government Support	1. Input, Farm Equipment 2. Technical Support 3. Capacity Building 4. Sustainable Agriculture 5. Market Linkage	1. Improve 2. Improve 3. Improve 4. Improve 5. Improve
3.	Value Addition	1.Market Linkage 2. Product Differentiation 3. Profitability 4. Procurement Rate	1. Improve 2. Improve 3. Improve 4. Improve
4.1	Marketing Information System	1. Professional Management	1. Improve 2. Improve

		2. Profitability 3. Product Differentiation 4. Value Addition	3. Improve 4. Improve
4.2	Orientation	1. Input Supply + FE 2. Technical Support 3. Capacity Building 4. Government Support/ convergence	1. Improve/Impair 2. Improve/Impair 3. Improve/Impair 4. Improve/Impair
5	Sustainable Agriculture	1. Market Linkage 2. Product Differentiation 3. Profitability	1. Improve 2. Improve 3. Improve

Five major influencers are External agency support, Government support, Value addition, MIS, Orientation and Sustainable agriculture as per the qualitatively explained relations from the field data.

5.11. Producer Organization Promoting Institutions (POPI) (External agency)

Influence of Producer Organization Promoting Institution (POPI) is seemingly the most influencing force in the performance of FPOs. Being the initiator, facilitator and the advisor of an FPO, POPI plays a key role in moulding the organic nature of the company/FPO itself; that is, the *orientation*. It is the recommendations and support from POPI that enables the FPO to choose the orientation. If the POPI is completely market oriented, so do the FPOs promoted by it. POPI is the one who aid the FPO in initiating input supply system: to get fertilizer, seed, pesticide license, provide technical support to the FPO so that it can support its members. It also organizes capacity building activities for both the BODs and farmer members through convergence with government schemes. Having organized, trained the BODs and CEO, POPI

sets the root base of professionalism in the FPO, which would be taken ahead by the directors and managers. POPI employs the CEO, assist in documentation works, auditing and all related legal and managerial functions. It is the influence of POPI that enable FPOs to start new initiatives in the business propaganda. Some FPOs focus on farm aspect and market aspect, while other FPOs do it only in the market aspect. It mainly depends on the guidance from the implementing agency, for the reason that the FPOs are totally new to this domain. The concept of sustainable agriculture is relatively new to Indian farmers. Though many of them understand its ideals, a majority is yet to practice it in their farmlands. POPI plays a crucial role in facilitating such practices to a large scale of farmers through the FPOs they promote; it totally depends on the POPI's perceptive and interests. Fertilizer type and its proportion of usage have also changed over the years. POPI, being the technical advisor, influence the BODs on such aspects and finally reaches to the farmer members. This is closely related to sustainable farming practices. It is mainly the networks of POPI turns out to be the market channels of the FPOs. To expand their company outside this small arena is the obligation of the directors and managers.

5.12. Government Support

Institutional support from the facilitating body like NABARD and other related departments like agriculture, horticulture, and animal husbandry are essential in promoting successful FPOs. FPOs are making complete use of the capacity building sessions provided by NABARD. Also, many of the FPOs utilize government schemes for organic farming, water conservation, micro irrigation and solar pumps to equip their members with improved farm operations. Government departments have plentiful schemes for agriculture and related activities. Convergence these schemes to the FPOs would facilitate their enhanced functioning.

5.13. Value Addition

Value addition seemingly influences the profitability, procurement quantities, product differentiation and market linkage. It is self-evident that, establishing an external value above the original value of a primary produce would draw additional profit. It also allows the companies to find distant markets rather than the local and regional ones. FPOs involved in value addition can procure further quantities of produce from their farmers, encouraging member participation. Product differentiation strategies could be better applied with vale addition.

5.14. Marketing Information System

Marketing Information System is the fourth most crucial factor that influences professional management of an FPO, market linkage, product differentiation, and value addition.Marketing information involves comprehensive market research that enables the FPO to make crucial decisions and pick up apposite marketing outlets. It also let the FPO understand the market demands so as to diversify and customize their products through value addition and product differentiation.

5.15 Orientation

Orientation of the FPO decides the extent to which it helps the members in farm activities and marketing. Orientation can be inward: focusing on production assistance, outward: focusing market assistance or a mix of both. Henceforth it affects a range of factors such as technical support, capacity building facilitation, input supply and convergence with government schemes.

5.16. Sustainable Agriculture

Sustainable agriculture practices reflect the commitment of the FPO towards environment sustainability and member welfare. It can enhance market linkage as healthy farm produce is gaining more prominence in the food markets. Also, it is being used as a way for product differentiation. These influences consequently lead to superior profitability rates.

5.17. Concepts outside the CSF framework cropped up from the study

5.17.1 Physical and Technical support

5.17.1.1 Awareness

Although they are farmers with more than 10 years of agriculture experience, the FPO board members do not have conspicuous knowledge about new farming practices or inputs available in the market. POPI helps the FPOs in this regard to an extent though it is totally up to them whether to assist them in this regard or not. Ignorance of the importance of Physical and Technical support is the major reason to avert many of the FPOs to avert from providing such services to its members.

5.17.1.2 Capital

Some FPOs are willing to start input supply services, but acute financial shortfalls forestall their desire to serve their members effectively.

5.17.1.3 Links with higher cooperatives

Many of the farmer members are purchasing inputs from higher cooperatives existing in their areas. If the FPOs take initiative for collaborations with them, not only they would help their members get access to such services, but also, the FPO itself would get more exposure and experience in physical and technical support system.

5.17.1.4 Grassroots innovations

When it comes to farm equipment, the understanding is only struck with tractors. Other than this there are many equipment of low cost are available. Such instruments mostly invented by any common farmer which is customised to specific geography or crop are available across India. These are generally known as grassroots innovations. These would be affordable for the FPOs to purchase and help their members through custom hiring. Some examples of such instruments are: Shivaraj Multipurpose machine (Agro food Processor), multi-crop thresher etc.

5.17.2. Governance and Management

5.17.2.1 Education of BODs

Farmer members trust the words of BODs with considerable education standards. Henceforth most of the FPOs assist at least two directors with graduate or diploma qualification. This reflects the link between technical rationality, education and adoption of technology.

5.17.2.2 Election

In FPOs, BODs are selected not elected. Initially people might not have stepped in to take responsibility and those who stepped in would have become the directors. However, in three years span seemingly other farmer members have developed interest in directing their company. If so, they should be provided a chance.

5.17.2.3 BOD Rotation

Rotation of BODs is closely linked to the election of the next BOD team. Members wishing to take responsibility would get their turn if rotation of power is ensured

5.17.2.4 External Mentoring

FPOs are not yet capable of managing their company without POPI intervention. An external mentoring would help them to learn these skills and apply contextually.

5.17.2.5 Trust

Trust is a factor that comes out as a result of quality management of their FPOs. This factor influence participation of members in various events planned by the FPOs.

5.17.3. Convergence and Collaborations

5.17.3.1 Awareness

Awareness on government schemes impact the extent of convergence ensured by an FPO. Board members are not completely aware of various schemes for technical support, farm equipment, sustainable farming and the like.

5.17.3.2 Market research

Most of the FPOs are confined to local or regional markets. They are majorly depended only on one or two potential buyers. Market research is a critical factor that enables the FPO to establish new market channels.

5.17.3.3 Product diversification

Majority of the FPOs considered for the study have not entered in to value addition. They are still stuck with raw products. To explore a wide range of markets, they need to diversify their production.

5.17.3.4 Links with higher cooperatives

Links with higher cooperatives helps the FPOs to improve their networking. They can learn best practices from such cooperatives and implement what is plausible in their context.

5.17.4. Innovations and Advancements

5.17.4.1. Awareness

As in the case of Physical and technical support and Convergence, awareness is a factor that would prompt FPOs to go for novel initiatives both in farm practices as well as marketing. Extent of knowledge decides the degree interest that the FPOs show in practicing sustainable farming, value addition and product differentiation strategies.

5.17.4.2 Capital

Capital is a bottleneck for the FPOs in starting and sustaining new ideas. For instance, value addition, MIS and product differentiation involves huge capital investment. The FPOs at this stage cannot afford this.

5.17.4.3 External Mentoring

FPOs are not equipped to conduct market research and launch their own products or to start anything new by their own. External mentoring can enhance the ability and understanding of the FPOs in new arenas of agri-business.

5.17.4.4 Social Concern

This is a factor that would derive out of practising sustainable agriculture. Many farmers are concerned about their health and soil health. However, only some FPOs understand this and promote sustainable agriculture by providing technical support required for this.

5.18 Financial Parameter

5.18.1 Dividend

Dividend is a far unknown factor for many members and BODs. This comes when the FPO earns higher profit levels.

5.19 Conclusion

For this qualitative study, case-study method was employed with multiple objectives. The major intention was to visualize how exactly the five critical success factors refined out from the systematic literature review influenced the realities in the field. Stakeholders understandings of these factors were the prompted through in depth open ended group discussions of board of directors and farmers. Board of directors was able to decipher majority of the sub parameters and explained their versions of it. The concept which is not actually clear to them was product differentiation, a term closely related to branding and enhancing business. Physical and technical support that includes the provision of input supply, farm machineries and other technical advices were considered the most important by majority of the FPOs. However, only 2 FPOs (Gujarat) among 7 FPOs are providing input supply. Other FPOs in Gujarat has severe capital problems, henceforth face difficulties in initiating this service in spite of having interest in it. However, FPOs from Rajasthan despite of having required licenses and comparatively better capital and turnover, are not providing proper physical and technical support. The major argument put forth justifying this was their inclination towards pure business than service to its members. It is evident from this that the FPOs are not aware or not making use of immense potential in agri-input supply as a revenue generating activity for their companies. Inadequacy of Professional staffs, consequently poor management is a pressing issue for all the FPOs. Since a well-defined definition on the term ‘professional’ is not provided in any official document, the CEO’s education status ranges from 12^{th} standard to master

degree. FPOs face challenges in finding a suitable professional because of two prominent reasons: a) from rural areas, finding one with eminent qualification is quite difficult b) with a salary of Rs.10,000, they cannot hire any external support to bridge the gap in professional management. For these reasons all the FPOs demanded external professional mentoring, though they stated their CEOs and BoDs are managing their companies well. Majority of the BoDs in Gujarat are marginal farmers were as in Rajasthan are large or medium farmers. Current BoDs do not believe that reserving seats for small farmers is important and but prefer the selection based on interests, leadership skills, education, farm knowledge and commitment. None of the FPOs are practicing BoD rotation, so other members are not availing an opportunity to be a part of their company's management. Interviews with farmer members revealed such displeasure from the current management. Business plan preparation in all the FPO is done by POPI since the CEOs and BoDs are not capable to prepare it. Although most of the BoDs opined an ideal orientation for an FPO would be a mixed one that focuses on both input supply and market services, only two FPOs have mixed orientation, others have purely outward orientation. Farmer members strongly preferred a mixed orientation because their problems are rooted from both input supply chain and marketing platforms. BoDs suggested rather than measuring growth with respect to life cycle, factors such as membership growth, member retention, marketing, profit, innovation and new initiatives, equity share, and capacity building must be used for the growth assessment. However, a close look at membership growth reveals that it is not consistent for most of the FPOs in last four years. As an attempt to look at member participation, a comparison was done with the number of total members in an FPO to the number of members contributed to the business (that is, how many people sold their produce to the FPO). Results reveal that in Gujarat the proportion between these two categories are quite similar but in case of Rajasthan FPOs, there is a huge gap in between the total members and number of members contribute to the procurement of produce. This implies that Rajasthan FPOs have more passive members than active stakeholders and the membership remains only in papers. This is a crucial problem that needs to be addressed. Low member participation indicates the failure of that particular FPO in reaching out to its members. This could be because of dominance by one group of people- elite capture, lack of attempts from the FPO leadership to promote social inclusion, lack of voice for marginal and small farmers and the like. Discussion with farmer members of Rajasthan FPO revealed their disinterest in the FPO and considered it as the institution of POPI and the BoDs. On the other hand, farmer members of Gujarat FPOs were excited to be members of their companies and literally found satisfaction with its board members and services. Here it is crucial to note that member participation must

be made one of the parameters to decide the FPO performance and more methods should be devised to assess this participation by members. When membership can give the extend of strength of the FPO, member participation can reflect good governance within these people's institutions.

POPI is the external agency that influences an FPO the most. Even its organic orientation (welafistic or business focused) would be imparted by the FPO. It is understood that FPOs are over dependent on POPIs. Other than technical support, the whole business and networking happens only through POPI, indicating if there is no POPI, the FPO would struggle to find buyers and market linkages. Even internal governance and management decisions are being made by POPI. However, even the support offered by POPI is not sufficed to excel in business performance and the board members suggested having an external mentoring. Conversations with farmer members on POPI's influence indicated their confusions about the survival of their companies without POPI. FPOs are best platforms for utilizing government schemes and convergence of programmes. However, they face difficulties in accessing many of the schemes as they are not exclusively designed for FPOs and many of the government officials are not aware about the concept of FPOs. Further enhanced government assistance required for FPOs includes financial support, convergence facilitation and Technical support. All the FPOs have a weak market linkage network. Most of them are restricted to one or two private players and regional markets. Since there are no wide markets, they take only a small amount of produce form the farmers. Interviews with farmers revealed that they are contented with the prices FPOs offer, but only a small part of it is sold to them, the rest is sold in cheap rates in mandis. Counting on the innovations and advancements taken by the FPOs, Gujarat companies are keen in promoting sustainable agriculture whereas Rajasthan FPOs are least bothered about sustainability factors, rather, they focused on value addition. Farmers in Gujarat were proud and see themselves as change makers, protecting the soil and humans from harmful chemicals. Rajasthan farmers expressed their distress with chemical farming, however, their FPOs are not helping them to get out of it and proceed towards sustainable organic or precision farming. Marketing Information system is another area to be addressed to resolve issues in market linkage and integrate modern innovations required in the present age farming. Because there is a huge demand in capital, only two FPOs are in to food processing industry through tertiary value addition. Product differentiation is a less heard and understood concept among all the FPOs, on the other hand it is the key toward branding and market penetration. FPOs in Rajsthan make better profits compared to FPOs in Gujarat. Nonetheless, the profit generated is not

sufficient to run a company. Equity share is collected on a uniform basis from the members. None of the FPOs are giving dividend and members are not aware of the concept of dividend.

Trying to qualitatively evaluate the interconnectedness between the sub-parameters, we figured out the nature and extent of influence. The top influencer was found to POPI influencing nine other sub parameters in the CSF framework. Other top influencers after POPI are government support, government support, value addition, market information system, orientation and sustainable agriculture. Other concepts to be considered other than CSF sub parameters include awareness, capital, networking with higher level cooperatives, grassroots innovation, education of board members, transparent election process, BoD rotation, external mentoring, trust, market research, product diversification, social concern, trust and dividend. To be precise, the major issues to be addressed immediately are professionalism within the FPOs, capital requirement, market information system and linkages, sustainable approaches, value addition, product differentiation to help transform the FPOs to a more self-reliant trajectory.

Field visit photographs

Reference

1. Anthony, R. N. John Dearden y Richard F. Vancil. Key economic variables. 1972. *Management Control Systems. Homewood. Irwin*, 147.
2. Charles W. Hofer and Dan E. Schendel. *Strategy Formulation. AnalyticalConcepts***,** West Publishing Company, St. Paul, Minn. (1978).
3. Leidecker, J. K., & Bruno, A. V. (1984). Identifying and using critical success factors. *Long range planning*, *17*(1), 23-32.
4. Boynton, A. C., & Zmud, R. W. (1984). An assessment of critical success factors. Sloan management review, 25(4), 17-27.
5. Bullen, C. V., & Rockart, J. F. (1981). A primer on critical success factors.
6. Rockart, J. F. (1979). Chief executives define their own data needs. *Harvard business review*, *57*(2), 81-93.
7. Farmer Producers' Organizations (FPOs): Status, Issues & Suggested Policy Reforms, National Paper 2020-21, 2020
8. Figge, Frank, Tobias Hahn, Stefan Schaltegger, and Marcus Wagner. "The sustainability balanced scorecard–linking sustainability management to business strategy." Business strategy and the Environment 11, no. 5 (2002): 269-284.

9. Nasrallah, Walid F., and Suleiman J. Qawasmeh. "Comparing multi-dimensional contingency fit to financial performance of organizations." European journal of operational research 194, no. 3 (2009): 911-921
10. Van Beurden, Pieter, and Tobias Gössling. "The worth of values–a literature review on the relation between corporate social and financial performance." Journal of business ethics 82, no. 2 (2008): 407
11. Kocmanová, A., & Dočekalová, M. (2013). Construction of the economic indicators of performance in relation to environmental, social and corporate governance (ESG) factors. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 60(4), 195-206.
12. Polonsky, M. J., & Grau, S. L. (2008). Evaluating the social value of charitable organizations: A conceptual foundation. Journal of Macromarketing, 28(2), 130-140
13. Hubbard, G. (2009). Measuring organizational performance: beyond the triple bottom line. Business strategy and the environment, 18(3), 177-191.
14. Bhatti, M. I., Awan, H. M., & Razaq, Z. (2014). The key performance indicators (KPIs) and their impact on overall organizational performance. Quality & Quantity, 48(6), 3127-3143.
15. Van Beurden, P., & Gössling, T. (2008). The worth of values–a literature review on the relation between corporate social and financial performance. *Journal of business ethics*, *82*(2), 407.
16. McWilliams, A., & Siegel, D. (2000). Corporate social responsibility and financial performance: correlation or misspecification?. Strategic management journal, 21(5), 603-609.
17. Kim, K. Y., Atwater, L., Patel, P. C., & Smither, J. W. (2016). Multisource feedback, human capital, and the financial performance of organizations. *Journal of Applied Psychology*, *101*(11), 1569.
18. Dess, G. G., & Davis, P. S. (1984). Porter's (1980) generic strategies as determinants of strategic group membership and organizational performance. *Academy of Management journal*, *27*(3), 467-488.
19. Ittner, C. D., & Larcker, D. F. (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of accounting research*, *36*, 1-35.
20. Karami, E., & Rezaei-Moghaddam, K. (2005). Modeling determinants of agricultural production cooperatives' performance in Iran. *Agricultural Economics*, *33*(3), 305-314.

21. Soboh, R. A., Lansink, A. O., Giesen, G., & Van Dijk, G. (2009). Performance measurement of the agricultural marketing cooperatives: the gap between theory and practice. *Review of Agricultural Economics*, *31*(3), 446-469
22. Barton, David G., Ted C. Schroeder, and Allen M. Featherstone. "Evaluating the feasibility of local cooperative consolidations: A case study." *Agribusiness* 9, no. 3 (1993): 281-294.
23. Gyau, Amos, Steven Franzel, MarybenChiatoh, GodwillNimino, and KwadwoOwusu. "Collective action to improve market access for smallholder producers of agroforestry products: key lessons learned with insights from Cameroon's experience." Current Opinion in Environmental Sustainability 6 (2014): 68-72.
24. Barham, J., & Chitemi, C. (2009). Collective action initiatives to improve marketing performance: Lessons from farmer groups in Tanzania. *Food policy*, *34*(1), 53-59.
25. Place, F., Kariuki, G., Wangila, J., Kristjanson, P., Makauki, A., & Ndubi, J. (2004). Assessing the factors underlying differences in achievements of farmer groups: methodological issues and empirical findings from the highlands of Central Kenya. *Agricultural Systems*, *82*(3), 257-272.
26. Fischer, E., & Qaim, M. (2014). Smallholder farmers and collective action: what determines the intensity of participation?. *Journal of Agricultural Economics*, *65*(3), 683-702.
27. Knickel, Karlheinz, CorinnaZerger, GundulaJahn, and Henk Renting. "Limiting and enabling factors of collective farmers' marketing initiatives: results of a comparative analysis of the situation and trends in 10 European countries." Journal of Hunger & Environmental Nutrition 3, no. 2-3 (2008): 247-269.
28. Dey, K. (2018, September 1). Farmer Producer Companies in India Determinants of Performance and Viability. Economic and Political weekly, 53(35), 44-52.
29. Wouterse, F., &Francesconi, G. N. (2016). Organisational health and performance: an empirical assessment of smallholder producer organisations in Africa. Journal on Chain and Network Science, 16(1), 29-40.
30. Talukdar, U., &Vatta, K. (2015). Economic and Financial Efficiency of Farmers' Produce Organisation: A Case Study of FAPRO in Hosiarpur District of Punjab. Economic Affairs, 60(3), 439.
31. Jain, R., &Narnaware, P. (2018). Role of Local Context in the Success of Farmer Collectives: A Review. Millennial Asia, 9(3), 318-335.

32. Bray, D. B. (1991). " Defiance" and the Search for Sustainable Small Farmer Organizations: A Paraguayan Case Study and a Research Agenda. Human Organization, 125-135.
33. Raya, A. B. (2014). Farmer group performance of collective Chili marketing on sandy land area of Yogyakarta Province Indonesia. *Asian Social Science*, *10*(10), 1.
34. Hirsch, S., & Hartmann, M. (2014). Persistence of firm-level profitability in the European dairy processing industry. Agricultural Economics, 45(S1), 53-63.
35. Roy, S., & Rangnekar, D. V. (2007). Farmer Participatory Need-based Extension (FPNE) approach: a sustainable model adopted by cooperative milk unions in Andhra Pradesh, India. *Livestock Research for Rural Development*, *19*(144).
36. Birthal, P. S., Chand, R., Joshi, P. K., Saxena, R., Rajkhowa, P., Khan, M. T., ... & Chaudhary, K. R. (2017). Formal versus informal: Efficiency, inclusiveness and financing of dairy value chains in Indian Punjab. Journal of rural studies, 54, 288-303.
37. Soboh, R. A. M. E., Oude Lansink, A., & van Dijk, G. (2011). Distinguishing dairy cooperatives from investor-owned firms in Europe using financial indicators. *Agribusiness*, *27*(1), 34-46.
38. Msaddak, M., BenNasr, J., Zaibet, L., & Fridhi, M. (2017). Social networks for the sustainability of the dairy sector: the role of cooperatives. Livestock Research for Rural Development, 29(2), 2.
39. Ferrier, G. D., & Porter, P. K. (1991). The productive efficiency of US milk processing co-operatives. *Journal of Agricultural Economics*, *42*(2), 161-173.
40. Singh, S., Coelli, T., & Fleming, E. (2001). Performance of dairy plants in the cooperative and private sectors in India. Annals of Public and Cooperative Economics, 72(4), 453-479.
41. Misra, S. K., Carley, D. H., & Fletcher, S. M. (1993). Dairy farmers' evaluation of dairy cooperatives. Agribusiness, 9(4), 351-361.
42. Ali, A. I., & Bhargava, M. (1998). Marketing capability and performance of dairy cooperatives in India. INFOR: Information Systems and Operational Research, 36(3), 129-141.
43. Singh, Sriram (2015): “Promotion of Milk Producer Companies: Experience of NDS,” Presentation in Workshop on Producer Companies organised by National Dairy Development Board, Anand, Gujarat, 8 October.
44. Murray, E. V. "Producer company model-current status and future outlook: opportunities for bank finance." Financing Agriculture 40.4 (2008): 18-26.

CHAPTER 6 BUSINESS PLAN FOR SELECTED FPOS

6.1. Business plan for Vanganga tribal farmer producer company (VTFPC)

6.1.1. Introduction

Vanganga Tribal Farmer Producer Company was established on 16 July 2016 in Vansad taluka in the Navasari district of Gujarat. It is a producer company incorporated with the help of facilitating agency Lok Seva trust. The FPO has 295 members with a capital base of 7.41 lakhs from the NABARD and a paid-up capital of 1.7 lakhs. All the members are tribal farmers, and the majority of the members are small (159) and marginal (104) farmers with an average landholding of 1.5 acres.

Agriculture is the main occupation of the members of Vanganga Tribal Farmer producer company (VTFPC). They are involved in growing of Paddy, Bitter gourd, Mango, Okra, Sweet corn, Baby corn and the primary objective of the farmer producer company is to improve the livelihood of small and marginal farmers by establishing a commercially viable organization of the tribal farmers. They also aid in enhancing the income of the shareholders by developing functional linkages with agribusiness trade and develop the support system to enable the farmers thrive independently in the agribusiness environment. The Vanganga tribal farmer producer company is currently having contract farming with fieldfresh for baby corn and sells okra to Vadilal and Ahmedabad APMC with the help of lok seva trust. This also helps in developing the backward and forward linkages to induce market-driven agriculture.

As per discussion with FPOs, chairman, BODs and few members, 90 percent of members are cultivating paddy, so that they required rice mill business plan.

6.1.2. Project Description

We found that one of the major crops grown in Navsari district is paddy. Farmers in our FPO are small and marginal farmers with a landholding size of 1.5 to 2 Acres. In our FPO, 90 percent of farmers are growing paddy and selling to the local market at 14 to 14.5 Rs. They also sell to local traders, fellow farmers, commission agents, money lenders, and millers. Generally, prices received are very low and below the market price leading to an unprofitable return to farmers. Increasing farmer’s debt has made it difficult for them to work individually and earn decent

returns on paddy. Also, we found that cost of cultivation is also higher compared to other regions. So we have decided to aggregate paddy from 300 farmers initially and add value in it through rice mill.

Initially, for the first year, our major focus would be on the milling process, and later on, we will be a focus on milling of rice bran into crude rice bran oil. We will be beginning with the inclusion of 100 farmers initially.

6.1.3. Objectives of the project

a) To improve the livelihood of small and marginal farmers.
b) To enable the farmers as primary producers to reap the best possible benefits.
c) To reduce the price spread between the primary producer and ultimate consumer.
d) To make available all products of farm origin to consumers at a reasonable price without impairing the quality of the produce.

6.1.4. Raw Material Availability

The total production of rice in the Gujarat state is about 16.0 to 17.2 lakh T. About 25 to 27 percent of the total production of paddy is produced by the Navasari district. 90 percent of members of VTFPC are involved in paddy cultivation.

Area, Production and Yield of Rice during 2012-13 to 2016-17

Year	Rice Irrigated (Kharif)			Rice Unirrigated (Kharif)			Summer Rice (Rabi)			Total Rice		
	Area	Prod.	Yld.	Area	Prod.	Yld.	Area	Prod.	Yld.	Area	Prod.	Yld.
2012-13	4698	10951	2331	2022	3130	1548	291	892	3065	7011	14973	2136
2013-14	5740	13335	2323	2133	3391	1590	331	1055	3188	8204	17781	2167
2014-15	5499	13796	2509	2133	2917	1367	312	1003	3210	7944	17716	2230
2015-16	5978	14163	2369	1433	1681	1173	331	1075	3244	7742	16919	2185
2016-17	5738	13979	2436	1783	2299	1289	322	1039	3228	7843	17317	2208
Average:	5666	13499	2382	1901	2684	1393	317	1013	3196	7884	17196	2181

(Area in '00 ha, Production in '00T., Productivity in kg/ha)

(Source: State agriculture plan and state infrastructure development plan (SAP & SIDP) (2017-18 to 2019-20) Gujarat)

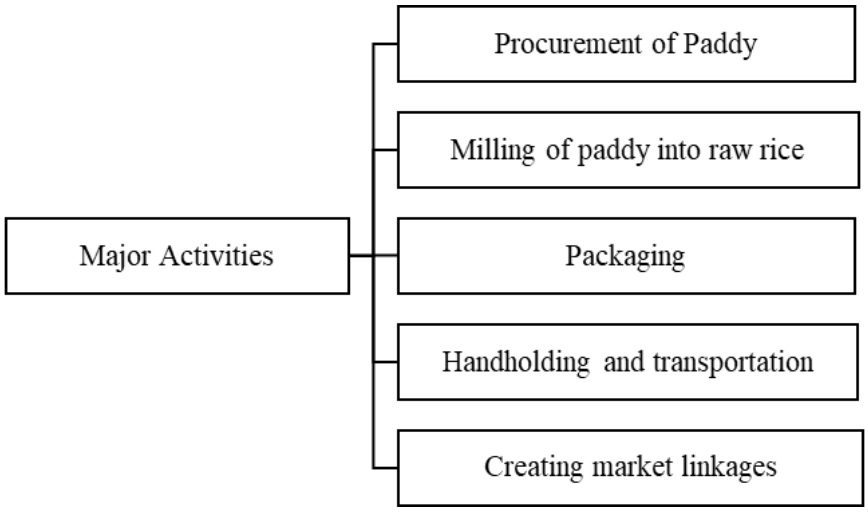
6.1.5. Market Opportunities

- Customer Segment (CS): This block defines the different groups of people or organizations a business aims to reach and serve. The different segments include mass, niche, multi-sided, diversified, and segmented markets. In our organization, the segment is mass, and different segments include smallholder farmers, APMCs, Landowners, Agro-food industries, and different farmer organizations.
- Value proposition (VP): This block describes the bundle of products and services that create value for a particular customer segment. This value proposition creates value through a distinct mix of elements that include performance, newness, customization, design, brand/status, price, etc. The value proposition that our organization provides includes rice from paddy, MSP for paddy to the farmers, reasonable price, sustainable use of land, more control over quality and quantity, and improved grain quality. It also includes the same value proposition in the fresh fruits and vegetable section.
- Channel (CH): This block describes how an organization connects with and reaches its customer segment to deliver a value proposition. This block includes direct channels such as salesforce, web sales, and indirect channels such as own stores, partner stores, and wholesalers. The channel in our organization includes an extension through farmer leaders, shows, exhibitions, campaigns, and word of mouth.
- Customer Relationship (CR): This block describes the types of relationships a business forms with particular Customer Segments. These relationships can include categories such as personal assistance, self-service, automated services, co-creation, etc. In our part dedicated personal assistance to the farmers, personal contact on the farm, group communication is being covered.
- Revenue Streams (RS): This block represents the money a business makes from each of its Customer Segments. The several ways to generate revenue streams include asset sale, lending, leasing, renting, licensing, subscription fees, etc.
- Key resources (KR): This block defines the most significant assets that are required to make the business model work and are categorized as physical, intellectual, human, and financial. The resources are farm inputs, kisan sahayaks, financial aid, staff, and different types of machinery.
- Key Activities (KA): This block describes the most significant things that a business must do to make the business model work and can be categorized as production, platform/network, etc. The key activities include buying of seeds for the farmers, buying

of fertilizers, training to the farmers and labourers, providing machinery and direct sales of agriculture commodities.

- Key partnerships (KP): This block defines the network of suppliers and partners that makes the business model work. The different types include buyer-supplier relationships, joint ventures, a strategic alliance between non-competitors, and cooperation between competitors. The key partners of our organization include farmers, APMC, local action groups, agribusiness companies, agricultural lab., F&V exporters, and different buyers.
- Cost Structure (CS): This block defines all costs that are incurred to operate the business model. These structures can be either cost-driven or value-driven. The cost of machinery that is required is 9.91 lac rupees, the cost of plant & building that is required is 12 lac rupees, and the working capital required is 18.30 lac rupees.

Major Activities



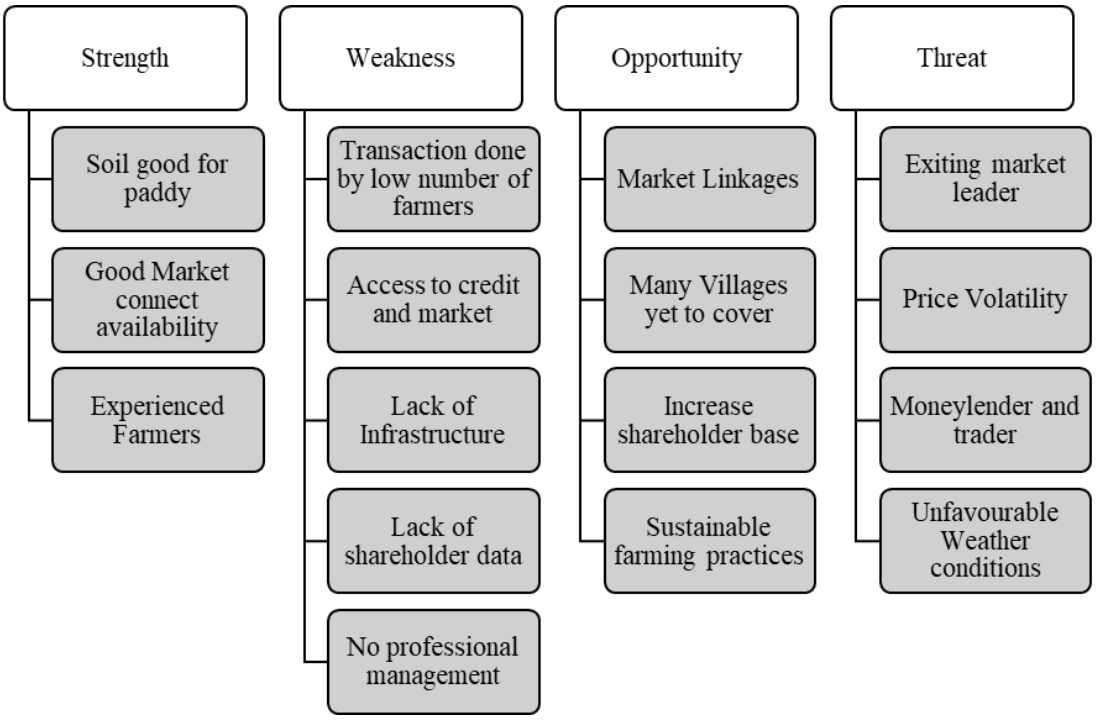
6.1.6. Steps Involved In the Rice Milling Process

Pre-cleaning	•A primary step in the rice mill is to remove the impurity such as stone, dust, and dirt also unfilled the rice grain from paddy.
Husking	•Husking is the process where the husks is removed and separate it from the paddy.
Paddy Removals	•Paddy separation is the separation of husk paddy from brown rice.
Parboiling	•Gelatinization of starch inside the rice to improve the nutritious value of milled rice; it also helps to improve the milling recovery percent during polishing/whitening.
Polishing or whitening	•To improve the appearance of rice polishing/whitening takes place; removing of bran particle layer and germ from the rice gain and polish the exterior kernel.
Blending/Mixing	•Mixing of head rice with predetermine amount of broken rice.
Weighing of rice	•Once rice is passed through all the processes it will weight by industrial weigh machine and packed with the different specified amount of baggage.
Bagging/packaging of rice	•Preparing the milled rice for transport to the customer for selling, the packaging is important to notify the customer that your product is in the marketplace.

6.1.7. FPO level flow of product and Value addition

- Procurement: Paddy would be procured from 100 farmers at a given decided price. Procurement would be done on a credit period of 12 days from the farmers.
- Processing and Value addition: We would purchase small scale rice mill. We will add value to the paddy and convert it into rice with the help of the milling process.
- Packaging and transportation: We would also purchase a packaging machine. We will pack it to the required size as per the demand from buyers.
- End customers: Our end customers would be APMC, Govt. purchasing agencies, wholesalers, big retailers, and institutional buyers.

6.1.8. SWOT Analysis



6.1.8.1. Strength

- Soil good for paddy: Black clayey to loam soil (Black cotton soil), silt caly loam to clay loam soils, good for paddy crop. As well as enough water available for paddy crop.
- Good Market connect availability: Mandi Near By – Navasari, Surat mandi. The big traders, online retail chains, retail stores are available in Surat. Also, the Hazira port for the export is also nearby. So VTFPC has good connectivity to market.
- Experienced Farmers: Most of the farmers has more than 8 to 10 years' experience in farming.

6.1.8.2. Weakness

- Transaction done by a low number of farmers: As per analysis till now, only 50 farmers have done transactions with the VTFPC. So the reason behind the less transaction is traders and money lenders and the credit facility that they give. This is very difficult to overcome.
- Access to credit and market: There is no working capital to run the business, so loan has been taken from Banks at the rate of 11%. Due to this, a large amount of 2.8 lakhs has gone as interest only.
- Lack of Infrastructure: There is no infrastructure and asset with the company. The company has no office, no computer, no warehouse, and a cleaning plant as well. Due to this, the losses are huge.
- Lack of shareholder data: There is no data of shareholder with us so it is very much difficult for to inform and get the demand of the member farmers.
- No professional management: Professional management right now in the company is lacking. The company is supported by, and its management is done by BOD's & CEO, who are more inclined towards social aspects. And to sustain the business mindset is necessary. So in the future, for sustainability, professional management is necessary.

6.1.8.3. Opportunity

- Market Linkages: There is a very large market for agriculture produce. Many channels are in Surat, like export, online grocery stores, modern retail sector, etc. So there are lots of opportunities to tie up with them. Surat is very near to Navsari, and surat has huge market potential for agricultural produce.
- Many Villages yet to cover: There are 374 villages in Navasari District. With the aim to become federation, VTFPC should cover all the villages. This expansion can be informed of three ways : A) Opening of new Producer companies in the new villages, B)Addition of existing producer companies present in the district, and C)Addition of farmers as shareholders to these villages
- Increase shareholder base - Right now only 264 members are shareholders so there is lots of opportunity to add more farmers.
- Sustainable farming practices: The demand is changing to organic products now. Here, paddy seed is grown in a conventional way, so there is a lot of opportunities to go for

IPM and organic practices. The product, although generated less, will charge a premium amount. The Producer Company can promote other products also.

6.1.8.4. Threat

- Exiting market leader: There are more than 40 small millers, and other big companies also create an entry barrier for new entrants.
- Price Volatility: The fluctuation is due to various reasons, which are explained later (Like high or low production).
- Moneylender and trader: The moneylender and the trader take 50% of the product in the harvesting season itself. This is because of the debt the farmers own to the traders and money lenders. Due to this large amount of Paddy seed already goes into the market. If VTFPC grows and large orders come from the Big buyers, then this cycle would prove a threat to VTFPC.
- Unfavourable Weather conditions: This is the major threat to agriculture produce. If the rain happens at the wrong time or more, then it affects heavily.

6.1.9. Financial Plan

6.1.9.1. Land and Land Development

It will be ideal to acquire a land of about 372 square meters of land, keeping in mind the project's future expansion. Accordingly, a land cost of Rs.40,000 (On lease) for first-year has been considered in this model. And every year a 5% increase in the previous year's rent.

6.1.9.2. Buildings and Civil Works

The following buildings and fabrication work have been considered for this model. Milling and storage Area 40 W * 20 H *100 L foot

The fabrication work include the following : Main door : 2 (Shuttle), Window : 4, and

Air roofing ventilator : 4

Hence, the total fabrication work cost for the built-up area is Rs. 12.00 Lakhs.

6.1.9.3. Plant and Machineries

Machinery Cost				
Sr. No.	**Description**	**Qty**	**RATE / SET**	**Basic Amount with Drive Motor**
1	Manufacturing of MS Bucket Elevator with Buckets and Belt with Drive Motor - 1 HP/1440	1	₹ 30,150.00	₹ 30,150.00
2	Manufacturing of Paddy Cleaner COM GERDAR with 2 HP/1440 RPM Drive Motor	1	₹ 85,765.00	₹ 85,765.00
3	Manufacturing of MS Bucket Elevator with Buckets and Belt with Drive Motor - 1 HP/1440	1	₹ 30,150.00	₹ 30,150.00
4	Manufacturing of De-Husker Machine Size : 4 " Dia with 5 HP/1440 RPM Drive Motor	1	₹ 89,500.00	₹ 89,500.00
5	Manufacturing of MS Bucket Elevator with Buckets and Belt with Drive Motor - 1 HP/1440	1	₹ 30,150.00	₹ 30,150.00
6	Manufacturing of Paddy Seperator Machine with 2 HP/1440 RPM Drive Motor	1	₹ 1,15,340.00	₹ 1,15,340.00
7	Manufacturing of MS Bucket Elevator with Buckets and Belt with Drive Motor - 1 HP/1440	1	₹ 30,150.00	₹ 30,150.00
8	Manufacturing of MS Bucket Elevator with Buckets and Belt with Drive Motor - 1 HP/1440	1	₹ 30,150.00	₹ 30,150.00
9	Manufacturing of Ston Rice poliser with 15 HP/1440 RPM Drive Motor	1	₹ 1,30,600.00	₹ 1,30,600.00
10	Manufacturing of MS Bucket Elevator with Buckets and Belt with Drive Motor - 1 HP/1440	1	₹ 30,150.00	₹ 30,150.00
11	Manufacturing of rice Grader Machine with 0.5 HP-Geared Motor	1	₹ 56,800.00	₹ 56,800.00
12	Semi-Automatic Grain Packaging Machine, with structure	1	₹ 1,70,000.00	₹ 1,70,000.00
Basic Cost				**₹ 8,28,905.00**
GST @5%				**₹ 41,445.25**
Transportation & Installation				**₹ 50,000.00**
Total Amount				**₹ 9,20,350.25**

6.1.9.4. Miscellaneous Fixed Assets

Cost of office furniture, computer, printer, etc. is considered under miscellaneous fixed assets. A provision of Rs. 70,000 is needed to take care of this expenditure.

6.1.9.5. Contingency

Contingency charges are considered as 2 % of the cost of project excluding the pre-operative expenses and land cost. The contingency charges amount is Rs.44,000.

6.1.9.6. Project Cost

Project Fixed Cost			
No.	**Particulars**	**Qty.**	**Amount (In lakh)**
1	Land on lease	372 sq. meter	
2	Civil Work	372 sq. meter	₹ 12.00
3	Plant and Machinery		₹ 9.21
4	Miscellaneous Fixed Assets		₹ 0.70
5	Contingency @2%		₹ 0.44
Total			₹ 22.35

6.1.9.7. Manpower Requirement

Year | Position	**Manager/ Supervisor**	**Semi-Skilled (Operator/ Technician)**	**Unskilled Worker**	**Per annum Salary**
2021	1	1	0	₹ 2,68,464.00
2022	1	1	0	₹ 2,89,941.12
2023	1	1	0	₹ 3,13,136.41
2024	1	1	0	₹ 3,38,187.32
2025	1	1	1	₹ 3,65,242.31
2026	1	1	1	₹ 4,97,234.49
2027	1	1	1	₹ 5,37,013.25

* Note: Manager/ Supervisor , Semi-Skilled (Operator/Technician) , unskilled worker are number of person

Additionally, we need daily basis workers for three months in peak season time. The daily wages are Rs.305 per person, and monthly payments are Rs.7930 per person. The annual cost for extra labor is shown in the below table.

Year | Position	Unskilled Worker (No. Of Person)	Per annum Salary or Wages(Rs.)
2021	2	₹ 47,580.00
2022	3	₹ 71,370.00
2023	3	₹ 71,370.00
2024	3	₹ 71,370.00
2025	4	₹ 95,160.00
2026	4	₹ 95,160.00
2027	4	₹ 95,160.00

6.1.9.8. Installed Capacity and Capacity Utilization

The installed capacity of the plant is five quintals per hour. The plant will be operated in 8 hours per day than will have the ability to process 40 quintals of paddy in the day. Hence the target of the procurement and process of paddy in the first year is 120 Tonne. Furthermore, every year we will have the plan to increase procurement capacity by 25 percent.

Scenario I

In first scenario we have used WDV method of depreciation in in which a fixed rate of depreciation is charged on the book value of the asset, over its useful life.

6.1.9.9. Plant Break Even Analysis

Growth	Year	2021	2022	2023	2024	2025	2026	2027
25%	Annual Weight before cleaning	120000	150000	187500	234375	292969	366211	457764
	Number of bags	2400	3000	3750	4688	5859	7324	9155
4%	Price per kg	15.25	15.86	16.49	17.15	17.84	18.55	19.30
	Total Price before cleaning	1830000	2379000	3092700	4020510	5226663	6794662	8833060.47
5%	Plant + warehouse Land (Rent per year) (372 sq. meter.)	40000	42000	44100	46305	48620.25	51051	53604
10%	Transportation cost	50400	55440	60984	67082.4	73790.64	81170	89287
8%	Salary	268464	289941	313136	338187	365242	497234	537013
	Labour Expenses	47580	71370	71370	71370	95160	95160	95160
20%	Overhead cost	133503	160203	192244	230693	276832	332198	398637
12%	Other Expenses (courier and small other expenses)	12000	13440	15053	16859	18882	21148	23686
	Total cost	2381947	3011395	3789587	4791007	6105190	7872623	10030448
6%	Price per kg of Rice	28	29.68	31.46	33.35	35.35	37.47	39.72
6%	Price per kg of Husk	4	4.24	4.49	4.76	5.05	5.35	5.67
	Price	2352000.00	3116400.00	4129230.00	5471229.75	7249379.42	9605427.73	12727191.74
	Extra price	134400.00	178080.00	235956.00	312641.70	414250.25	548881.58	727268.10
	Total Price	2486400.00	3294480.00	4365186.00	5783871.45	7663629.67	10154309.31	13454459.84
	Profit	104453.13	283085.44	575598.66	992864.64	1558439.70	2281686.00	3424012.33
	Interest on term loan@11%	241010	241010	241010	241010	241010	241010	241010
	Interest on working capital@11%	91500	118950	154635	201026	261333	339733	441653

	Depreciation @10% machinary and @5% Building	159100	146190	134421	123686	113890	104944	96771
	Profit after depreciation and interest	-387157	-223065	45533	427143	942207	1595998	2644578
	Profit Margin	-16.25%	-7.41%	1.20%	8.92%	15.43%	20.27%	26.37%

6.1.10. P&L projections in Detail

	2021	2022	2023	2024	2025	2026	2027
Agri Produce							
Paddy	1830000	2379000	3092700	4020510	5226663	6794662	8833060
Total Cost	1830000	2379000	3092700	4020510	5226663	6794662	8833060
Indirect Expenses							
Transportation	50400	55440	60984	67082	73791	81170	89287
Labour	47580	71370	71370	71370	95160	95160	95160
Rents	40000	42000	44100	46305	48620	51051	53604
Other Miscellaneous overheads	133503	160203	192244	230693	276832	332198	398637
Other Expenses	12000	13440	15053	16859	18882	21148	23686
Salary	268464	289941.12	313136.40	338187.32	365242.30	497234.49	537013.25
Total Expenses	2381947	3011395	3789587	4791007	6105190	7872623	10030448

Revenue							
Rice	2352000	3116400	4129230	5471230	7249379	9605428	12727192
Husk	134400	178080	235956	312642	414250	548882	727268
Total Revenue	2486400	3294480	4365186	5783871	7663630	10154309	13454460
EBITDA	104453	283085	575599	992865	1558440	2281686	3424012
Interest	332510	359960	395645	442036	502343	580743	682663

EBTDA	-228057	-76875	179954	550829	1056097	1700943	2741349
Depreciation	159100	146190	134421	123686	113890	104944	96771
EBT	-387157	-223065	45533	427143	942207	1595998	2644578
Tax	5222.66	56617.09	172679.60	297859.39	467531.91	684505.80	1027203.70
PAT	-392380	-279682	-127147	129283	474675	911493	1617374
Net profit	**-392380**	**-279682**	**-127147**	**129283**	**474675**	**911493**	**1617374**

6.1.10.1. Cash flow statement

Cash Flow Statement								
Particulars	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Initial Investment	21,91,000.00							
Sales		24,86,400.00	32,94,480.00	43,65,186.00	57,83,871.45	76,63,629.67	1,01,54,309.31	1,34,54,459.84
Variable Cost		18,30,000.00	23,79,000.00	30,92,700.00	40,20,510.00	52,26,663.00	67,94,661.90	88,33,060.47
Contribution		6,56,400.00	9,15,480.00	12,72,486.00	17,63,361.45	24,36,966.67	33,59,647.41	46,21,399.37
Fixed Cost		3,08,464.00	3,31,941.12	3,57,236.41	3,84,492.32	4,13,862.56	5,48,285.76	5,90,617.08
Overhead Cost		2,43,482.87	3,00,453.44	3,39,650.93	3,86,004.49	4,64,664.41	5,29,675.65	6,06,769.97
EBIDTA		1,04,453.13	2,83,085.44	5,75,598.66	9,92,864.64	15,58,439.70	22,81,686.00	34,24,012.33
Depreciation		1,59,100.00	1,46,190.00	1,34,421.00	1,23,686.40	1,13,889.89	1,04,944.42	96,771.32
OPBT		-54,646.87	1,36,895.44	4,41,177.66	8,69,178.24	14,44,549.81	21,76,741.59	33,27,241.01
Tax		5,222.66	27,379.09	88,235.53	2,97,859.39	4,67,531.91	6,84,505.80	10,27,203.70
OPAT		-59,869.52	1,09,516.35	3,52,942.13	5,71,318.85	9,77,017.90	14,92,235.79	23,00,037.31
Depreciation		1,59,100.00	1,46,190.00	1,34,421.00	1,23,686.40	1,13,889.89	1,04,944.42	96,771.32

OCF		99,230.48	2,55,706.35	4,87,363.13	6,95,005.25	10,90,907.79	15,97,180.20	23,96,808.63
WC Required	2,48,640.00	3,29,448.00	4,36,518.60	5,78,387.15	7,66,362.97	10,15,430.93	13,45,445.98	-
Change in WC		80,808.00	1,07,070.60	1,41,868.55	1,87,975.82	2,49,067.96	3,30,015.05	
Sale of plant and MC								13,11,997.00
Cash Flow		18,422.48	1,48,635.75	3,45,494.59	5,07,029.43	8,41,839.82	12,67,165.15	50,54,251.61

Details of overhead cost for 1st year

No	Overhead Costs	
1	Total procurement per season for the FPO (Quintal)	1200
2	Production of Rice per month (Quintal)	840
3	Machine hours used Rice Mill (Capacity 5.5 Q/hour)	218.2
4	Machine hours used Rice Packing Machine (50kg bags @ 100 bags/hour)	16.8
5	Electricity for Rice Packing Machine (40 HP motor @ 9.06Rs./unit)	6,088.32
6	Electricity for Rice mill for 20HP motor @ 9.06 Rs./unit	39,534.55
7	Electricity for warehouse (Lights and other equipment)	18,000.00
8	Packaging for Rice (25 kg Jute bags @ Rs.8/piece) (1400 bags)	26,880.00
9	Professional Fees(loan processing) + Audit Fee	43,000.00
Overhead costs (Rs.)		1,33,502.87

6.1.10.2. Internal Rate of Return

Particulars	Cash Flow	Present Value
Initial Investment	₹ -21,91,000.00	
Year 0		
Year 1	₹ 18,422.48	₹ 16,596.83
Year 2	₹ 1,48,635.75	₹ 1,20,636.11
Year 3	₹ 3,45,494.59	₹ 2,52,622.66
Year 4	₹ 5,07,029.43	₹ 3,33,995.99
Year 5	₹ 8,41,839.82	₹ 4,99,590.96
Year 6	₹ 12,67,165.15	₹ 6,77,478.24
Year 7	₹ 50,54,251.61	₹ 24,34,422.80
Internal Rate of Return		**25%**
NPV		**Rs. 43,35,343.59**

An initial investment Rs. 21,91,000.00 of on plant and machinery is expected to generate net cash flows of Rs.18422.48, Rs.148635.75, Rs.345494.59 , Rs.507029.43 , Rs.841839.82 , Rs.1267165.15 and Rs. 5054251.61 . at the end of first, second, third, fourth, fifth, six and seven year respectively. At the end of the seven year, the machinery will be sold for Rs1311997.00. Calculate the net present value of the investment if the discount rate is 11%. Net present value is Rs. 4335343.59 and Internal rate of return is 25 percent.

6.1.10.3. Payback Period

Particulars	Cash Flow	Net Invested Cash
Year 0		₹ -21,91,000.00
Year 1	₹ 18,422.48	₹ -21,72,577.52
Year 2	₹ 1,48,635.75	₹ -20,23,941.77
Year 3	₹ 3,45,494.59	₹ -16,78,447.18
Year 4	₹ 5,07,029.43	₹ -11,71,417.76
Year 5	₹ 8,41,839.82	₹ -3,29,577.93
Year 6	₹ 12,67,165.15	₹ 9,37,587.22
Year 7	₹ 50,54,251.61	₹ 59,91,838.83
Payback Period		5.6 Year

The table indicates that the payback period is located somewhere between Year 5 and Year 6. There is Rs.21,91,000.00 of investment yet to be paid back at the end of Year 5, and there is Rs. 12,67,165.15of cash flow projected for Year 6. The analyst assumes the same monthly amount of cash flow in Year 6, which means that the estimate final payback as being just short of 5.6 years.

Scenario II

In first scenario we have used SLM method of depreciation in in which the cost of the asset is spread uniformly over the life years by writing off a fixed amount every year.

6.1.10.4. Plant Break Even Analysis

Growth	Year	2021	2022	2023	2024	2025	2026	2027
25%	Annual Weight before cleaning	120000	150000	187500	234375	292969	366211	457764
	Number of bags	2400	3000	3750	4688	5859	7324	9155
4%	Price per kg	15.25	15.86	16.49	17.15	17.84	18.55	19.30
	Total Price before cleaning	1830000	2379000	3092700	4020510	5226663	6794662	8833060.47

5%	Plant + warehouse Land (Rent per year) (372 sq. meter.)	40000	42000	44100	46305	48620.25	51051	53604
10%	Transportation cost	50400	55440	60984	67082.4	73790.64	81170	89287
8%	Salary	268464	289941	313136	338187	365242	497234	537013
	Labour Expenses	47580	71370	71370	71370	95160	95160	95160
20%	Overhead cost	133503	160203	192244	230693	276832	332198	398637
12%	Other Expenses (courier and small other expenses)	12000	13440	15053	16859	18882	21148	23686
	Total cost	2381947	3011395	3789587	4791007	6105190	7872623	10030448
6%	Price per kg of Rice	28	29.68	31.46	33.35	35.35	37.47	39.72
6%	Price per kg of Husk	4	4.24	4.49	4.76	5.05	5.35	5.67
	Price	2352000.00	3116400.00	4129230.00	5471229.75	7249379.42	9605427.73	12727191.74
	Extra price	134400.00	178080.00	235956.00	312641.70	414250.25	548881.58	727268.10
	Total Price	2486400.00	3294480.00	4365186.00	5783871.45	7663629.67	10154309.31	13454459.84
	Profit	104453.13	283085.44	575598.66	992864.64	1558439.70	2281686.00	3424012.33
	Interest on term loan@11%	241010	241010	241010	241010	241010	241010	241010
	Interest on working capital@11%	91500	118950	154635	201026	261333	339733	441653
	Depreciation @10% machinary and @5% Building	159100	159100	159100	159100	159100	159100	159100

	Profit after depreciation and interest	-387157	-235975	20854	391729	896997	1541843	2582249
	Profit Margin	-16.25%	-7.84%	0.55%	8.18%	14.69%	19.58%	25.74%

6.1.11. P&L projections in Detail

	2021	2022	2023	2024	2025	2026	2027
Paddy	1830000	2379000	3092700	4020510	5226663	6794662	8833060
Total Cost	1830000	2379000	3092700	4020510	5226663	6794662	8833060
Indirect Expenses							
Transportation	50400	55440	60984	67082	73791	81170	89287
Labour	47580	71370	71370	71370	95160	95160	95160
Rents	40000	42000	44100	46305	48620	51051	53604
Other Miscellaneous overheads	133503	160203	192244	230693	276832	332198	398637
Other Expenses	12000	13440	15053	16859	18882	21148	23686
Salary	268464	289941.12	313136.4096	338187.3224	365242.3082	497234.4928	537013.2522
Total Expenses	2381947	3011395	3789587	4791007	6105190	7872623	10030448

Revenue							
Rice	2352000	3116400	4129230	5471230	7249379	9605428	12727192
Husk	134400	178080	235956	312642	414250	548882	727268
Total Revenue	2486400	3294480	4365186	5783871	7663630	10154309	13454460
EBITDA	104453	283085	575599	992865	1558440	2281686	3424012
Interest	332510	359960	395645	442036	502343	580743	682663

EBTDA	-228057	-76875	179954	550829	1056097	1700943	2741349
Depreciation	159100	159100	159100	159100	159100	159100	159100
EBT	-387157	-235975	20854	391729	896997	1541843	2582249
Tax	5222.66	56617.09	172679.60	297859.39	467531.91	684505.80	1027203.70
PAT	-392380	-292592	-151826	93870	429465	857337	1555046
Net profit	**-392380**	**-292592**	**-151826**	**93870**	**429465**	**857337**	**1555046**

6.1.11.1 Cash flow statement

Cash Flow Statement								
Particulars	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Initial Investment	21,91,000.00							
Sales		24,86,400.00	32,94,480.00	43,65,186.00	57,83,871.45	76,63,629.67	101,54,309.31	134,54,459.84
Variable Cost		18,30,000.00	23,79,000.00	30,92,700.00	40,20,510.00	52,26,663.00	67,94,661.90	88,33,060.47
Contribution		6,56,400.00	9,15,480.00	12,72,486.00	17,63,361.45	24,36,966.67	33,59,647.41	46,21,399.37
Fixed Cost		3,08,464.00	3,31,941.12	3,57,236.41	3,84,492.32	4,13,862.56	5,48,285.76	5,90,617.08
Overhead Cost		2,43,482.87	3,00,453.44	3,39,650.93	3,86,004.49	4,64,664.41	5,29,675.65	6,06,769.97
EBIDTA		1,04,453.13	2,83,085.44	5,75,598.66	9,92,864.64	15,58,439.70	22,81,686.00	34,24,012.33
Depreciation		1,59,100.00	1,59,100.00	1,59,100.00	1,59,100.00	1,59,100.00	1,59,100.00	1,59,100.00

OPBT		-54,646.87	1,23,985.44	4,16,498.66	8,33,764.64	13,99,339.70	21,22,586.00	32,64,912.33
Tax		5,222.66	24,797.09	83,299.73	2,97,859.39	4,67,531.91	6,84,505.80	10,27,203.70
OPAT		-59,869.52	99,188.35	3,33,198.93	5,35,905.25	9,31,807.79	14,38,080.20	22,37,708.63
Depreciation		1,59,100.00	1,59,100.00	1,59,100.00	1,59,100.00	1,59,100.00	1,59,100.00	1,59,100.00
OCF		99,230.48	2,58,288.35	4,92,298.93	6,95,005.25	10,90,907.79	15,97,180.20	23,96,808.63
WC Required	2,48,640.00	3,29,448.00	4,36,518.60	5,78,387.15	7,66,362.97	10,15,430.93	13,45,445.98	-
Change in WC		80,808.00	1,07,070.60	1,41,868.55	1,87,975.82	2,49,067.96	3,30,015.05	
Sale of plant and MC								10,77,300.00
Cash Flow		18,422.48	1,51,217.75	3,50,430.39	5,07,029.43	8,41,839.82	12,67,165.15	48,19,554.61

Details of overhead cost for 1st year

No	Overhead Costs	
1	Total procurement per season for the FPO (Quintal)	1200
2	Production of Rice per month (Quintal)	840
3	Machine hours used Rice Mill (Capacity 5.5 Q/hour)	218.2
4	Machine hours used Rice Packing Machine (50kg bags @ 100 bags/hour)	16.8
5	Electricity for Rice Packing Machine (40 HP motor @ 9.06Rs./unit)	6,088.32
6	Electricity for Rice mill for 20HP motor @ 9.06 Rs./unit	39,534.55
7	Electricity for warehouse (Lights and other equipment)	18,000.00
8	Packaging for Rice (25 kg Jute bags @ Rs.8/piece) (1400 bags)	26,880.00
9	Professional Fees(loan processing) + Audit Fee	43,000.00
Overhead costs (Rs.)		1,33,502.87

6.1.11.2. Internal Rate of Return

Particulars	Cash Flow	Present Value
Initial Investment	₹ -21,91,000.00	
Year 0		
Year 1	₹ 18,422.48	₹ 16,596.83
Year 2	₹ 1,51,217.75	₹ 1,22,731.72
Year 3	₹ 3,50,430.39	₹ 2,56,231.68
Year 4	₹ 5,07,029.43	₹ 3,33,995.99
Year 5	₹ 8,41,839.82	₹ 4,99,590.96
Year 6	₹ 12,67,165.15	₹ 6,77,478.24
Year 7	₹ 48,19,554.61	₹ 23,21,379.02
Internal Rate of Return		24%
NPV		Rs. 42,28,004.43

An initial investment Rs. 21,91,000.00 of on plant and machinery is expected to generate net cash flows of Rs.18422.48, Rs. 151217.75, Rs.350430.39 , Rs.507029.43 , Rs.841839.82 , Rs.1267165.15 and Rs. 4819554.61. at the end of first, second, third, fourth, fifth, six and seven year respectively. At the end of the seven year, the machinery will be sold for Rs1077300. Calculate the net present value of the investment if the discount rate is 11%. Net present value is Rs. 4228004.43 and Internal rate of return is 24 percent.

6.1.11.3. Payback Period

Particulars	Cash Flow	Net Invested Cash
Year 0		₹ -21,91,000.00
Year 1	₹ 18,422.48	₹ -21,72,577.52
Year 2	₹ 1,51,217.75	₹ -20,21,359.77
Year 3	₹ 3,50,430.39	₹ -16,70,929.38
Year 4	₹ 5,07,029.43	₹ -11,63,899.96
Year 5	₹ 8,41,839.82	₹ -3,22,060.13
Year 6	₹ 12,67,165.15	₹ 9,45,105.02
Year 7	₹ 48,19,554.61	₹ 57,64,659.63
Payback Period		5.6 Year

The table indicates that the payback period is located somewhere between Year 5 and Year 6. There is Rs.21,91,000.00 of investment yet to be paid back at the end of Year 5, and there is Rs. 12,67,165.15of cash flow projected for Year 6. The analyst assumes the same monthly amount of cash flow in Year 6, which means that the estimate final payback as being just short of 5.6 years.

6.1.11.4. Risk management strategy

- Risk reducing inputs: Risk-reducing inputs are production inputs that improve the chances of better quantity or quality of farm products. Fertilizers and compost are used to reduce the risk of low yields. Pesticides and Integrated Pest Management (IPM) practices are used to reduce the risk of crop damage. Irrigation is used to reduce the risk of low rainfall.
- Risk-reducing technology: We will reduce risk by learning about and applying new techniques and practices designed to address specific risks common to their area of production.
- Marketing risk: Marketing risk exists because of the variability of product prices and the uncertainty of future market prices that the farmer faces when making the decision to produce a commodity. And for this, we will store the produce and sell it when prices are most favorable.

- Contractual Agreements: Price uncertainty could be reduced by making an advance contract with buyers of the product. Contractual agreements can be made with a private individual or company.
- Forward pricing: Forward pricing is a practice where the buyer and FPO agree on a price for the sale of crops in advance of delivery. An agreement is reached to deliver the crop at an agreed price, quantity, quality, and time. This practice enables FPO to reduce the risk that the price they receive for their output might not cover production costs.
- Insurance: We will insure their farms against major risks. Like fires or other hazards that destroy capital items, loss of crops by hail, storms, and floods.
- Human resource management: An aspect of managing risk for larger farmers is good human resource management. This includes: selecting casual workers with suitable skills and experience, ensuring workers are employed according to the relevant law, regular communication, ensuring the safety of workers, and providing adequate supervision and discipline.
- Labour planning: It involves strategies to guard against unexpected changes in the availability and productivity of labor. Careful labor planning, such as using a seasonal labor calendar, ensures that farmers know exactly what and how much labor is needed at various times during the production season.

6.1.11.5. Competition Analysis

There is more than 40 rice miller in Navsari district. But near to this village, only 3 rice millers are operated. There are aggregators, who aggregate paddy from many farmers at a very low rate and converting into rice through rice millers, which cost them a lot, and also they don’t have too much bargaining power, which leads to lower returns as per the market price. They are not operating at the economy of scale. So overall, the FPO of rice mill in that region would be more profitable.

6.1.11.6. Social and Economic Impact

Farmers, as producers, are unable to realize the right value of their produce. The defragmentation of land, lack of awareness, less inclination towards technology adoption leads to underproduction against the optimal potential. Our business plan of rice processing mill will mitigate these issues an in this environment of greater instability and competition, and collective action of aggregating the paddy from small tribal farmers and processing it in the mill helps to enhance farmers competitiveness and increase their advantage in emerging market

opportunities and provide access to high-value markets like export markets and modern retail stores. By this, the tribal farmers can build a prosperous and sustainable member-owned producer organization that enables farmers to enhance productivity through efficient, cost-effective, and sustainable resource use and realize higher returns for their produce.

The other socio-economic impact of our paddy processing are discussed below:

- Livelihood Security: The paddy processing business plan gives them a yearlong sustainable livelihood. As the cultivation of paddy crops doesn't require much complex process and staple food, it gives continuous income to the tribal farmers.
- Economic Impact: As discussed earlier, we will have greater returns with the implementation of the business plan. It will enhance the profits and as well as increase production by adopting a member retention policy. This will also lead to more employment opportunities for the tribal community.
- Food Security: Our business plan will also lead to access to balanced food at the household level. The quality of food available to the tribal farmers will increase because of higher income. This gives in providing proper nutrition to the tribal children and avoids malnutrition among the tribal community, which is widely prevalent in this region.
- Social Empowerment: The economic and social status of the tribal farmers in the region will improve multi-fold. The tribal farmer member will get recognition in the society, participate in social activities, get access to improved technologies, get actively involved in addressing social issues and problems, and develops a sense of leadership and social responsibility in the locality. He can ensure higher studies of his children with more income and motivated to do social work and being in more farmer members into FPO to reap the benefit.
- Educational Security: The farmers also get access to educational facilities, including higher education. They can send their children to nearby town schools with better market linkages the transportation facilities in the locality also improve and aid the school children in commutation.
- Health Security: As the farmers are empowered with better returns, they get access to health care facilities. As their income was very less and as they were not able to have price realization, they were deprived of good health care facilities. Now, farmers are more aware of government schemes and able to afford better health care facilities. Women Empowerment: The women in the tribal community are involved in paddy cultivation and give them social status as they are also the stakeholders, and the income also acts as a safety net for the women who are generally the vulnerable section of the locality. The

women are self-confident as they are the members of the FPO and are able to make decisions in the day to day activities and provide education to their children.

6.1.11.7. Address of plant & machinery

M. G. Industries G. T. Road , Dhir , Batala- 143505, Gurdaspur, Punjab, India +91 8046081444	**Sai Agritech** 89/6 POR GIDC Ramangamdirod, POR Vadodara-391243, Gujarat +91 9558275744 / 7487084342
Magnum Industries Sakhiya Nagar, Street No 1, Shakhiya Nagar, 18- Samrat Industrial Area, Samrat Industrial Area,Rajkot - 360004, Dist. Rajkot, Gujarat. +91 8048742938	**V.R.Gajjer And Company** OLD AHMEDABAD ROAD, NR.VISHWAKARMA RICE MILL, BAREJA,, At Bareja, Ahmedabad - 382425, Dist. Ahmedabad, Gujarat +91 8048617758
Amrut Engineering Works Shakti Campus, Pratap Nagar, Behind Fame Vihar Cinema, Pratap Nagar, Vadodara – 390004, Dist. Vadodara, Gujarat +91 8047028676	**Arihant Sales Corporation** Opposite Hotel Crystal, Alka Petrol Pump Street, Kadiakui, Khadia, Ahmedabad - 380001, Dist. Ahmedabad, Gujarat +91 8048025227
Accurate Grain Processing Solution Radhe Industrial Estate, Near Jalaram Mandir, Sanand Road, Bavla, Ahmedabad - 382220, Dist. Ahmedabad, Gujarat +91 8048929960	**Diyani Engineering** Fortune Industrial Park, kathwada, GIDC , Ahmedabad Gujarat-382430 +91 9978681120 / 9327480120
Sigma Instrumentation 25, Shreenathji Estate, Vatva, GIDC, Phase-1, Nr. BSNL Exchange, Ahmedabad - 382445, Gujarat, India +91 08037301478	

References

http://apmcnavsari.com/onlinerates.aspx

http://apeda.in/apedawebsite/

http://agropedia.iitk.ac.in/content/agro-climatic-zone-gujrat

https://www.steptowardbusiness.com/rice-mill-plant-business/

6.2. Business plan for vananchal farmer producer company (VTFPC)

6.2.1 Introduction

Vananchal Tribal Farmer Producer Company was established on 22 July 2016 in Chikhli taluka in the Navasari district of Gujarat. It is a producer company incorporated with the help of facilitating agency Lok Seva trust. The FPO has 363 members with a capital base of 5.0 lakhs from the NABARD and a paid-up capital of 1.78 lakhs. All the members are tribal farmers, and the majority of the members are small and marginal farmers with an average landholding of 1.5 acres.

Name of Company	**Vananchal Tribal Farmers Producer Company Limited**
Corporate Identity Number	**U01210GJ2016PTC085973**
Registration Date	**05th Feb. 2016**
Registered as	**Producer Company**
Category/Sub-Category of the Company	**Company Limited by Share Indian Non Government Company**
Total members	**363 Members**
No. of women	76 Members
Small farmers	297 Members
Marginal farmers	66 Members
Equity Share Capital	
Authorized	5000 Equity share @Rs.100/- (Rs.5,00,000)
Paid Up	1786 Equity share @Rs.100/- (Rs.1,78,600)
Address of FPC **Email** **Contact No** **Contact Person**	**Palad Falia, House ZNo.50, At Godhavani, Ta. Chikhli, Dist. Navsari-396060, Gujarat** **vanfpo1@gmail.com** **(+91) 97231 70809** **Mr. Jignesh C. Patel (C.E.O.)**

Agriculture is the main occupation of the members of Vananchal Tribal Farmer producer company (VTFPC). They are involved in cultivation of Seasonal vegetable, Cucurbit, Baby corn, Paddy; Fruits like Mango, Papaya and the primary objective of the farmer producer company is to improve the livelihood of small and marginal farmers by establishing a commercially viable organization of the tribal farmers. They also aid in enhancing the income of the shareholders by developing functional linkages with agribusiness trade and develop the support system to enable the farmers thrive independently in the agribusiness environment.

As per discussion with FPOs, chairman, BODs and few members, 80 percent of members are cultivating seasonal fruits and vegetables, so that marketing in systematic way by establishment of collection centers at cluster level and by primary processing like sorting, grading and

packaging as per the standards so that they required fruits and vegetable marketing business plan.

6.2.2. Project Description

Navsari district is well-known for growing for Fruit and Vegetables. The farmers in the proposed area are engaged cultivation of the fruit and vegetable crops. The harvested crops have been sold in the local market, usually through an agent's at a price much lower than the retail market. Generally, prices received are very low and below the market price leading to an unprofitable return to farmers. Marketing of horticultural crops is complicated, mainly because of perishable in nature, seasonality, and bulkiness. The efficiency of marketing for fruits and vegetables in India has been of significant concern in recent years. Low efficiency in the marketing channels and inadequate marketing infrastructure are believed to cause high and fluctuating consumer prices and little of the consumer rupee reaching the farmer.

The company's primary aim is to do marketing of agricultural produce systematically as per consumer and wholesaler choice so that the establishment of collection centers at the cluster level and by primary processing like sorting, grading, and packaging. Marketing is done through direct consumer, whole seller, frozen fruit companies, and processor depending upon the demand.

Initially, our primary focus would be on marketing the fruit and vegetables later on the cold storage facility, and the packhouse will develop. Furthermore, we have a plan to introduce produce chemical residue-free products and organic products. We will be beginning with the inclusion of 200 farmers initially.

6.2.3. Objectives of the project

- To improve the livelihood of small and marginal farmers.
- To reduce the price spread between the primary producer and ultimate consumer.
- To make available all products of farm origin to consumers at a reasonable price without impairing the quality of the produce.

6.2.4. Raw Material Availability

India is one of the largest producers of fruits and vegetables in the world. Gujarat has always taken the lead in introducing new concepts in agriculture marketing.

Navsari district of the Gujarat state is famous for cultivating fruit and Vegetable crops. Major fruit crops like Mango, Sapota, Banana, Papaya, cashew nut, etc. are growing widely in this region. In contrast, in vegetables, the major crops are cucurbit vegetables (Small gourd, Pointed gourd, Bitter gourd, Bottle gourd, and newly introduce Spine gourd), Okra, Brinjal cabbage, cauliflower, cluster bean, etc. The area and production of the fruit crop grown in the Navsari district are given below

The fruit & vegetable, area & production details given in below table.

District		Navsari	
Sr. No.	**Name of crop**	**Area (Ha)**	**Production (MT)**
Fruit crop			
1	Mango	33317	294885
2	Sapota	8177	103439
3	Banana	3224	173320
4	Papaya	427	26901
5	Cashew nut	330	597
6	Other fruit crop	159	1222
Vegetable crop			
1	Cucurbits	10948	192028
2	Onion	94	1638
3	Brinjal	3067	60236
4	Cabbage	219	5037
5	Okra	6500	82225
6	Tomato	194	4499
7	Cauliflower	125	2445
8	Cluster bean	758	7451
9	Cow pea	890	7120
10	Other vegetable	815	10579

Fruit and Vegetable area and production in the Navsari District (2018-19)

(Source Horticulture department - GoG)

6.2.5. Products Offering

Mango (Mangifera indica Linn) is the most common crop in India, known as the "King of Fruits." The fruit is grown in the largest area, i.e., 2,312 thousand hectors, and production amounts to approximately 15,03 million tons, contributing 40,48 percent of total mango production worldwide. The major mango-producing states in India are Uttar Pradesh (23.86%), Andhra Pradesh (22.14%), Karnataka (11.71%), Bihar (8.79%), Gujarat (6.00%), and Tamil

Nadu (5.09%). India's total mango export amounts to 59.22 thousand tons, valuing Rs. 162.92 crores in 2010-11. India exports mango to over 40 countries worldwide.

Okara (Abelmoschus esculentus), or ladies' finger, is the most common and essential tropical vegetable in India, Nigeria, Pakistan, Cameroon, Iraq, and Ghana. Although it is virtually not grown in Europe and North America, many people in these countries have started to like this vegetable due to a good amount of vitamin A and folic acid, in addition to carbohydrates, phosphorus, magnesium, and potassium.

It estimated that the total area and production are 1148.0 thousand ha and 7896.3 thousand tons under okra. It is grown primarily in India, Nigeria, Sudan, Pakistan, Ghana, Egypt, Benin, Mexico, Saudi Arabia, and Cameroon. The largest area and production are in India, followed by Nigeria. Egypt's highest productivity (12.5 tons/ha) reported, followed by Saudi Arabia (13.3 tons/ha).

Brinjal - Brinjal or baingan, known as eggplant and aubergine in North America and Europe separately, is a significant average person's vegetable in India. Brinjal is cultivated on almost 550,000 hectares in India, making the second-biggest maker after China a 26% world creation share. Being a robust crop that yields well, Brinjal is grown in almost all country parts, even under drought conditions. Significant Brinjal delivering states include

- West Bengal (30% creation share),
- Orissa (20%), and
- Gujarat and Bihar (around 10% each).

In 2005-2006, the normal public profitability of Brinjal recorded around 15.6 tons per hectare.

Cowpea has been recognized as a crop of African origin. Cowpea is a typical warm-season crop adapted to tropics. In the Indian context, it is a minor pulse cultivated mainly in arid and semi-arid areas of grown in Punjab, Haryana, Delhi, and West UP along with a considerable area in Rajasthan, Karnataka, Kerala, Tamilnadu, Maharashtra, and Gujarat. Its nutritional value and soil-improving properties are also used as a fodder, green manure, and cover crop.

Bottle gourd (Lagenaria siceraria), also called white-flowered gourd or calabash gourd, running or climbing vine of the gourd family (Cucurbitaceae), native to tropical Africa but cultivated in warm climates around the world for its ornamental and useful hard-shelled fruits.

Bitter gourd, also known as bitter melon or karela (in India) is originated in India, is a unique vegetable-fruit that can be used as food or medicine. It is the edible part of the plant Momordica Charantia, which is a vine of the Cucurbitaceae family and is considered the most bitter among all fruits and vegetables. The plant thrives in tropical and subtropical regions, including South America, Asia, parts of Africa, and the Caribbean. The bitter melon itself grows off the vine as a green, oblong-shaped fruit with a distinct warty exterior – though its size, texture and bitterness vary between the different regions in which it grows – and is rich in vital vitamins and minerals.

Chilli - The botanical name for Indian chilies is Capsicum annum. Maximum chilies are produced in Andhra Pradesh, followed by Karnataka, Orissa, West Bengal, Maharashtra, etc. Guntur in Andhra Pradesh is known for chilies.

Asia produces 65.8% of the world green chilies and pepper and stands at the top; Europe stands 2nd, contributing 12.1%, and Africa 3rd with 9.5% of world production. Chilies produced in Asia are mainly of hot types, whereas African countries produce both hot and mild types (paprika), and European production is predominantly of a mild type. China tops the world in the area and production of green chilies and peppers, and Spain is at the top in terms of productivity (46.90 tons/ha). After China, Turkey, Mexico, Spain, USA, Indonesia, Nigeria, etc., are the major green chilly and pepper producers.

Cluster bean or guar, with the botanical name Cyamopsis tetragonoloba, It is grown in Rajasthan, Gujarat, Haryana, Uttar Pradesh. In India, Rajasthan stands first in terms of area and production of Cluster bean. The crop produces gum, which is called guar gum, and is exported in foreign countries. Its seeds contain protein-18% and Fibre-32 % and about 30-33 % gum in the endosperm.

6.2.6. Crop Calendar

Sr. No.	Name of crop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
A	Fruit												
1	Mango				√	√	√	√					
B	Vegetable												
1	Okra	√	√	√	√	√	√	√	√	√	√	√	√
2	Brinjal	√	√	√	√	√	√	√	√	√	√	√	√

3	Cow-Pea	√	√	√	√								√
4	Bottle Gourd	√	√	√	√	√	√	√	√	√	√	√	√
5	Bitter gourd		√	√	√	√	√	√	√	√	√	√	
6	Chilli	√	√	√	√				√	√	√	√	√
7	Cluster bean	√	√	√	√	√							

6.2.7. Business Model Canvas

<table>
<tr>
<td rowspan="2">Key Partners

● Farmers Producer Organization (FPO)
● Promoting Institution (POPI)
● NABARD
● Lokseva Trust
● Trade union of the city</td>
<td>Key Activities

● Shorting and Grading
● Providing Input Supply
● Packaging
● Transportation
● Storage and collection</td>
<td rowspan="2">Value Propositions FOR CUSTOMERS

● Institutional Buyers provide - Residue free and fresh fruits and vegetables sourced directly from farmers
● City Customers - Provide fresh vegetables directly from farms

FOR FPC
Providing better prices and input services to farmers for their produce</td>
<td>Customer Relationship

● Contract Farming with Vadilal
● Vadilal provides training
● Weak relation with other customers, less active engagements
● Vegetables in cities is sold on basis of trust</td>
<td rowspan="2">Customer Segment

● Vadilal (Fenugreek, Chilli, mustard), residue farming
● Farm Fresh (Baby corn), residue farming
● Customer in Ahmedabad, Baroda, Surat (Mango-Grade 1) seeking fresh mango
● Mango processing unit in Navsari (Mango Grade-2)
● Local mandis
● Farm to fork model customers purchase fresh and near to organic vegetables</td>
</tr>
<tr>
<td>Key Resources

● Shareholders
● CEO and Field officers
● Collection Centres
● Officer
● Computer</td>
<td>Channels

● Direct selling to customers (High margin)
● Local Mandi selling (Low margin)
● Institutional Buyers (High margin)</td>
</tr>
<tr>
<td colspan="3">Cost Structure

● Transportation Cost
● Labour Charges
● Share capital
● Zero Debt.</td>
<td colspan="2">Revenue Structure

● Institutional buyers
● Individual Customers
● Local Mandi
● Local mills in Navsari</td>
</tr>
</table>

6.2.8. Market Opportunities

- Customer Segment (CS): This block defines the different groups of people or organizations a business aims to reach and serve. The different segments include mass, niche, multi-sided, diversified, and segmented markets. In our organization, the segment is mass, and different segments include smallholder farmers, APMCs, Landowners, Agro-food industries, and different farmer organizations.
- Value proposition (VP): The value proposition that our organization provides includes fruits and vegetables, reasonable price, sustainable use of land, more control over quality and quantity.
- Channel (CH): This block describes how an organization connects with and reaches its customer segment to deliver a value proposition. This block includes direct channels such as salesforce, web sales, and indirect channels such as own stores, partner stores, and wholesalers. The channel in our organization includes an extension through farmer leaders, food companies, exhibitions, wholesellers, and online fruit and vegetable sellers.
- Customer Relationship (CR): This block describes the types of relationships a business forms with particular Customer Segments. These relationships can include categories such as personal assistance, self-service, automated services, co-creation, etc. In our part dedicated personal assistance to the farmers, personal contact on the farm, group communication is being covered.
- Revenue Streams (RS): This block represents the money a business makes from each of its Customer Segments. The several ways to generate revenue streams include asset sale, lending, leasing, renting, licensing, subscription fees, etc.
- Key resources (KR): This block defines the most significant assets that are required to make the business model work and are categorized as physical, intellectual, human, and financial. The resources are farm inputs, kisan sahayaks, financial aid, staff, and different types of machinery.
- Key Activities (KA): This block describes the most significant things that a business must do to make the business model work and can be categorized as production, platform/network, etc. The key activities include buying of seeds for the farmers, training to the farmers and labourers, providing machinery for production and market linkages.
- Key partnerships (KP): This block defines the network of suppliers and partners that makes the business model work. The different types include buyer-supplier relationships, joint ventures, a strategic alliance between non-competitors, and cooperation between

competitors. The key partners of our organization include farmers, APMC, local action groups, agribusiness companies, agricultural lab., F&V exporters, and different buyers.

- Cost Structure (CS): This block defines all costs that are incurred to operate the business model. These structures can be either cost-driven or value-driven. The cost of machinery that is required is 6.26 lac rupees, the cost of transportation vehicle that is required is 8.10 lac rupees, and the working capital required is 96.50 lac rupees.

6.2.9. Market Segmentation

The target customers include oriental vegetable markets demanding organic and semi-organic green vegetables, hotels, restaurants, and individual private buyers through direct selling and farmers markets. The company will continue to service the existing customers of the purchased vegetable farms. In its greens production, the company will target virtually all main food outlets. The company plans to use the Internet as one of its marketing channels in the future. The company's target customers will be as follows:

Fruit and Vegetables:

- Oriental vegetable markets demanding organic and semi-organic vegetables.
- Vegetable processors.
- Kisan Bazar
- People approaching the Directly
- Farmers to the family at residential society
- Bulk buyer, whole-sellers, and retailers
- Mango and Vegetable processors/Company –IQF for CRF vegetables
- Direct customers, especially for mango in box packing
- B2B market

6.2.10. Marketing Strategy

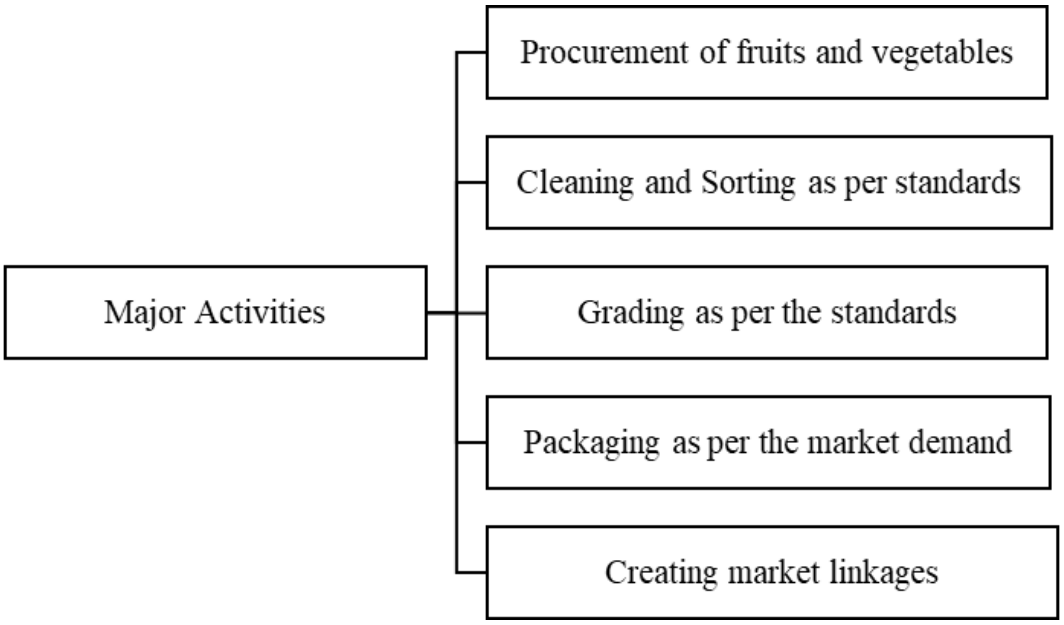
This strategy will allow Farmers Groups to produce crops during most of the year and enable double cultivation by a two-tier vegetable system. Also, plan to cultivate through contract farming by various companies. The FPOs aims to collect small farmers' agricultural-horticulture produce at the cluster level and market to different buyers. Lok Seva Trust has market linkages in Ahmedabad, Baroda, Surat, Navsari, and Vapi, so that it is accessible to market Fruit and vegetables. Distribution is the most successful and proven way of marketing. We have local consumers, and we can supply in-market demanded boxes or be required to the

retail counters or send the goods to the wholesalers. Also, we can consider keeping our products in the online marketplaces as our business grows. We can consider several different ways to promote our organic fruit and vegetable business entire south Gujarat.

Primary target markets are the whole sellers that purchase fruit and vegetable small and medium traders in bulk volume. The secondary market includes companies that do buyback guarantees for export or IQF storage exporters for chili, mango, etc. Further, we target food processing industries and big retailers like Reliance Fresh, Godrej Natures Basket, E-Commerce such as Big Basket, Grofers, etc. The mangoes from the South Gujarat areas are of better quality and have a higher demand for Alpanso, Rajapuri, and Kesar varieties. Therefore, FPC will market its products directly to companies affiliated with big domestic trading.

Above mention vegetable are usually on contract farming it is FPC sells 100% market linkages with companies and surplus vegetable or overproduction with other vegetables through APMC or small traders who are supplying vegetables and fruits at Mumbai, Delhi, and other big cities.

Major Activities

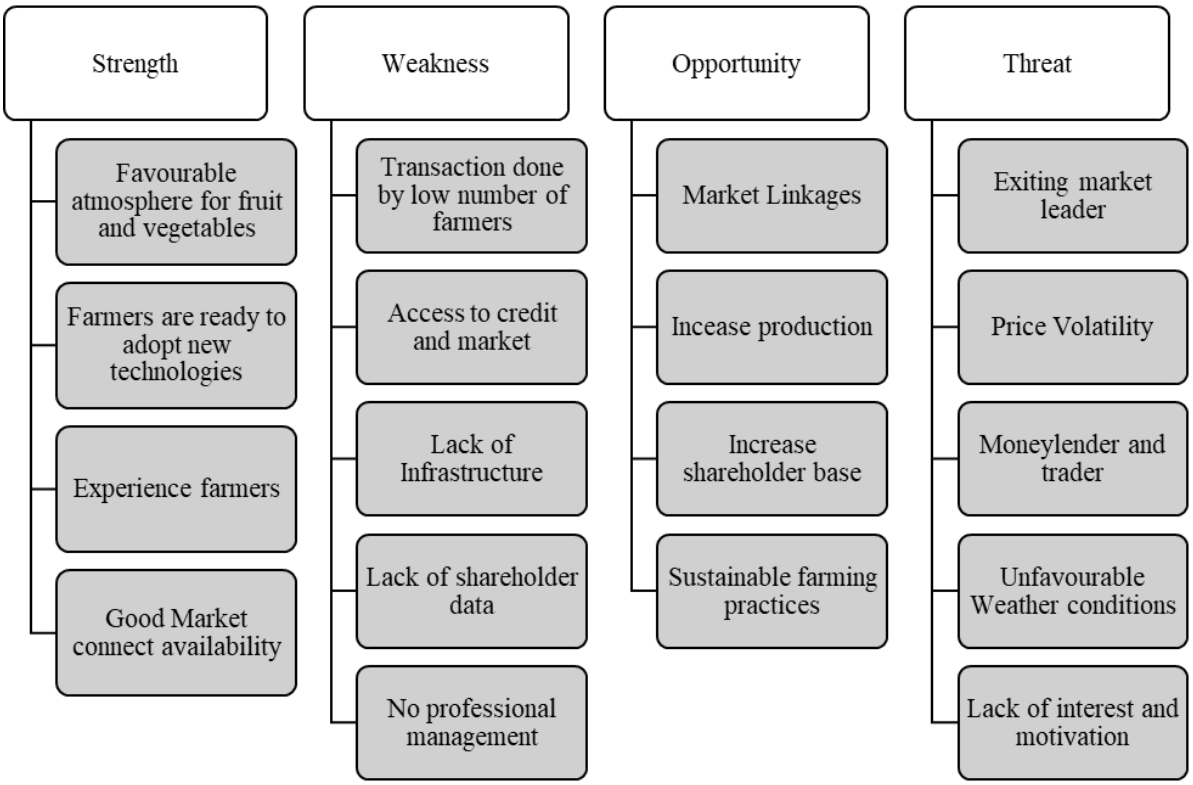


FPO level flow of product and Value addition

- Procurement: we would be procured fruits and vegetable from 200 farmers at a given decided price. Procurement would be done on a credit period of 12 days from the farmers.
- Processing and Value addition: We would purchase small scale procurement center. We will do primary processing (Like cleaning, sorting and grading) of fruits and vegetables.

- Packaging and transportation: We would also purchase a packaging machine. We will pack it to the required size as per the demand from buyers.
- End customers: Our end customers would be direct consumer, whole seller, frozen fruit companies, Govt. purchasing agencies, big retailers, and institutional buyers.

6.2.11. SWOT Analysis



6.2.11.1. Strength

- Favourable atmosphere for fruit and vegetables: Black clayey to loam soil (Black cotton soil), silt caly loam to clay loam soils, good for fruits and vegetables crop. As well as enough water available.
- Farmers are ready to adopt new technologies: Farmers are ready to follow the new technologies.
- Experienced Farmers: Most of the farmers has more than 8 to 10 years' experience in farming.
- Good Market connect availability: Mandi Near By – Navasari, Surat mandi. The big traders, online retail chains, retail stores are available in Surat. Also, the Hazira port for the export is also nearby. So FPC has good connectivity to market.

6.2.11.2. Weakness

- Transaction done by a low number of farmers: As per analysis till now, only 50 farmers have done transactions with the FPC. So the reason behind the less transaction is traders and money lenders and the credit facility that they give.
- Access to credit and market: There is no working capital to run the business, so loan has been taken from Banks at the rate of 11%. Due to this, a large amount has gone as interest only.
- Lack of Infrastructure: There is no infrastructure and asset with the company. The company do not have no office, no computer, and no collection centre.
- Lack of shareholder data: There is no data of shareholder with us so it is very much difficult for to inform and get the demand of the member farmers.
- No professional management: Professional management right now in the company is lacking. The company is supported by, and its management is done by BOD's & CEO, who are more inclined towards social aspects. And to sustain the business mindset is necessary. So in the future, for sustainability, professional management is necessary.

6.2.11.3. Opportunity

- Market Linkages: There is a very large market for agriculture produce. Many channels are in Surat, like export, food companies, online grocery stores, reliance fresh, fruit and vegetable mandi etc. So there are lots of opportunities to tie up with them. Surat is very near to Navsari, and surat has huge market potential for agricultural produce.
- Increase shareholder base - Right now only 363 members are shareholders so there is lots of opportunity to add more farmers.
- Increase production – Right now low number of members are giving their produce to FPC, so we can increase production.
- Sustainable farming practices: The demand is changing to organic products now. There is a opportunities to go for IPM and organic practices. The product, although generated less, will charge a premium amount. The Producer Company can promote other products also.

6.2.11.4. Threat

- Exiting market leader: There are so many other suppliers also in a market, they will create problems for new channel.
- Price Volatility: The fluctuation is due to various reasons, Like high or low production.
- Moneylender and trader: The moneylender and the trader take 50% of the product in the harvesting season itself. This is because of the debt the farmers own to the traders and money lenders.
- Unfavourable Weather conditions: This is the major threat to agriculture produce. If the rain happens at the wrong time or more, then it affects heavily.

6.2.12. Financial Plan

6.2.12.1. Land and Land Development

It will be ideal to acquire a 3 procurement center of about 400 square meters of space, keeping in mind the project's future expansion. Accordingly, a procurement center cost of Rs.1,20,000 (On lease) for Seven-year has been considered in this model. And every year a 5% increase in the previous year's rent.

6.2.12.2. Plant and Machineries

Machinery Cost				
Sr. No.	**Description**	**Qty**	**RATE / SET**	**Basic Amount with Drive Motor**
1	Plastic carates	150	₹ 250.00	₹ 37,500.00
2	Tarpaulin	3	₹ 4,000.00	₹ 12,000.00
3	Weighing machine scale 100 kg capacity	3	₹ 8,500.00	₹ 25,500.00
4	Weighing machine scale 20 kg capacity	3	₹ 4,000.00	₹ 12,000.00
5	Sealing machine small	3	₹ 2,200.00	₹ 6,600.00
6	Sealing machine big	1	₹ 5,000.00	₹ 5,000.00
7	Pre-colling chamber (4 TONE capacity) with solar roof	1	₹ 4,50,000.00	₹ 4,50,000.00
Basic Cost				**₹ 5,48,600.00**
GST @5%				**₹ 27,430.00**
Transportation & Installation				**₹ 50,000.00**
Total Amount				**₹ 6,26,030.00**

6.2.12.3. Miscellaneous Fixed Assets

Cost of office furniture, computer, printer, etc. is considered under miscellaneous fixed assets. A provision of Rs. 70,000 is needed to take care of this expenditure.

6.2.12.4. Contingency

Contingency charges are considered as 2 % of the cost of project excluding the pre-operative expenses and land cost. The contingency charges amount is Rs.36,000.

6.2.12.5. Project Cost

Project Fixed Cost			
No.	**Particulars**	**Qty.**	**Amount (In lakh)**
1	Collection centres (On Rent) (3 * 400 sq. meter)	1200 sq. meter	
2	Plant and Machinery		₹ 9.21
3	Referrred Van vehicle 2 ton capacity (TATA Yodha)		₹ 8.10
4	Miscellaneous Fixed Assets		₹ 0.70
5	Contingency @2%		₹ 0.36
Total			₹ 18.37

6.2.12.6. Manpower Requirement

Year | Position	**Manager (Overall Incharge)**	**Supervisor**	**Driver for vehicle**	**Per annum Salary**
2021	1	1	1	₹ 3,40,464.00
2022	1	1	1	₹ 2,89,941.12
2023	1	1	1	₹ 3,13,136.41
2024	1	1	1	₹ 3,38,187.32
2025	1	1	1	₹ 3,65,242.31
2026	1	1	1	₹ 3,94,461.69
2027	1	1	1	₹ 4,26,018.63

* Note: Manager (Overall In-charge), Supervisor and unskilled worker are number of person

Additionally, we need daily basis workers for ten months. The daily wages are Rs.250 per person, and monthly payments are Rs.6500 per person. The annual cost for extra labor is shown in the below table.

Year | Position	Unskilled Worker (No. Of Person)	Per annum Salary or Wages(Rs.)
2021	4	₹ 2,60,000.00
2022	4	₹ 2,60,000.00
2023	4	₹ 2,60,000.00
2024	6	₹ 3,90,000.00
2025	6	₹ 3,90,000.00
2026	7	₹ 4,55,000.00
2027	7	₹ 4,55,000.00

6.2.12.7. Procurement Plan

No	FPO vegetable procurement plan for First Year	
1	No. of farmers	200
2	Average Production of vegetable per season per farmer (KG)	1050
3	Total procurement of vegetable per season for the FPO (KG)	210000
4	Average procurement of vegetable per month for the FPO (Kg) (10 month)	21000.00

No	FPO Fruit procurement plan for First Year	
1	No. of farmers	100
2	Average Production of vegetable per season per farmer (KG)	1000
3	Total procurement of vegetable per season for the FPO (KG)	100000
4	Average procurement of vegetable per month for the FPO (Kg) (4 month)	25000.00

Sr. No.	Name of crop	Price Per Kg for procurement	Price Per tonne	Qantity (In tonne)	Cost of Procurement
A	**Fruit**				
1	**Mango**	35	35000	100	3500000
B	**Vegetable**				
1	**Okra**	25	25000	30	750000
2	**Brinjal**	20	20000	30	600000
3	**Cow-Pea**	30	30000	30	900000
4	**Bottle Gourd**	30	30000	30	900000
5	**bitter gourd**	35	35000	30	1050000
6	**Chilli**	25	25000	30	750000
7	**Cluster bean**	40	40000	30	1200000

6.2.13. P&L projections in Detail

	2021	2022	2023	2024	2025	2026	2027
Cost of procurement							
Mango	3500000	4226250	5103197	6162110	7440748	8984703	10849029
Okra	750000	905625	1093542	1320452	1594446	1925294	2324792
Brinjal	600000	724500	874834	1056362	1275557	1540235	1859834
Cow-Pea	900000	1086750	1312251	1584543	1913335	2310352	2789750
Bottle Gourd	900000	1086750	1312251	1584543	1913335	2310352	2789750
bitter gourd	1050000	1267875	1530959	1848633	2232224	2695411	3254709
Chilli	750000	905625	1093542	1320452	1594446	1925294	2324792
Cluster bean	1200000	1449000	1749668	2112724	2551114	3080470	3719667
Total Cost	9650000	11652375	14070243	16989818	20515205	24772111	29912324
Indirect Expenses							
Transportation	514286	591429	680143	782164	899489	1034412	1189574
Labour	260000	260000	260000	390000	390000	455000	455000
Rents	120000	126000	132300	138915	145861	153154	160811
Other Miscellaneous overheads	572000	629200	692120	761332	837465	921212	1013333
Other Expenses	12000	12600	13230	13892	14586	15315	16081
Salary	340464	289941.12	313136.4096	338187.3224	365242.3082	394461.6928	426018.6282
Total Expenses	1146875	1356145	16161172	19414308	23167849	27745665	33173142

Revenue							
Mango	4200000	5071500	6123836	7394532	8928898	10781644	13018835
Okra	960000	1159200	1399734	1690179	2040891	2464376	2975734
Brinjal	810000	978075	1181026	1426088	1722002	2079317	2510775
Cow-Pea	1110000	1340325	1618442	1954269	2359780	2849434	3440692

Bottle Gourd	1110000	1340325	1618442	1954269	2359780	2849434	3440692
bitter gourd	1260000	1521450	1837151	2218360	2678669	3234493	3905651
Chilli	960000	1159200	1399734	1690179	2040891	2464376	2975734
Cluster bean	1350000	1630125	1968376	2376814	2870003	3465528	4184626
Total Revenue	11760000	14200200	17146742	20704690	25000914	30188603	36452738
EBITDA	291250	638655	985569	1290382	1833065	2442938	3279597
Interest	250320	260332	272421	287019	304646	325931	351632
EBTDA	40930	378323	713148	1003363	1528419	2117007	2927965
Depreciation	150600	135540	121986	109787	98809	88928	80035
EBT	-109670	242783	591162	893576	1429610	2028079	2847930
Tax	14562.51	127731.06	295670.83	387114.62	549919.46	732881.32	983878.96
PAT	-124232	115052	295491	506461	879691	1295198	1864051
Net profit	**-124232**	**115052**	**295491**	**506461**	**879691**	**1295198**	**1864051**

6.2.13.1. Cash flow statement

Cash Flow Statement								
Particulars	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Initial Investment	18,37,000.00							
Sales		1,17,60,000.00	1,42,00,200.00	1,71,46,741.50	2,07,04,690.36	2,50,00,913.61	3,01,88,603.19	3,64,52,738.35
Variable Cost		96,50,000.00	1,16,52,375.00	1,40,70,242.81	1,69,89,818.20	2,05,15,205.47	2,47,72,110.61	2,99,12,323.56
Contribution		21,10,000.00	25,47,825.00	30,76,498.69	37,14,872.17	44,85,708.14	54,16,492.58	65,40,414.79
Fixed Cost		4,60,464.00	4,15,941.12	4,45,436.41	4,77,102.32	5,11,103.06	5,47,615.48	5,86,830.11
Overhead Cost		13,58,285.71	14,93,228.57	16,45,492.86	19,47,387.79	21,41,540.20	24,25,939.37	26,73,988.15

EBIDTA		2,91,250.29	6,38,655.31	9,85,569.42	12,90,382.06	18,33,064.88	24,42,937.73	32,79,596.54
Depreciation		1,50,600.00	1,35,540.00	1,21,986.00	1,09,787.40	98,808.66	88,927.79	80,035.01
OPBT		1,40,650.29	5,03,115.31	8,63,583.42	11,80,594.66	17,34,256.22	23,54,009.94	31,99,561.52
Tax				1,72,716.68	3,87,114.62	5,49,919.46	7,32,881.32	9,83,878.96
OPAT		1,40,650.29	5,03,115.31	6,90,866.74	7,93,480.04	11,84,336.75	16,21,128.62	22,15,682.56
Depreciation		1,50,600.00	1,35,540.00	1,21,986.00	1,09,787.40	98,808.66	88,927.79	80,035.01
OCF		2,91,250.29	6,38,655.31	8,12,852.74	9,03,267.44	12,83,145.41	17,10,056.41	22,95,717.57
WC Required	11,76,000.00	14,20,020.00	17,14,674.15	20,70,469.04	25,00,091.36	30,18,860.32	36,45,273.83	-
Change in WC		2,44,020.00	2,94,654.15	3,55,794.89	4,29,622.32	5,18,768.96	6,26,413.52	
Sale of plant and MC								13,11,997.00
Cash Flow		47,230.29	3,44,001.16	4,57,057.85	4,73,645.11	7,64,376.46	10,83,642.90	72,52,988.41

6.2.13.2. Details of overhead cost for 1st year

No	Overhead Costs	
1	Total procurement of vegetable per season for the FPO (Quintal)	2100
2	Total procurement of Fruits per season for the FPO (Quintal)	1000
3	Electricity charges of centers (Average cost per month Rs. 1500, per centre)	64000.0
4	Packaging for Vegetable	₹ 3,15,000.00
5	Packaging for fruit	₹ 1,50,000.00
6	Professional Fees(loan processing) + Audit Fee	₹ 43,000.00
Overhead costs (Rs.)		₹ 5,72,000.00

6.2.13.3. Details of Transportation cost for 1st year

Transportation fual cost (Average monthly running 4500 Km)(10 months) (Avrgar fuel rate 80 Rs. Per Liter)	₹ 5,14,285.71

6.2.14. Internal Rate of Return

Particulars	Cash Flow	Present Value
Initial Investment	₹ -18,37,000.00	
Year 0		
Year 1	₹ 47,230.29	₹ 42,549.81
Year 2	₹ 3,44,001.16	₹ 2,79,199.06
Year 3	₹ 4,57,057.85	₹ 3,34,196.76
Year 4	₹ 4,73,645.11	₹ 3,12,004.71
Year 5	₹ 7,64,376.46	₹ 4,53,620.22
Year 6	₹ 10,83,642.90	₹ 5,79,359.74
Year 7	₹ 72,52,988.41	₹ 34,93,462.87
Internal Rate of Return		34%
NPV		Rs. 54,94,393.17

An initial investment Rs. 18,37,000.00 of on plant and machinery is expected to generate net cash flows of Rs.47230.29 , Rs.344001.16, Rs.457057.85 , Rs.473645.11 , Rs.764376.46 , Rs.1083642.90 and Rs. 7252988.41. at the end of first, second, third, fourth, fifth, six and seven year respectively. At the end of the seven year, the machinery will be sold for Rs720315.00. Calculate the net present value of the investment if the discount rate is 11%. Net present value is Rs.5494393.17 and Internal rate of return is 34 percent.

6.2.15. Payback Period

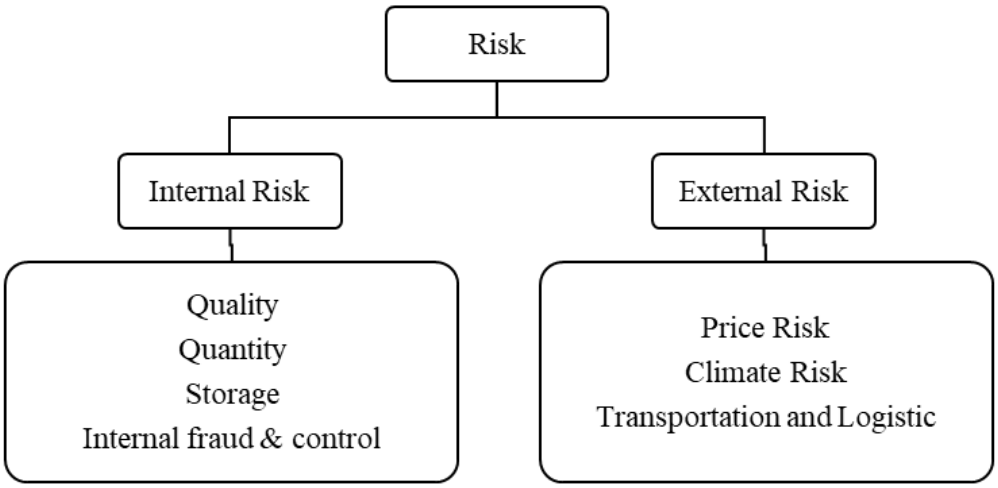
Particulars	Cash Flow	Net Invested Cash
Year 0		₹ -18,37,000.00
Year 1	₹ 47,230.29	₹ -17,89,769.71
Year 2	₹ 3,44,001.16	₹ -14,45,768.56
Year 3	₹ 4,57,057.85	₹ -9,88,710.71
Year 4	₹ 4,73,645.11	₹ -5,15,065.59
Year 5	₹ 7,64,376.46	₹ 2,49,310.87
Year 6	₹ 10,83,642.90	₹ 13,32,953.76
Year 7	₹ 72,52,988.41	₹ 85,85,942.17

The table indicates that the payback period is located somewhere between Year 4 and Year 5. There is Rs.18,37,000.00 of investment yet to be paid back at the end of Year 4, and there is Rs. 7,64,376.46 of cash flow projected for Year 5. The analyst assumes the same monthly amount

of cash flow in Year 5, which means that the estimate final payback as being just short of 4.5 years.

6.2.16. Risk management strategy

For the successful operations of the activities identified for FPC, short term and medium-term plan of action must be developed. Based on the information collected, interaction during field visit, and feedback received from the farmers, it is envisaged that the FPC can start with consolidating its current operations by integrating systems within the operations in the first year of the current business plan. The phasing of the activities can be carried out so that the risks identified with different business kinds are minimized.



While the company is operating in the market, many risks have not been adequately recognized by the company, requiring some deft handling. The risks can be broadly classified as external and internal. The external risks are price risk, climate risk, transportation & logistics, etc. The internal risks are – quality, quantity, storage and internal control & frauds, etc. The company will evolve and ensure measures for guarding against the various risks during the business plan period.

6.2.16.1. Avoidance of Risk

Out of the many risks, some are those which can be avoided in the first place. This includes risks like taking a loan and internal control. The loan or the debt, whichever is taken, should be well thought and then taken. They can avoid this risk on the basis that they are well aware of their production capacity and the revenue that they can generate. All the financials should be

considered before going for a loan. The company can set up good SOPs to deal with internal quality control and fraud, where farmers aren't delivering the required residue-free vegetables.

6.2.16.2. Risk Mitigation

This type of strategy can be used for the risks which cannot be fully avoided. Climate and the use of appropriate fertilizers are these two kinds of risk that the company will face. The company can provide timely extension services and guidance to the farmers to mitigate this risk as much as possible. The climate risk can be mitigated to an extent by taking help from the government extension services also.

6.2.16.3. Transfer of Risk

In some instances of risk, the company can transfer the risk to the third party. Take an example of Storage and Logistics where the company can hire a third party to do the work. The company can also ensure its produce against the warehouse produce. This receipt can also be further be used for insurance. The company can take up the insurance more actively and invest an appropriate amount in it to avoid the loss to its members.

6.2.17. Social and Economic Impact

The members had experienced an increase in the income from their share in the FPC activities as before the establishment of FPC, most of these members were forced to sell their produce only to the intermediaries like traders, processors, and other aggregators. And the main aim of these aggregators was to get the best quality produce at the lowest price possible. Hence a common experience of all these members before the establishment of FPC was that they used to get a much lower price for the produce compared to the rates provided by the market linkages developed by the FPC members. Also, cheating in terms of grading and weights by the traders was a common experience.

The FPC is impacting the lives of its members by providing the following services:

- Marketing services (input supply, output marketing, and processing, market information) Facilitation of collective production activities
- Financial services (savings, loans, and other forms of credit)
- Technology services (education, extension, research)
- Education services (business skills, health, and general)
- Welfare services, (health, safety nets)
- Policy advocacy

By providing the activities mentioned above, it is tried to impact the social wellbeing of its members. Providing loans for cattle rearing and helping them reduce the distress caused by the money lenders is leading to an increase in the family members' social wellbeing. The members are provided training on various new methodologies of cultivation of the residue-free Agri-produce has shown to skill up-gradate the members' market demand conditions. Building strong relationships with big institutional buyers like Vadilal, Sahyadri farms, feel fresh, etc. has led to increasing self-confidence of the farmer members. Also, they can connect their communities to new markets and have fostered entrepreneurial and leadership skills in the members. Hence various women groups are also actively participating in creating various market linkages, procurement, and cluster development roles.

The aggregation of farmers produce, economies of scale will achieve, resulting in an overall reduction in the total production cost of the members. With a huge aggregated base of member farmers, various Agri-input suppliers have also approached the FPC to sell their produce in bulk quantities to the members at a lower cost than the market. Hence, economies of scale are helping the FPC members by providing better prices for the produce and, at the same time, also reducing the cost of production for the members. The women members have experienced an increase in mobility, which they have gained through their work in SHARE. Their membership in FPC has enabled these women to come out of their home villages to attend meetings and events, and take on leadership roles within the FPC.

A feeling of friendship is built among the members, and they help each other solve their common problems through Companionship and mutual support. They learned how to solve their problems independently, and a culture of discussion and problem solving is built among the members.

Members, especially women members, have felt increased self –confidence and self-respect by being a part of the FPC. By diversification into crops with longer shelf life, the members have tried to reduce their dependency on climate change hence decreasing their vulnerability to covariant risks. Also, organic techniques, building storage warehouse facilities, etc. have reduced the risks of pet attacks. All these changes have helped them in becoming more adaptable to the various climate change phenomena. Hence, through all these multiple ways, the FPC has influenced its members' lives and made significant impacts on the FPC member households' social and economic wellbeing.

6.3 Business plan for adivasi utthan farmer producer company (VTFPC)

6.3.1. Introduction

Adivasi Utthan Farmer Producer Company was established on 8th Feb. 2016 in Vansda taluka in the Navasari district of Gujarat. It is a producer company incorporated with the help of facilitating agency Lok Seva trust. The FPO has 360 members with a capital base of 5.0 lakhs from the NABARD and a paid-up capital of 1.14 lakhs. All the members are tribal farmers, and the majority of the members are small and marginal farmers with an average landholding of 1.5 acres.

Name of Company	**Adivasi Utthan Farmers Producer Company Limited**
Corporate Identity Number	**U01132GJ2016PTC085993**
Registration Date	**08th Feb. 2016**
Registered as	**Producer Company**
Category/Sub-Category of the Company	**Company Limited by Share Indian Non Government Company**
Total members	**360 Members**
No. of women	98 Members
Small farmers	184 Members
Marginal farmers	176 Members
Equity Share Capital	
Authorized	5000 Equity share @Rs.100/- (Rs.5,00,000)
Paid Up	1142 Equity share @Rs.100/- (Rs.1,14,200)
Address of FPC **Email** **Contact No** **Contact Person**	**Upla Falia, At.Ambabari, Ta.Vansda, Navsari-39680-Gujarat** **avanifpo2@gmail.com** **(+91) 099244 24158** **Mr. Vimal D. Patel (C.E.O.)**

Agriculture is the main occupation of the members of Adivasi utthan farmers producer company limited. They are involved in cultivation of Seasonal vegetables, Paddy, Pulses like Pigeon pea (Tur), Black gram(Udid), Gram(chana), Green gram (Moog), Fruits like Mango, Papaya and the primary objective of the farmer producer company is to improve the livelihood of small and marginal farmers by establishing a commercially viable organization of the tribal farmers. They also aid in enhancing the income of the shareholders by developing functional linkages with agribusiness trade and develop the support system to enable the farmers thrive independently in the agribusiness environment.

6.3.1.1. Vision:

Our Vision is to become one of the leading fruits and vegetable growing producer company not just in the South Gujarat but also on the Indian and global stage. The company also aims to be a member of relevant agribusiness network and forum functional in the country.

6.3.1.2. Mission:

Our mission statement as a commercial company member is to go into full – time cultivation of vegetables and fruits that will not only be consumed in the India but also exported to other parts of the world. We want to grow fruit and vegetable in high quality, nutritional and flavourful vegetables and mango fruit for consumption in both near and remote regions of the Gujarat, other states of India and part of the word.

As per discussion with FPOs, chairman, BODs and few members, The 80 percent of members cultivate seasonal fruits and vegetables; in the peak season of vegetables, farmers did not get a better price for vegetables. Though value addition in vegetables, they can procurement dry vegetables for at least six months, so they do not have to sell their vegetables at a low rate; so that they need a dry vegetable business plan.

6.3.2. Project Description

Navsari district is well-known for growing for Fruit and Vegetables. The farmers in the proposed area are engaged cultivation of the fruit and vegetable crops. The harvested crops have been sold in the local market, usually through an agent's at a price much lower than the retail market. Generally, prices received are very low and below the market price leading to an unprofitable return to farmers. Marketing of horticultural crops is complicated, mainly because of perishable in nature, seasonality, and bulkiness. The efficiency of marketing for fruits and vegetables in India has been of significant concern in recent years. Low efficiency in the marketing channels and inadequate marketing infrastructure are believed to cause high and fluctuating consumer prices and little of the consumer rupee reaching the farmer. The company's primary aim is to do value addition in vegetable. Marketing is done through direct consumer, whole seller, restaurant, and processor depending upon the demand.

Initially, our primary focus would be on marketing of selected dry vegetables later on increase the product range. Furthermore, we have a plan to introduce produce chemical residue-free products and organic products. We will be beginning with the inclusion of 100 farmers initially.

6.3.3. Objectives of the project

- To improve the livelihood of small and marginal farmers.
- To reduce the price spread between the primary producer and ultimate consumer.

6.3.3.1. Raw Material Availability

India is one of the largest producers of fruits and vegetables in the world. Gujarat has always taken the lead in introducing new concepts in agriculture marketing.

Navsari district of the Gujarat state is famous for cultivating fruit and Vegetable crops. The major crops are cucurbit vegetables (Small gourd, Pointed gourd, Bitter gourd, Bottle gourd, and newly introduce Spine gourd), Okra, Brinjal cabbage, cauliflower, cluster bean, etc. The area and production of the fruit crop grown in the Navsari district are given below

The vegetables, area & production details given in below table.

District		Navsari	
Sr. No.	**Name of crop**	**Area (Ha)**	**Production (MT)**
Vegetable crop			
1	Cucurbits	10948	192028
2	Onion	94	1638
3	Brinjal	3067	60236
4	Cabbage	219	5037
5	Okra	6500	82225
6	Tomato	194	4499
7	Cauliflower	125	2445
8	Cluster bean	758	7451
9	Cow pea	890	7120
10	Other vegetable	815	10579

Fruit and Vegetable area and production in the Navsari District (2018-19) (Source Horticulture department - GoG)

6.3.3.2. Products Offering

Product	**Variety**	**Special Characteristics**
Dehydrated Vegetables (Fenugreek, Bottle gourd, Bitter gourd, small, Okra/ Lady	Any vegetable of suitable variety	The product shall be prepared from wholesome vegetables free from blight, discoloration, or fungi. Only the edible portion of the vegetable shall be used, and it shall be free from stalks, peel stems, and extraneous leaves. The dried or

finger, Cauliflower, Green peas, Chilli)		dehydrated vegetables may contain permitted preservatives. The finished product shall be of good edible quality and shall reasonably reconstitute to its original shape and quality on boiling from fifteen minutes to an hour.

6.3.3.3. Business Model Canvas

<table>
<tr>
<td rowspan="2">Key Partners

● NABARD
● Lok Seva Trust
● Local distributor
● APEDA</td>
<td>Key Activities

● Shorting and Grading
● Providing Input Supply
● Packaging
● Transportation
● Storage and collection</td>
<td rowspan="2">Value Propositions FOR CUSTOMERS

● Institutional Buyers provide -
● City Customers -

FOR FPC
Providing better prices and input services to farmers for their produce</td>
<td>Customer Relationship

● Feedback from the customers
● Vegetables in cities is sold on basis of trust</td>
<td rowspan="2">Customer Segment

● Restaurant
● Traders
● Exporters
● Online platform</td>
</tr>
<tr>
<td>Key Resources

● Shareholders
● CEO and Field officers
● Collection Centres
● Computer</td>
<td>Channels

● Direct selling to customers (High margin)
● Institutional Buyers (High margin)
● B2B marketing</td>
</tr>
<tr>
<td colspan="3">Cost Structure

● Labour Charges
● Share capital</td>
<td colspan="2">Revenue Structure

● Institutional buyers
● Individual Customers</td>
</tr>
</table>

6.3.3.4. Market Opportunities

- Customer Segment (CS): This block defines the different groups of people or organizations a business aims to reach and serve. The different segments include mass, niche, multi-sided, diversified, and segmented markets. In our organization, the segment is mass, and different segments include smallholder farmers, APMCs, Landowners, Agro-food industries, and different farmer organizations.
- Value proposition (VP): The value proposition that our organization provides includes fruits and vegetables, reasonable price, sustainable use of land, more control over quality and quantity.
- Channel (CH): This block describes how an organization connects with and reaches its customer segment to deliver a value proposition. This block includes direct channels such

as salesforce, web sales, and indirect channels such as own stores, partner stores, and wholesalers. The channel in our organization includes an extension through farmer leaders, food companies, exhibitions, wholesellers, and online fruit and vegetable sellers.

- Customer Relationship (CR): This block describes the types of relationships a business forms with particular Customer Segments. These relationships can include categories such as personal assistance, self-service, automated services, co-creation, etc. In our part dedicated personal assistance to the farmers, personal contact on the farm, group communication is being covered.
- Revenue Streams (RS): This block represents the money a business makes from each of its Customer Segments. The several ways to generate revenue streams include asset sale, lending, leasing, renting, licensing, subscription fees, etc.
- Key resources (KR): This block defines the most significant assets that are required to make the business model work and are categorized as physical, intellectual, human, and financial. The resources are farm inputs, kisan sahayaks, financial aid, staff, and different types of machinery.
- Key Activities (KA): This block describes the most significant things that a business must do to make the business model work and can be categorized as production, platform/network, etc. The key activities include buying of seeds for the farmers, training to the farmers and labourers, providing machinery for production and market linkages.
- Key partnerships (KP): This block defines the network of suppliers and partners that makes the business model work. The different types include buyer-supplier relationships, joint ventures, a strategic alliance between non-competitors, and cooperation between competitors. The key partners of our organization include farmers, local action groups, agribusiness companies, agricultural lab., F&V exporters, and different buyers.
- Cost Structure (CS): This block defines all costs that are incurred to operate the business model. These structures can be either cost-driven or value-driven. The cost of machinery that is required is 11.00 lac rupees, the cost of building & other that is required is 13.17 lac rupees, and the working capital required is 20 lac rupees.

6.3.3.5. Market Segmentation

The target customers include oriental vegetable markets demanding dehydrated vegetables, hotels, restaurants, and individual private buyers through direct selling and farmers markets. The company will also target virtually all main food outlets. The company plans to use the

Internet as one of its marketing channels in the future. The company's target customers will be as follows:

Dehydrated Vegetables:

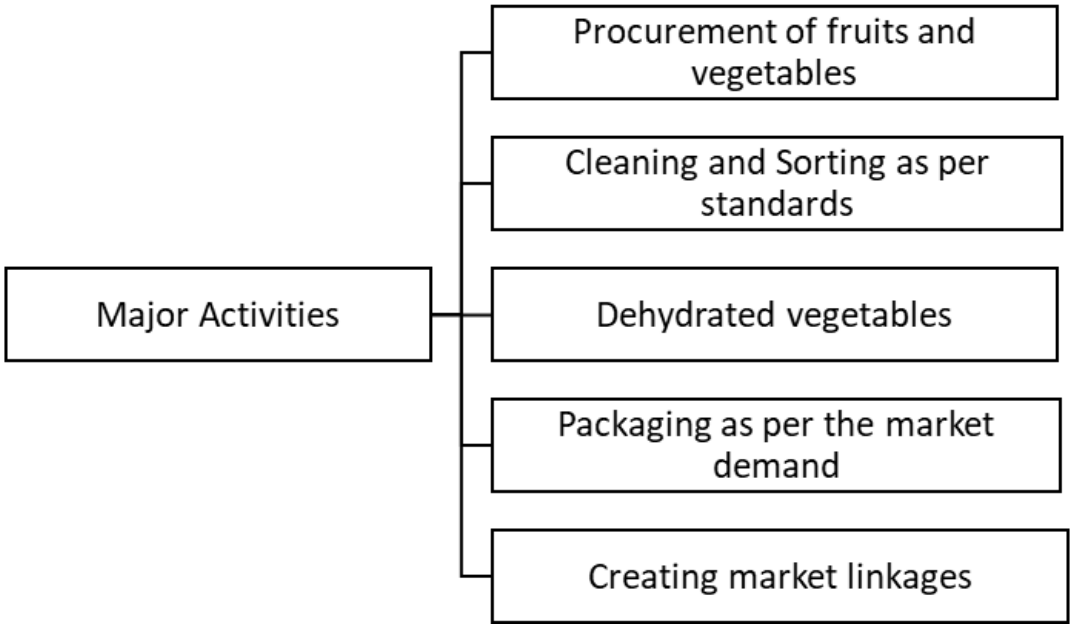
- Oriental vegetable markets demanding dehydrated vegetables.
- Vegetable processors.
- Kisan Bazar
- People approaching the Directly
- Bulk buyer, whole-sellers, and retailers
- Vegetable processors/Company –IQF for CRF vegetables
- B2B market

6.3.3.6. Marketing Strategy

This strategy will allow Farmers Groups to produce crops during most of the year and enable double cultivation by a two-tier vegetable system. Also, plan to cultivate through contract farming by various companies. The FPOs aims to collect small farmers' agricultural-horticulture produce at the cluster level and market to different buyers. Lok Seva Trust has market linkages in Ahmedabad, Baroda, Surat, Navsari, and Vapi, so that it is accessible to market dehydrated vegetables. Distribution is the most successful and proven way of marketing. We can supply in-market demanded or send the goods to the wholesalers. Also, we can consider keeping our products in the online marketplaces as our business grows. We can consider several different ways to promote our dehydrated vegetable business entire south Gujarat.

Primary target markets are the whole sellers that purchase vegetable small and medium traders in bulk volume. The secondary market includes companies that do buyback guarantees for export or IQF storage exporters for selected vegetables. Further, we target food processing industries and big retailers like Reliance Fresh, Godrej Natures Basket, E-Commerce such as Big Basket, Grofers, etc.

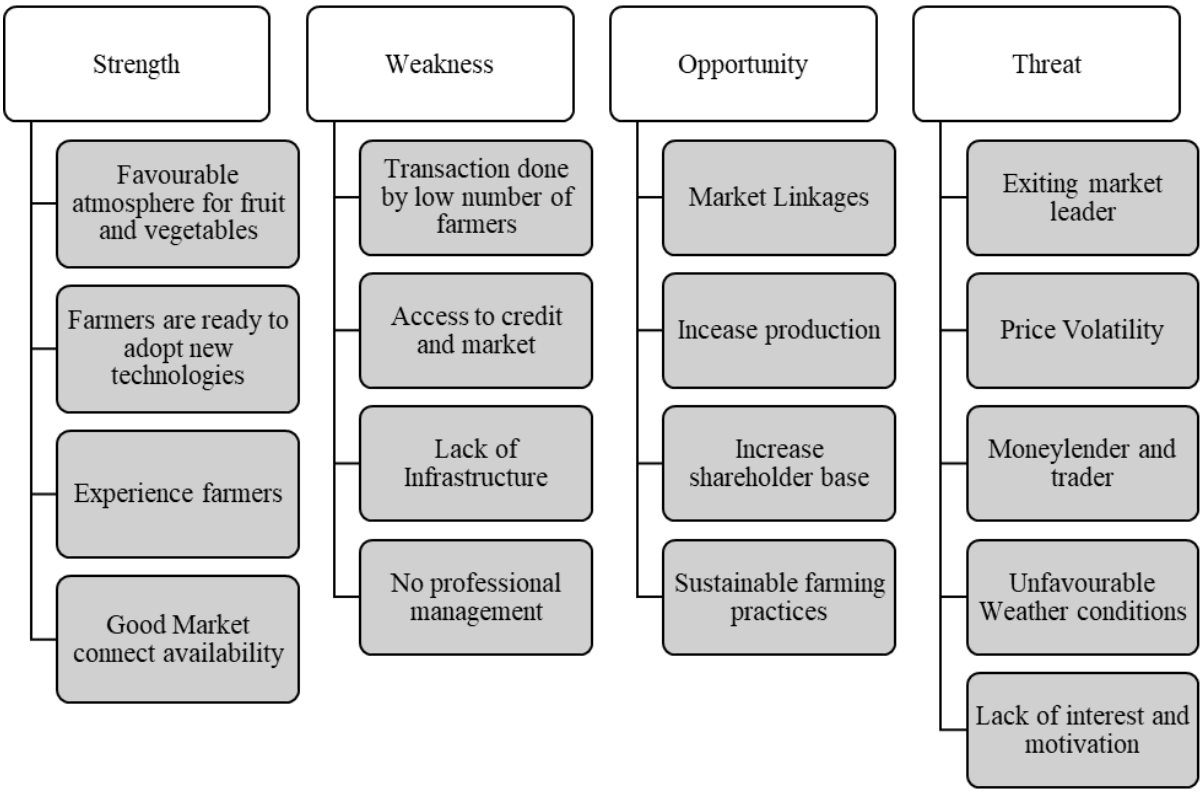
Major Activities



FPO level flow of product and Value addition

- Procurement: we would be procured vegetable from 100 farmers at a given decided price. Procurement would be done on a credit period of 12 days from the farmers.
- Processing and Value addition: We would purchase small scale procurement center. We will do processing of selected vegetables.
- Packaging and transportation: We would also purchase a packaging machine. We will pack it to the required size as per the demand from buyers.
- End customers: Our end customers would be direct consumer, whole seller, frozen fruit companies, Govt. purchasing agencies, big retailers, and institutional buyers.

6.3.3.7. SWOT Analysis



6.3.3.7.1 Strength

- Favourable atmosphere for fruit and vegetables: Black clayey to loam soil (Black cotton soil), silt caly loam to clay loam soils, good for fruits and vegetables crop. As well as enough water available.
- Farmers are ready to adopt new technologies: Farmers are ready to follow the new technologies.
- Experienced Farmers: Most of the farmers has more than 8 to 10 years' experience in farming.
- Good Market connect availability: Mandi Near By – Navasari, Surat mandi. The big traders, online retail chains, retail stores are available in Surat. Also, the Hazira port for the export is also nearby. So FPC has good connectivity to market.

6.3.3.7.2. Weakness

- Transaction done by a low number of farmers: As per analysis till now, only 50 farmers have done transactions with the FPC. So the reason behind the less transaction is traders and money lenders and the credit facility that they give.

- Access to credit and market: There is no working capital to run the business, so loan has been taken from Banks at the rate of 11%. Due to this, a large amount has gone as interest only.
- Lack of Infrastructure: There is no infrastructure and asset with the company. The company do not have no office, no computer, and no collection centre.
- Lack of shareholder data: There is no data of shareholder with us so it is very much difficult for to inform and get the demand of the member farmers.
- No professional management: Professional management right now in the company is lacking. The company is supported by, and its management is done by BOD's & CEO, who are more inclined towards social aspects. And to sustain the business mindset is necessary. So in the future, for sustainability, professional management is necessary.

6.3.3.7.3. Opportunity

- Market Linkages: There is a very large market for agriculture produce. Many channels are in Surat, like export, food companies, online grocery stores, reliance fresh, fruit and vegetable mandi etc. So there are lots of opportunities to tie up with them. Surat is very near to Navsari, and surat has huge market potential for agricultural produce.
- Increase production – Right now low number of members are giving their produce to FPC, so we can increase production.
- Sustainable farming practices: The demand is changing to organic products now. There is a opportunities to go for IPM and organic practices. The product, although generated less, will charge a premium amount. The Producer Company can promote other products also.

6.3.3.7.4. Threat

- Exiting market leader: There are so many other suppliers also in a market, they will create problems for new channel.
- Price Volatility: The fluctuation is due to various reasons, Like high or low production.
- Moneylender and trader: The moneylender and the trader take 50% of the product in the harvesting season itself. This is because of the debt the farmers own to the traders and money lenders.
- Unfavourable Weather conditions: This is the major threat to agriculture produce. If the rain happens at the wrong time or more, then it affects heavily.

6.3.4. Financial Plan

6.3.4.1. Land and Land Development

It will be ideal to acquire a about 400 square meters of space, keeping in mind the project's future expansion. Accordingly, a procurement center cost of Rs.60,000 (On lease) for Seven-year has been considered in this model. And every year a 5% increase in the previous year's rent.

6.3.4.2. Buildings and Civil Works

The following buildings and fabrication work have been considered for this model.

Milling and storage Area 40 W * 20 H *100 L foot

The fabrication work include the following: Main door : 2 (Shuttle), Window : 4, and Air roofing ventilator : 4

Hence, the total fabrication work cost for the built-up area is Rs. 12.00 Lakhs.

6.3.4.3. Plant and Machineries

Machinery Cost				
Sr. No.	**Description**	**Qty**	**RATE / SET**	**Total Amount**
1	Washing machine rotary type equipped with jet spray arrangement Size 9.3' × 3.3' × 6' Electric power 1.5 HP	1	₹ 1,50,000.00	₹ 1,50,000.00
2	Universal slicer for slicing of vegetable etc. capacity 1 Ton/Hr. Electric power 2 HP	1	₹ 2,10,000.00	₹ 2,10,000.00
4	Blanching tank with 6 Nos. S.S. perforated baskets with electric heating elements 5 K.W. Size 900×600×450 mm	1	₹ 1,30,000.00	₹ 1,30,000.00
5	Tray Drier Capacity 96 trays with extra 200 Nos. of aluminium Trays and 4 Nos. of Trolleys Electric power 2 HP for fan. Heating Element 21 K.W	1	₹ 3,50,000.00	₹ 3,50,000.00

6	Impulse heat sealer electric power 400 watts @ Rs. 10,000 each	2	₹ 10,000.00	₹ 20,000.00
7	Preparation tables with aluminium top size 2350×860×860 mm	2	₹ 15,000.00	₹ 30,000.00
8	Aluminium trays size 450×300×70mm	50	₹ 600.00	₹ 30,000.00
9	Misc. equipments such as baskets, drums knives, peelers, mugs, weighing scales of different capacity etc.	1	₹ 80,000.00	₹ 80,000.00
Basic Cost				**₹ 10,00,000.00**
GST @5%				**₹ 50,000.00**
Transportation & Installation				**₹ 50,000.00**
Total Amount				**₹ 11,00,000.00**

6.3.4.4. Miscellaneous Fixed Assets

Cost of office furniture, computer, printer, etc. is considered under miscellaneous fixed assets. A provision of Rs. 70,000 is needed to take care of this expenditure.

6.3.4.5. Contingency

Contingency charges are considered as 2 % of the cost of project excluding the pre-operative expenses and land cost. The contingency charges amount is Rs.47,000.

6.3.4.6. Project Cost

Project Fixed Cost			
No.	**Particulars**	**Qty.**	**Amount (In lakh)**
1	Land (On Rent)	400 sq. meter	
2	Site development		₹ 12.00
3	Plant and Machinery		₹ 11.00
4	Miscellaneous Fixed Assets		₹ 0.70
5	Contingency @2%		₹ 0.47
Total			₹ 24.17

6.3.4.7. Manpower Requirement

Year | Position	**Manager (Overall Incharge)**	**Supervisor**	**Per annum Salary**
2021	1	1	₹ 2,68,464.00
2022	1	1	₹ 2,89,941.12

2023	1	1	₹ 3,13,136.41
2024	1	1	₹ 3,38,187.32
2025	1	1	₹ 3,65,242.31
2026	1	1	₹ 3,94,461.69
2027	1	1	₹ 4,26,018.63

* Note: Manager (Overall In-charge), Supervisor and unskilled worker are number of person

Additionally, we need daily basis workers for ten months. The daily wages are Rs.250 per person, and monthly payments are Rs.6500 per person. The annual cost for extra labor is shown in the below table.

Year | Position	**Unskilled Worker (No. Of Person)**	**Per annum Salary or Wages(Rs.)**
2021	4	₹ 2,60,000.00
2022	4	₹ 2,60,000.00
2023	4	₹ 2,60,000.00
2024	6	₹ 3,90,000.00
2025	6	₹ 3,90,000.00
2026	7	₹ 4,55,000.00
2027	7	₹ 4,55,000.00

6.3.4.8. Installed Capacity and Capacity Utilization

The installed capacity of the plant is 120 MT per year. The plant will be operated in 8 hours per day.

Year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Capacity Utilization	**80.00 %**	**80.00 %**	**90.00 %**	**90.00 %**	**100.00 %**	**100.00 %**	**100.00 %**
Quantity (Tonne)	96.60	96.60	108.19	108.19	120.09	120.09	120.09

6.3.4.9. Procurement Plan

No	**FPO vegetable procurement plan for First Year**	
1	No. of farmers	100
2	Average Production of vegetable per season per farmer (Quintal)	9.6
3	Total procurement of vegetable per season for the FPO (Quintal)	960
4	Average procurement of vegetable per month for the FPO (Quintal) (10 month)	96.00

6.3.4.10. P&L projections in Detail

	2021	2022	2023	2024	2025	2026	2027
Cost of procurement							
Fenugreek	138000	143520	167172	173859	200703	208731	217080
Bottle gourd	414000	430560	501516	521577	602108	626193	651240
Bitter gourd small	483000	502320	585102	608506	702460	730558	759781
Okra/ Lady finger	165600	172224	200607	208631	240843	250477	260496
Cauliflower	207000	215280	250758	260788	301054	313096	325620
Green peas	276000	287040	334344	347718	401406	417462	434160
Chilli	345000	358800	417930	434647	501757	521827	542700
Total Cost	2028600	2109744	2457430	2555727	2950331	3068345	3191078
Indirect Expenses							
Labour	195000	195000	260000	260000	325000	325000	325000
Rents	60000	63000	66150	69458	72930	76577	80406
Other Miscellaneous overheads	307000	322350	338468	355391	373160	391818	411409
Other Expenses (courier and small other expenses)	12000	12960	13997	15117	16326	17632	19042
Salary	268464	289941	313136	338187	365242	394462	426019
Total Expenses	2871064	2992995	3449181	3593879	4102990	4273833	4452955
Revenue							
Fenugreek	193200	202860	238563	250492	291948	306545	321873
Bottle gourd	607200	637560	749771	787259	917550	963428	1011599
Bitter gourd small	717600	753480	886092	930397	1084378	1138597	1195527
Okra/ Lady finger	455400	478170	562328	590444	688163	722571	758700
Cauliflower	193200	202860	238563	250492	291948	306545	321873
Green peas	662400	695520	817932	858828	1000964	1051012	1103563
Chilli	496800	521640	613449	644121	750723	788259	827672
Total Revenue	3325800	3492090	4106698	4312033	5025674	5276958	5540806

EBITDA	454736	499095	657517	718153	922684	1003124	1087851
Interest	367300	371357	388741	393656	413387	419287	425424
EBTDA	87436	127738	268776	324497	509297	583837	662427
Depreciation	177000	162300	148920	136736	125634	115514	106284
EBT	-89564	-34562	119856	187762	383663	468323	556143
Tax					276805.18	300937.32	326355.37
PAT	-89564	-34562	119856	187762	106858	167386	229788
Net profit	**-89564**	**-34562**	**119856**	**187762**	**106858**	**167386**	**229788**

6.3.4.11. Cash flow statement

Cash Flow Statement								
Particulars	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Initial Investment	24,17,000.00							
Sales		33,25,800.00	34,92,090.00	41,06,697.84	43,12,032.73	50,25,674.15	52,76,957.86	55,40,805.75
Variable Cost		20,28,600.00	21,09,744.00	24,57,429.81	25,55,727.00	29,50,331.25	30,68,344.50	31,91,078.28
Contribution		12,97,200.00	13,82,346.00	16,49,268.03	17,56,305.73	20,75,342.90	22,08,613.35	23,49,727.47
Fixed Cost		3,28,464.00	3,52,941.12	3,79,286.41	4,07,644.82	4,38,172.68	4,71,038.59	5,06,424.37
Overhead Cost		5,14,000.00	5,30,310.00	6,12,464.30	6,30,507.42	7,14,486.29	7,34,450.38	7,55,451.85
EBIDTA		4,54,736.00	4,99,094.88	6,57,517.32	7,18,153.49	9,22,683.93	10,03,124.39	10,87,851.25
Depreciation		1,77,000.00	1,62,300.00	1,48,920.00	1,36,735.50	1,25,634.08	1,15,514.19	1,06,284.11
OPBT		2,77,736.00	3,36,794.88	5,08,597.32	5,81,417.99	7,97,049.85	8,87,610.20	9,81,567.14
Tax				1,01,719.46	2,15,446.05	2,76,805.18	3,00,937.32	3,26,355.37
OPAT		2,77,736.00	3,36,794.88	4,06,877.86	3,65,971.94	5,20,244.67	5,86,672.89	6,55,211.76
Depreciation		1,77,000.00	1,62,300.00	1,48,920.00	1,36,735.50	1,25,634.08	1,15,514.19	1,06,284.11
OCF		4,54,736.00	4,99,094.88	5,55,797.86	5,02,707.44	6,45,878.75	7,02,187.07	7,61,495.87

WC Required	3,32,580.00	3,49,209.00	4,10,669.78	4,31,203.27	5,02,567.41	5,27,695.79	5,54,080.57	-
Change in WC		16,629.00	61,460.78	20,533.49	71,364.14	25,128.37	26,384.79	
Sale of plant and MC								13,97,000.00
Cash Flow		4,38,107.00	4,37,634.10	5,35,264.37	4,31,343.30	6,20,750.38	6,75,802.28	27,12,576.45

Details of overhead cost for 1st year

No	Overhead Costs	
1	Total procurement of vegetable per season for the FPO (Quintal)	960
2	Electricity charges	₹ 1,20,000.00
3	Packaging of vegetables	₹ 1,44,000.00
4	Professional Fees(loan processing) + Audit Fee	₹ 43,000.00
Overhead costs (Rs.)		₹ 3,07,000.00

6.3.4.12. Internal Rate of Return

Particulars	Cash Flow	Present Value
Initial Investment	₹ -24,17,000.00	
Year 0		
Year 1	₹ 4,38,107.00	₹ 3,94,690.99
Year 2	₹ 4,37,634.10	₹ 3,55,193.65
Year 3	₹ 5,35,264.37	₹ 3,91,380.69
Year 4	₹ 4,31,343.30	₹ 2,84,139.19
Year 5	₹ 6,20,750.38	₹ 3,68,385.14
Year 6	₹ 6,75,802.28	₹ 3,61,311.50
Year 7	₹ 27,12,576.45	₹ 13,06,535.26
Net Present Value		₹ 34,61,636.42
Internal Rate of Return		20%
NPV		Rs. 34,61,636.42

An initial investment Rs. 24,17,000.00 of on plant and machinery is expected to generate net cash flows of ₹ 438107, ₹ 437634, ₹ 535264, ₹ 431343, ₹ 620750, ₹ 675802 and ₹ 2712576. at the end of first, second, third, fourth, fifth, six and seven year respectively. At the end of the seven year, the machinery will be sold for Rs 1397000. Calculate the net present value of the investment if the discount rate is 11%. Net present value is Rs. 3461636 and Internal rate of return is 20 percent.

6.3.4.13. Payback Period

Particulars	Cash Flow	Net Invested Cash
Year 0		₹ -24,17,000.00
Year 1	₹ 4,38,107.00	₹ -19,78,893.00
Year 2	₹ 4,37,634.10	₹ -15,41,258.90

Year 3	₹ 5,35,264.37	₹ -10,05,994.54
Year 4	₹ 4,31,343.30	₹ -5,74,651.24
Year 5	₹ 6,20,750.38	₹ 46,099.14
Year 6	₹ 6,75,802.28	₹ 7,21,901.42
Year 7	₹ 27,12,576.45	₹ 34,34,477.87

The table indicates that the payback period is located somewhere between Year 4 and Year 5. There is Rs.24,17,000.00 of investment yet to be paid back at the end of Year 4, and there is Rs. 6,20,750.38 of cash flow projected for Year 5. The analyst assumes the same monthly amount of cash flow in Year 5, which means that the estimate final payback as being just short of 4.5 years.

6.3.5. Risk management strategy

For the successful operations of the activities identified for FPC, short term and medium-term plan of action must be developed. Based on the information collected, interaction during field visit, and feedback received from the farmers, it is envisaged that the FPC can start with consolidating its current operations by integrating systems within the operations in the first year of the current business plan. The phasing of the activities can be carried out so that the risks identified with different business kinds are minimized.

While the company is operating in the market, many risks have not been adequately recognized by the company, requiring some deft handling. The risks can be broadly classified as external and internal. The external risks are price risk, climate risk, transportation & logistics, etc. The internal risks are – quality, quantity, storage and internal control & frauds, etc. The company will evolve and ensure measures for guarding against the various risks during the business plan period.

6.3.5.1. Avoidance of Risk

Out of the many risks, some are those which can be avoided in the first place. This includes risks like taking a loan and internal control. The loan or the debt, whichever is taken, should be well thought and then taken. They can avoid this risk on the basis that they are well aware of their production capacity and the revenue that they can generate. All the financials should be considered before going for a loan. The company can set up good SOPs to deal with internal quality control and fraud, where farmers aren't delivering the required residue-free vegetables.

6.3.5.2. Risk Mitigation

This type of strategy can be used for the risks which cannot be fully avoided. Climate and the use of appropriate fertilizers are these two kinds of risk that the company will face. The company can provide timely extension services and guidance to the farmers to mitigate this risk as much as possible. The climate risk can be mitigated to an extent by taking help from the government extension services also.

6.3.5.3. Transfer of Risk

In some instances of risk, the company can transfer the risk to the third party. Take an example of Storage and Logistics where the company can hire a third party to do the work. The company can also ensure its produce against the warehouse produce. This receipt can also be further be used for insurance. The company can take up the insurance more actively and invest an appropriate amount in it to avoid the loss to its members.

6.3.6. Social and Economic Impact

The members had encountered an increase in the income from their share in the FPC activities. Before establishing FPC, most of these members were required to sell their produce only to the mediators like traders, processors, and other aggregators. And the main aim of these aggregators was to get the best quality produce at the lowest price possible. Hence, a shared experience of all these members before the establishment of FPC was that they used to get a significantly lower price for the produce than the rates provided by the market linkages developed by the FPC members. Also, lying in terms of grading and weights by the traders was a shared experience.

The FPC is impacting the lives of its members by providing the following services:

- Marketing services (input supply, output marketing, and processing, market information)
- Financial services (savings, loans, and other forms of credit)
- Technology services (education, extension, research)
- Education services (business skills, health, and general)
- Welfare services, (health, safety nets)
- Policy advocacy

By providing the activities discussed above, it is tried to influence the social wellbeing of its members. Providing loans for cattle rearing and reducing the money lenders' distress leads to

increased family members' social wellbeing. The members are provided training on various new methodologies of cultivation of the residue-free Agri-produce has shown to skill up-graders' market demand conditions. They can also connect their communities to new markets and have fostered entrepreneurial and leadership skills in the members.

With the aggregation of farmers produces, economies of scale will achieve, resulting in an overall reduction in the total production cost. Hence, economies of scale are helping the FPC members by providing more favorable prices for the produces and, at the same time, also decreasing the cost of production for the members. The women members have experienced an expansion in mobility, which they have gained through their work in SHARE. Their membership in FPC has empowered these women to come out of their home villages to attend meetings and events and take on leadership roles within the FPC.

Members, especially women members, have felt improved self –confidence and self-respect by being a part of the FPC. By diversification into crops with longer shelf life, the members have tried to reduce their dependency on climate change, decreasing their vulnerability to covariant risks. Also, organic techniques, building storage warehouse facilities, etc. have reduced pest attacks' threats. All these changes have helped them in becoming more adaptable to the various climate change phenomena. Hence, through all these multiple ways, the FPC has influenced its members' lives and made significant impacts on the FPC member households' social and economic wellbeing.

Address of plant & machinery

M/s. Mather and Platt (India) Ltd. 805-806, Ansal Bhawan, 16, Kasturba Gandhi Marg, New Delhi - 110 001.	**M/s. Raylons Metal Works** Kondivita Lane, Post Box - 17426, P.O. M.J.B. Nagar, Andheri (E), Mumbai - 400 059
M/s. International Food Machinery Corporation Krishna Opp. Deep Bhavan, Pandit Nehru Marg, Jamnagar - 361 008 (Gujarat)	**Shree Ram Engineering** Plot No. D-5/15, Road No. 5 Hojiwala Industrial Estate Behind Ramji Mandir Street, Vanz, Sachin,, Surat- 394230, Gujarat, India
M/s. Narangs Corporation P-25, Cannaught Place, (Below Madras Hotel), New Delhi - 110 001.	**M/s. B. Sen Barry and Co.** 65/11, Rohtak Road, Karol Bagh, New Delhi - 110 005.

M/s. The Master Mechanical Works Pvt. Ltd. 75, Link Road, Ist Floor, Adjacent to Moolchand Hospital, Lajpat Nagar - III, New Delhi - 110 024.	

6.4. Business plan for krishicare tribal farmer producer company (KTFPC)

6.4.1. Introduction

Kirishi care farmers producer company limited was established on 22nd Jul. 2016 in Chikhli taluka in the Navasari district of Gujarat. It is a producer company incorporated with the help of facilitating agency Lok Seva trust. The FPO has 262 members with a capital base of 5.0 lakhs from the NABARD and a paid-up capital of 1.69 lakhs. All the members are tribal farmers, and the majority of the members are small and marginal farmers with an average landholding of 1.5 acres.

Name of Company	**Krishicare Tribal Farmers Producer Company Limited**
Corporate Identity Number	**U01100GJ2016PTC093045**
Registration Date	**22nd Jul. 2016**
Registered as	**Producer Company**
Category/Sub-Category of the Company	**Company Limited by Share Indian** **Non Government Company**
Total members	**262 Members**
No. of women	106 Members
Small farmers	223 Members
Marginal farmers	39 Members
Equity Share Capital	
Authorized	5000 Equity share @Rs.100/- (Rs.5,00,000)
Paid Up	1694 Equity share @Rs.100/- (Rs.1,69,400)
Address of FPC **Email** **Contact No** **Contact Person**	**At. Sarsiya, Ta. Khergam, Navsari-39680, Gujarat** **jbpatelavani@gmail.com** **(+91) 084693 90057** **Mr. Ramesh S. Bhimsen (C.E.O.)**

Agriculture is the main occupation of the members of kirishi care farmers' producer company limited. Members of the FPC are involved in the cultivation of spices, mainly Turmeric, chilly, and the primary objective of the farmer producer company is to improve small and marginal farmers' livelihood by establishing a commercially viable organization of the tribal farmers. They also aid in enhancing the shareholders' income by developing functional linkages with agribusiness trade and developing the support system to enable the farmers to thrive

independently in the agribusiness environment. The Krishi care tribal farmer producer company currently has contract farming with the buyer at Surat, Ahmedabad, and other nearby cities Navsari, Vapi. It also helps in developing the backward and forward linkages to induce market-driven agriculture.

As per discussion with FPOs, chairman, BODs, and few members, most members cultivate turmeric and Chilly. Due to market fluctuation, farmers did not get the proper price for the product, so they required Spices (turmeric and chilly) processing business plan.

6.4.2. Project Description

We found that the major crops grown by the members are turmeric and chilly. Farmers in our FPO are small and marginal farmers with a landholding size of 1.5 to 2 Acres. FPC members are selling producer to the local market at a lesser price. They also sell to local traders, commission agents, money lenders. Generally, prices are very low and below the market price leading to an unprofitable return to farmers. Increasing farmer's debt has made it difficult for them to work individually and earn decent returns. Also, we found that cost of cultivation is also higher compared to other regions. So we have decided to aggregate turmeric and chilly from 100 farmers initially and add value to it through processing. Spices are an integral part of Indian food, with consumers in the household, restaurants, and other eateries and the food processing industry. These include pickles, sauces, instant curry powers, ready to eat food preparation, and so on. Initially, for the first year, our primary focus would be on the processing of turmeric and chilly, and later on, we will focus on other spices as well. We will be beginning with the inclusion of 100 farmers initially.

6.4.3. Objectives of the project

- Provide common platform to the producers and traders for holistic development of spices with respect to production and marketing in the district.
- Raise the economic standards of the farmers through extension of spice area, replacement of varieties, adoption of scientific method of cultivation, processing, grading and marketing.
- Provide market intelligence to the traders and growers for obtaining better price of the spices.
- Create rural employment and livelihood opportunity to shack holder of FPO through Turmeric Processing training.
- Reduce the price spread between the primary producer and ultimate consumer.

- To make available all products of farm origin to consumers at a reasonable price without impairing the quality of the produce.

6.4.4. Raw Material Availability

In Gujarat, Turmeric and chilly are grown as spice crops in South Gujarat and the FPO villages' areas. The district has favorable agro-climatic conditions to cultivate turmeric, chilly and Ginger.

Turmeric is the main cash crop, which is being cultivated form years. Annually about 887 Ha of turmeric is grown with a production of about 19603 MT. Similarly, 769 ha under chilly cultivation produces 9536 MT and 137 ha under Ginger cultivation produces 2748 MT annually. The majority of turmeric cultivation areas is the Chikhli block of Navsari district. (Source- District wise estimated area and production of spices crop for the year 2018-19 Govt. of Gujarat)

The tribal areas of FPO have an enormous potential for spices commercialization. However, farmers of the region experienced that when this variety of turmeric is cultivated in the monsoon period only. Based on the farmers' difficulties and requirements, Lok Seva Trust started interacting with the experts in agriculture to formulating a scientific training program on Production and Postharvest Technology for turmeric. Thus, there is tremendous scope for increasing the production and area under turmeric and Ginger, chilly spices in the FPO working villages.

6.4.5. Business Model Canvas

<table>
<tr>
<td rowspan="2">Key Partners
o FPO
o NABARD
o POPI
o Local action groups
o Agribusiness companies
o Agriculture Lab.
o F&V Exporters
o Buyers</td>
<td>Key Activities
o Buying of turmeric and chilly
o Training
o Providing machinery
o Providing market linkage</td>
<td rowspan="2">Value Propositions
o Turmeric to turmeric powder
o Chilly to chilly powder
o Packaging
o Risk Reduction
o MSP
o Reasonable price
o More control over quality and quantity
• Sustainable use of land</td>
<td>Customer Relationship
• Dedicated Personal Assistance
• Personal contact
• Personal to agro-food industries</td>
<td rowspan="2">Customer Segment
• Restaurants
• Hotels
• Food processing industries
• Road side eateries</td>
</tr>
<tr>
<td>Key Resources
o Kisan Sahayaks
o Financial aid
o Staff
o Machines</td>
<td>Channels
o Online platform
o Wholesalers
o Retailers</td>
</tr>
</table>

Cost Structure	Revenue Structure
● Transportation Cost ● Labour Charges ● Admin cost	● Institutional buyers ● Individual Customers

6.4.6. Market Opportunities

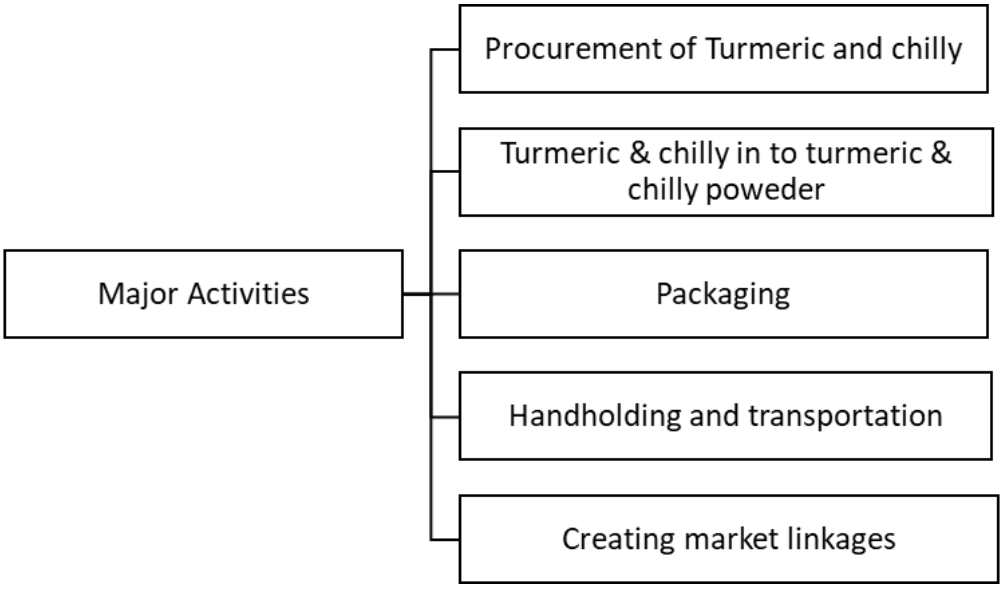
- Customer Segment (CS): This block defines the different groups of people or organizations a business aims to reach and serve. The different segments include mass, niche, multi-sided, diversified, and segmented markets. In our organization, the segment restaurants, hotels, food processing industries, road side eateries and so on.
- Value proposition (VP): This block describes the bundle of products and services that create value for a particular customer segment. This value proposition creates value through a distinct mix of elements that include performance, newness, customization, design, brand/status, price, etc. The value proposition that our organization provides includes turmeric and chilly to turmeric and chilly powder, reasonable price, more control over quality and quantity, and improved quality.
- Channel (CH): This block describes how an organization connects with and reaches its customer segment to deliver a value proposition. This block includes direct channels such as salesforce, web sales, and indirect channels such as own stores, partner stores, and wholesalers. The channel in our organization includes an extension through wholesaler, retailers and online platform.
- Customer Relationship (CR): This block describes the types of relationships a business forms with particular Customer Segments. These relationships can include categories such as personal assistance, self-service, automated services, co-creation, etc. In our part dedicated personal assistance to the customers, personal contact and Personal to agro-food industries.
- Revenue Streams (RS): This block represents the money a business makes from each of its Customer Segments. The several ways to generate revenue streams include asset sale, lending, leasing, renting, licensing, subscription fees, etc. In our organization, the main revenue stream through turmeric and chilly powder selling.
- Key resources (KR): This block defines the most significant assets that are required to make the business model work and are categorized as physical, intellectual, human, and financial. The resources are farm inputs, kisan sahayaks, financial aid, staff, and different types of machinery.

- Key Activities (KA): This block describes the most significant things that a business must do to make the business model work and can be categorized as production, platform/network, etc. The key activities include buying of turmeric and chilly from the farmers, training to the farmers and labourers, providing machinery and direct sales of agriculture commodities.
- Key partnerships (KP): This block defines the network of suppliers and partners that makes the business model work. The different types include buyer-supplier relationships, joint ventures, a strategic alliance between non-competitors, and cooperation between competitors. The key partners of our organization include FPO members, Promoting organization of producer company, NABARD, local action groups, agribusiness companies, agricultural lab., F&V exporters, and different buyers.
- Cost Structure (CS): This block defines all costs that are incurred to operate the business model. These structures can be either cost-driven or value-driven. The cost of machinery that is required is 5.52 lac rupees, the cost of plant & building that is required is 12 lac rupees, and the working capital required is 67.60 lac rupees.

6.4.7. Market Potential

Spices are essential ingredients imparting taste and flavor to food preparations. Besides their everyday use in the household, they are also used in large quantities in restaurants, hotels, catering services, food processing industries, roadside eateries, etc. Spices are fast-moving consumable items and have enormous potential There has to be a wide-spread network of dealers or retailers backed up by advertisements in local media. The turmeric and chili powder market also present in south Gujarat. In south Gujarat, turmeric is considered the best in the local market because of its high curcumin content. There are more than five turmeric processors in the Navsari district. But near to this village, only three are operated. They are charging higher for processing per quintal. Some aggregators aggregate turmeric from many farmers from Chikhli and Vansda areas at a low rate. So overall, the FPO of the spices processing unit in their villages would be more profitable.

Major Activities

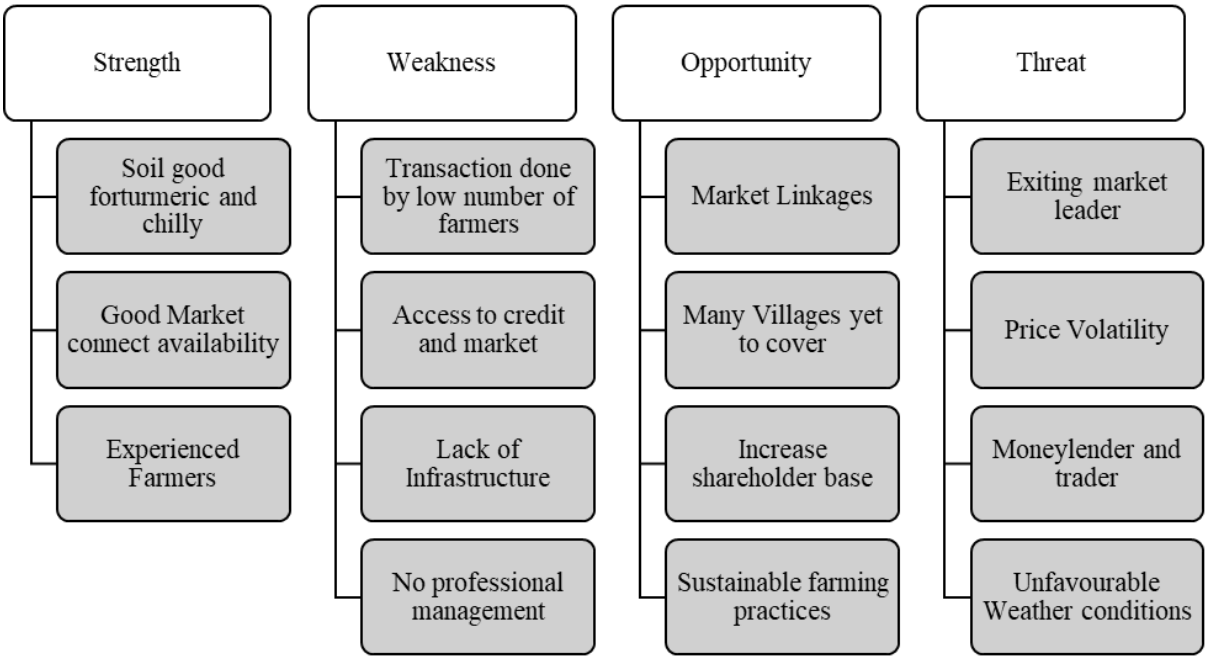


Steps Involved in the Processing

FPO level flow of product and Value addition

- Procurement: turmeric and chilly would be procured from 100 farmers at a given decided price. Procurement would be done on a credit period of 12 days from the farmers.
- Processing and Value addition: We would purchase small scale turmeric and chilly processing machinery. We will add value to the turmeric & chilly and convert it into powder with the help of the process.
- Packaging and transportation: We would also purchase a packaging machine. We will pack it to the required size as per the demand from buyers.
- End customers: Our end customers would be wholesalers, big retailers, and institutional buyers.

6.4.8. SWOT Analysis



6.4.8.1. Strength

- Soil good for paddy: Black clayey to loam soil (Black cotton soil), silt caly loam to clay loam soils, good for turmeric and chilly crop. As well as enough water available.
- Good Market connect availability: Near By market – Navasari, Surat. The big traders, online retail chains, retail stores are available in Surat. Also, the Hazira port for the export is also nearby. So FPC has good connectivity to market.
- Experienced Farmers: Most of the farmers has more than 8 to 10 years' experience in farming.

6.4.8.2. Weakness

- Transaction done by a low number of farmers: As per analysis till now, only few farmers have done transactions with the FPC. So the reason behind the less transaction is traders and money lenders and the credit facility that they give. This is very difficult to overcome.
- Access to credit and market: There is no working capital to run the business, so loan has been taken from Banks at the rate of 11%. Due to this, a large amount has gone as interest only.
- Lack of Infrastructure: There is no infrastructure and asset with the company. The company has no office, no computer, no warehouse, and a cleaning plant as well.
- No professional management: Professional management right now in the company is lacking. The company is supported by, and its management is done by BOD's & CEO,

who are more inclined towards social aspects. And to sustain the business mindset is necessary. So in the future, for sustainability, professional management is necessary.

6.4.8.3. Opportunity

- Market Linkages: There is a very large market for agriculture produce. Many channels are in Surat, like export, online grocery stores, modern retail sector, etc. So there are lots of opportunities to tie up with them. Surat is very near to Navsari, and surat has huge market potential for agricultural produce.
- Many Villages yet to cover: There are 374 villages in Navasari District. With the aim to become federation, FPC should cover all the villages. This expansion can be informed of three ways. A)Opening of new Producer companies in the new villages, B)Addition of existing producer companies present in the district and C)Addition of farmers as shareholders to these villages
- Increase shareholder base - Right now only 262 members are shareholders so there is lots of opportunity to add more farmers.
- Sustainable farming practices: The demand is changing to organic products now. Here, turmeric and chilly are grown in a conventional way, so there is a lot of opportunities to go for IPM and organic practices. The product, although generated less, will charge a premium amount. The Producer Company can promote other products also.

6.4.8.4. Threat

- Exiting market leader: There are so many traders, and other big companies also create an entry barrier for new entrants.
- Price Volatility: The fluctuation is due to various reasons, which are explained later (Like high or low production).
- Moneylender and trader: The moneylender and the trader take 50% of the product in the harvesting season itself. This is because of the debt the farmers own to the traders and money lenders. Due to this large amount of produce already goes into the market. If FPC grows and large orders come from the Big buyers, then this cycle would prove a threat to FPC.
- Unfavourable Weather conditions: This is the major threat to agriculture produce. If the rain happens at the wrong time or more, then it affects heavily.

6.4.9. Financial Plan

6.4.9.1. Land and Land Development

It will be ideal to acquire a land of about 1200 square meters of land, keeping in mind the project's future expansion. Accordingly, a land cost of Rs.48,000 (On lease) for first-year has been considered in this model. And every year a 5% increase in the previous year's rent.

6.4.9.2. Buildings and Civil Works

The following buildings and fabrication work have been considered for this model.

The fabrication work include the following : Main door : 2 (Shuttle), Window : 4, and Air roofing ventilator : 4

Hence, the total fabrication work cost for the built-up area is Rs. 12.00 Lakhs.

6.4.9.3. Plant and Machineries

Machinery Cost				
Sr. No.	**Description**	**Qty**	**RATE / SET**	**Amount**
1	Micro pulveriser SS Body with Motor and accessories	2	₹ 70,000.00	₹ 1,40,000.00
2	Disintegrator with Motor	1	₹ 65,000.00	₹ 65,000.00
3	Turmeric boiler for cooking raw turmeric	1	₹ 15,000.00	₹ 15,000.00
4	Turmeric polishing machine capacity of 250-500 kg.	1	₹ 40,000.00	₹ 40,000.00
5	Sieves – Vibratory screen	1	₹ 50,000.00	₹ 50,000.00
6	Hot Air Dryer	1	₹ 1,20,000.00	₹ 1,20,000.00
7	Semi Auto Sealing Machine	1	₹ 18,000.00	₹ 18,000.00
8	Manual Packaging Machine	1	₹ 6,000.00	₹ 6,000.00
9	Platform Weighing Scale	1	₹ 8,000.00	₹ 8,000.00
10	Washing Tanks, SS Utensils, Trays	LS	₹ 25,000.00	₹ 25,000.00
11	Miscellaneous Equipment’s	LS	₹ 15,000.00	₹ 15,000.00
Basic Cost				**₹ 5,02,000.00**
Taxes, transportation and installation etc @10%				**₹ 50,200.00**
Total Amount				**₹ 5,52,200.00**

6.4.9.4. Miscellaneous Fixed Assets

Cost of office furniture, computer, printer, etc. is considered under miscellaneous fixed assets. A provision of Rs. 70,000 is needed to take care of this expenditure.

6.4.9.5. Contingency

Contingency charges are considered as 2 % of the cost of project excluding the pre-operative expenses and land cost. The contingency charges amount is Rs.36,000.

6.4.9.6. Project Cost

Project Fixed Cost			
No.	**Particulars**	**Qty.**	**Amount (In lakh)**
1	Land on lease	1200 sq. meter	
2	Civil Work	1200 sq. meter	₹ 12.00
3	Plant and Machinery		₹ 5.52
4	Miscellaneous Fixed Assets		₹ 0.70
5	Contingency @2%		₹ 0.36
Total			₹ 18.59

6.4.9.7. Manpower Requirement

Year | Position	Manager/ Supervisor	Semi-Skilled (Operator)	Unskilled Worker	Per annum Salary
2021	1	1	0	₹ 2,68,464.00
2022	1	1	0	₹ 2,89,941.12
2023	1	1	0	₹ 3,13,136.41
2024	1	1	0	₹ 3,38,187.32
2025	1	1	1	₹ 3,65,242.31
2026	1	1	1	₹ 4,97,234.49
2027	1	1	1	₹ 5,37,013.25

* Note: Manager/ Supervisor , Semi-Skilled (Operator/Technician) , unskilled worker are number of person

Additionally, we need daily basis workers for three months in peak season time. The daily wages are Rs.305 per person, and monthly payments are Rs.7930 per person. The annual cost for extra labor is shown in the below table.

Year | Position	Unskilled Worker (No. Of Person)	Per annum Salary or Wages (Rs.)
2021	4	₹ 1,26,880.00
2022	4	₹ 1,26,880.00

2023	5	₹ 1,58,600.00
2024	5	₹ 1,58,600.00
2025	6	₹ 1,90,320.00
2026	6	₹ 1,90,320.00
2027	6	₹ 1,90,320.00

6.4.9.8. Installed Capacity and Capacity Utilization

The installed capacity of the plant is 60 Tonne per annum for turmeric and 25 tone per annum for chilly. The plant will be operated in 8 hours per day. Hence the target of the procurement and process of turmeric and chilly in the seven year are as below.

Capacity Utilization	**80%**	**80%**	**90%**	**90%**	**100%**	**100%**	**100%**
Turmeric (Tonne)	48.00	48.00	54.00	54.00	60.00	60.00	60.00
Chilly (Tonne)	20.00	20.00	22.50	22.50	25.00	25.00	25.00

6.4.9.9. P&L projections in Detail

	2021	2022	2023	2024	2025	2026	2027
Cost of procurement							
Turmeric	4800000	4992000	5840640	6074266	7019151	7299917	7591914
Chilly	1960000	2038400	2384928	2480325	2866153	2980800	3100032
Total Cost	6760000	7030400	8225568	8554591	9885305	10280717	10691946
Indirect Expenses							
Labour	126880	126880	158600	158600	190320	190320	190320
Rents	60000	63000	66150	69458	72930	76577	80406
Other Miscellaneous overheads	299000	313950	329648	346130	363436	381608	400689
Other Expenses (courier and small other expenses)	12000	12960	13997	15117	16326	17632	19042
Salary	268464	289941	313136	338187	365242	497234	537013
Total Expenses	7526344	7837131	9107099	9482082	10893560	11444089	11919416

Revenue							
Turmeric	5702400	5987520	7072758	7426396	8664129	9097335	9552202
Chilly	2288000	2402400	2837835	2979727	3476348	3650165	3832674
Total Revenue	7990400	8389920	9910593	10406123	12140476	12747500	13384875
EBITDA	464056	552789	803494	924041	1246917	1303412	1465459
Interest	542490	556010	615768	632220	698755	718526	739087
EBTDA	-78434	-3221	187726	291821	548161	584886	726372
Depreciation	122200	112980	104532	96786	89680	83155	77161
EBT	-200634	-116201	83194	195035	458482	501731	649211
Tax					374075.00	391023.51	439637.84
PAT	-200634	-116201	83194	195035	84407	110707	209573
Net profit	**-200634**	**-116201**	**83194**	**195035**	**84407**	**110707**	**209573**

6.4.9.10. Cash flow statement

Cash Flow Statement								
Particulars	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Initial Investment	18,59,000.00							
Sales		79,90,400.00	34,92,090.00	41,06,697.84	43,12,032.73	50,25,674.15	52,76,957.86	55,40,805.75
Variable Cost		67,60,000.00	21,09,744.00	24,57,429.81	25,55,727.00	29,50,331.25	30,68,344.50	31,91,078.28
Contribution		12,30,400.00	13,82,346.00	16,49,268.03	17,56,305.73	20,75,342.90	22,08,613.35	23,49,727.47
Fixed Cost		3,28,464.00	3,52,941.12	3,79,286.41	4,07,644.82	4,38,172.68	4,71,038.59	5,06,424.37
Overhead Cost		4,37,880.00	5,30,310.00	6,12,464.30	6,30,507.42	7,14,486.29	7,34,450.38	7,55,451.85
EBIDTA		4,64,056.00	4,99,094.88	6,57,517.32	7,18,153.49	9,22,683.93	10,03,124.39	10,87,851.25
Depreciation		1,22,200.00	1,62,300.00	1,48,920.00	1,36,735.50	1,25,634.08	1,15,514.19	1,06,284.11
OPBT		3,41,856.00	3,36,794.88	5,08,597.32	5,81,417.99	7,97,049.85	8,87,610.20	9,81,567.14
Tax				1,01,719.46	2,15,446.05	2,76,805.18	3,00,937.32	3,26,355.37
OPAT		3,41,856.00	3,36,794.88	4,06,877.86	3,65,971.94	5,20,244.67	5,86,672.89	6,55,211.76
Depreciation		1,22,200.00	1,62,300.00	1,48,920.00	1,36,735.50	1,25,634.08	1,15,514.19	1,06,284.11
OCF		4,64,056.00	4,99,094.88	5,55,797.86	5,02,707.44	6,45,878.75	7,02,187.07	7,61,495.87
WC Required	7,99,040.00	3,49,209.00	4,10,669.78	4,31,203.27	5,02,567.41	5,27,695.79	5,54,080.57	-
Change in WC		-4,49,831.00	61,460.78	20,533.49	71,364.14	25,128.37	26,384.79	
Sale of plant and MC								11,13,500.00
Cash Flow		9,13,887.00	4,37,634.10	5,35,264.37	4,31,343.30	6,20,750.38	6,75,802.28	24,29,076.45

Details of overhead cost for 1st year

No	Overhead Costs	
1	Total procurement of vegetable per season for the FPO (Quintal)	680
2	Electricity charges	₹ 1,20,000.00
3	Packaging of material cost	₹ 1,36,000.00
4	Professional Fees(loan processing) + Audit Fee	₹ 43,000.00
Overhead costs (Rs.)		₹ 2,99,000.00

6.4.9.11. Internal Rate of Return

Particulars	Cash Flow	Present Value
Initial Investment	₹ -18,59,000.00	
Year 0		
Year 1	₹ 9,13,887.00	₹ 8,23,321.62
Year 2	₹ 4,37,634.10	₹ 3,55,193.65
Year 3	₹ 5,35,264.37	₹ 3,91,380.69
Year 4	₹ 4,31,343.30	₹ 2,84,139.19
Year 5	₹ 6,20,750.38	₹ 3,68,385.14
Year 6	₹ 6,75,802.28	₹ 3,61,311.50
Year 7	₹ 24,29,076.45	₹ 11,69,985.10

Internal Rate of Return	34%
NPV	Rs. 37,53,716.89

An initial investment Rs. 18,59,000.00 of on plant and machinery is expected to generate net cash flows of Rs. 913887.00, Rs. 437634.10, Rs. 535264.37, Rs. 431343.30, Rs. 620750.38, Rs. 675802.28 and Rs. 2429076.45 at the end of first, second, third, fourth, fifth, six and seven year respectively. At the end of the seven year, the machinery will be sold for Rs1113500.00. Calculate the net present value of the investment if the discount rate is 11%. Net present value is Rs. 3753716.89 and Internal rate of return is 34 percent.

6.4.9.12 Payback Period

Particulars	Cash Flow	Net Invested Cash
Year 0		₹ -18,59,000.00
Year 1	₹ 9,13,887.00	₹ -9,45,113.00
Year 2	₹ 4,37,634.10	₹ -5,07,478.90
Year 3	₹ 5,35,264.37	₹ 27,785.46
Year 4	₹ 4,31,343.30	₹ 4,59,128.76
Year 5	₹ 6,20,750.38	₹ 10,79,879.14
Year 6	₹ 6,75,802.28	₹ 17,55,681.42
Year 7	₹ 24,29,076.45	₹ 41,84,757.87
Pay back Period		**2.3**

The table indicates that the payback period is located somewhere between Year 2 and Year 3. There is Rs.18,59,000.00 of investment yet to be paid back at the end of Year 2, and there is Rs. 5,35,264.37of cash flow projected for Year 3. The analyst assumes the same monthly amount of cash flow in Year 3, which means that the estimate final payback as being just short of 2.3 years.

6.4.10. Risk management strategy

- Risk reducing inputs: Risk-reducing inputs are production inputs that improve the chances of better quantity or quality of farm products. Fertilizers and compost are used to reduce the risk of low yields. Pesticides and Integrated Pest Management (IPM) practices are used to reduce the risk of crop damage.
- Risk-reducing technology: We will reduce risk by learning about and applying new techniques and practices designed to address specific risks common to their area of production.
- Marketing risk: Marketing risk exists because of the variability of product prices and the uncertainty of future market prices that the farmer faces when making the decision to produce a commodity. And for this, we will store the produce and sell it when prices are most favorable.

- Contractual Agreements: Price uncertainty could be reduced by making an advance contract with buyers of the product. Contractual agreements can be made with a private individual or company.
- Forward pricing: Forward pricing is a practice where the buyer and FPO agree on a price for the sale of crops in advance of delivery. An agreement is reached to deliver the crop at an agreed price, quantity, quality, and time. This practice enables FPO to reduce the risk that the price they receive for their output might not cover production costs.
- Insurance: We will insure their farms against major risks. Like fires or other hazards that destroy capital items, loss of crops by hail, storms, and floods.
- Human resource management: An aspect of managing risk for larger farmers is good human resource management. This includes: selecting casual workers with suitable skills and experience, ensuring workers are employed according to the relevant law, regular communication, ensuring the safety of workers, and providing adequate supervision and discipline.
- Labour planning: It involves strategies to guard against unexpected changes in the availability and productivity of labor. Careful labor planning, such as using a seasonal labor calendar, ensures that farmers know exactly what and how much labor is needed at various times during the production season.

6.4.11. Social and Economic Impact

Farmers, as producers, are unable to realize the right value of their produce. The defragmentation of land, lack of awareness, less inclination towards technology adoption leads to underproduction against the optimal potential. Our business plan of turmeric and chilly processing will mitigate these issues an in this environment of greater instability and competition, and collective action of aggregating the turmeric and chilly from small tribal farmers and processing it in the processing unit helps to enhance farmers competitiveness and increase their advantage in emerging market opportunities and provide access to high-value markets like export markets and modern retail stores. By this, the tribal farmers can build a prosperous and sustainable member-owned producer organization that enables farmers to enhance productivity through efficient, cost-effective, and sustainable resource use and realize higher returns for their produce.

The other socio-economic impact of our paddy processing are discussed below:

- Livelihood Security: The turmeric and chilly processing business plan gives them a yearlong sustainable livelihood. As the cultivation of turmeric and chilly crops doesn't require much complex process, it gives continuous income to the tribal farmers.
- Economic Impact: As discussed earlier, we will have greater returns with the implementation of the business plan. It will enhance the profits and as well as increase production by adopting a member retention policy. This will also lead to more employment opportunities for the tribal community.
- Social Empowerment: The economic and social status of the tribal farmers in the region will improve multi-fold. The tribal farmer member will get recognition in the society, participate in social activities, get access to improved technologies, get actively involved in addressing social issues and problems, and develops a sense of leadership and social responsibility in the locality. He can ensure higher studies of his children with more income and motivated to do social work and being in more farmer members into FPO to reap the benefit.
- Educational Security: The farmers also get access to educational facilities, including higher education. They can send their children to nearby town schools with better market linkages the transportation facilities in the locality also improve and aid the school children in commutation.
- Health Security: As the farmers are empowered with better returns, they get access to health care facilities. As their income was very less and as they were not able to have price realization, they were deprived of good health care facilities. Now, farmers are more aware of government schemes and able to afford better health care facilities.
- Women Empowerment: The women in the tribal community are involved in turmeric and chilly cultivation and give them social status as they are also the stakeholders, and the income also acts as a safety net for the women who are generally the vulnerable section of the locality. The women are self-confident as they are the members of the FPO and are able to make decisions in the day to day activities and provide education to their children.

Address of plant & machinery

Fry-Tech Food Equipments Private Limited S. No. 4, Raviraj Industrial Estate, Bhikhubhai Mukhi Ka Kuwa Bharwadvash, Ramol, Ahmedabad - 380024, Gujarat, India	**Sai Agritech** 89/6 POR GIDC Ramangamdirod, POR Vadodara-391243, Gujarat +91 9558275744 / 7487084342

Hindustan Vibrotech Pvt. Ltd. Office No. 2, Ground Floor, Vrindavan Building, Vile Parle East, Mumbai – 400057, Maharashtra, India	**V. R. Gajjer And Company** OLD AHMEDABAD ROAD, NR.VISHWAKARMA RICE MILL, BAREJA,, At Bareja, Ahmedabad - 382425, Dist. Ahmedabad, Gujarat +91 8048617758
Springboard Enterprises India Ltd. 1st, 2nd & 3rd Floor, Plot No. 7, 8 & 9, Garg Shopping Mall, Service Centre, Rohini Sector 2, New Delhi – 110085, Delhi, India	**Flour Tech Engineers Private Limited** Plot No. 182, Sector 24, Faridabad - 121005, Haryana, India
Ricon Engineers 10 To 13, Bhagwati Estate, Near Amraiwadi Torrent Power, Behind Uttam Dairy, Rakhial, Ahmedabad - 380023, Gujarat, India	**Diyani Engineering** Fortune Industrial Park, kathwada, GIDC , Ahmedabad Gujarat-382430 +91 9978681120 / 9327480120
Avity Agrotech and Industries No.490-491, c-1 Chandan Complex, G.I.D.C, Makarpura , Vadodara-390010 Gujarat +91 0844 7570776	**Kamdhenu Agro Machinery** Plot No. 6, Near Power House, Wathoda Road Wathoda, Nagpur - 440035, Maharashtra, India

6.5. Business plan for pushkar rural agricultural youth & employment producer company limited (PRAYE)

6.5.1. Introduction

6.5.1.1. About the organization(PRAYE)

Pushkar Rural Agricultural Youth & Employment Producer Company Limited (PRAYE) was established on 16 November 2015 in Devnagar of the Pushkar region of Rajsthan supported and facilitated by NABARD. It is a producer company incorporated with the help of facilitating agency Krishak Vikas Sansthan, Ajmer NGO. PRAYE, to aggregate horticultural crops in the Pushkar region of Rajasthan. It was founded for the social and economic growth of small and marginal farmers by saving them from exploitation by middlemen and by creating sustainable livelihood options for them.

Initially, in 2016, PRAYE started with aggregating and selling of vegetables, but it has stooped due to the entire crop has been severely affected by heavy fog. Then, PRAYE select rose as the next crop because Devnagar is the rose cultivation hub and having its unique pink rose varieties. Earlier, Gulkhand was made and diversified into different products and different crops such as Amla and Jamun.

Figure 2- Rose Petal segregation

PRAYE started with 50 members from 2 villages, and at present, it has around 1000 members from 25 villages.

6.5.1.2. Timeline of Organization

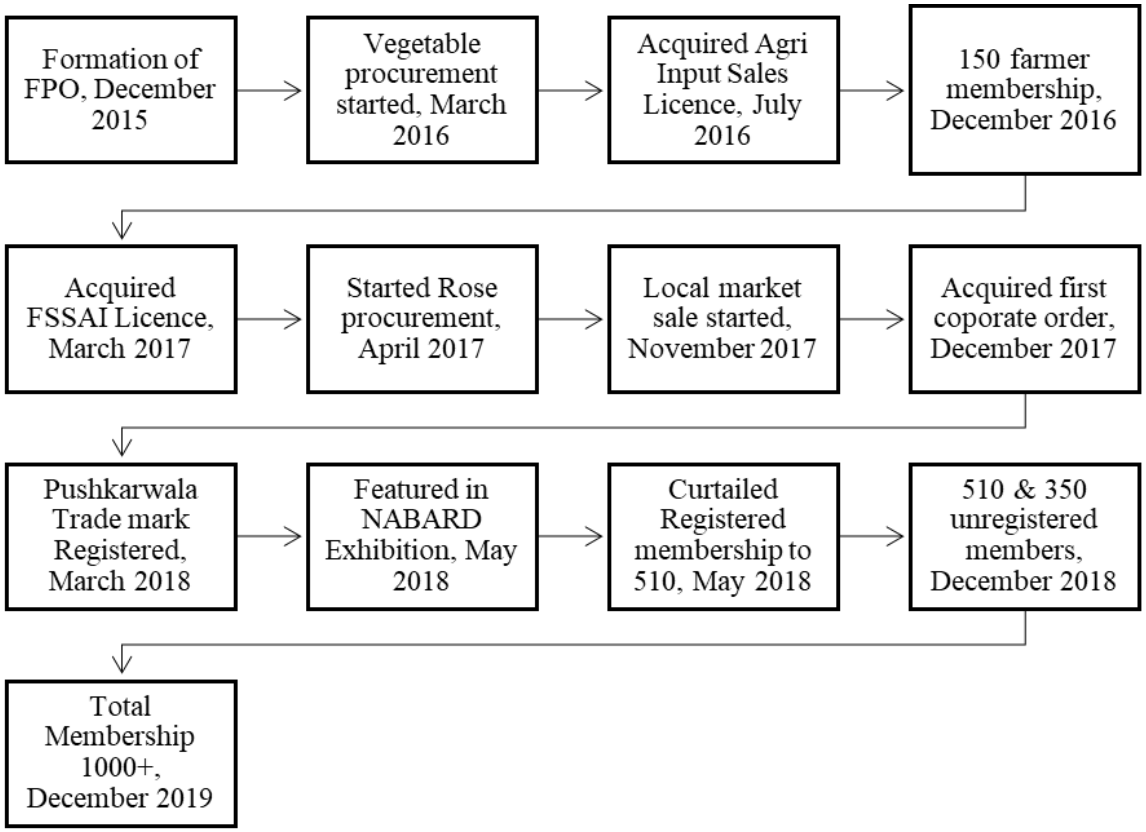


Table 1- Timeline of PRAYE

6.5.1.3. Vision

To bring social and economic growth of member farmers by improving productivity, value addition, market linkages and expansion into a State-wide Farmer Producer Organization.

6.5.1.4. Mission

Induce modern techniques of cultivation though awareness, capacity building and supply of right inputs to farmers to improve agricultural productivity, use food processing techniques for value addition to the produce, make the products available in the national and international market to bring in higher economic growth and provide sustainable livelihood to the small and marginal farmers by aggregation.

6.5.1.5. The Team - Governance

The FPO has a very strong, hardworking, and optimistic team, continuously working for the growth and betterment of the farmers. The FPO has five elected directors looking after five important areas of the FPO as follows;

Sr. No.	Name of Director	Responsible for
1	Sunita Mali	Women Empowerment
2	Premraj Singh	Production management of
3	Rajawat	food processing unit
4	Sampat	Marketing
5	Sarwan Singh Rawat	Supply of inputs and member retention and farmer

Mr. Nand Kishor Saini is the Chief Executive Officer who manages the company by coordinating with all the areas and looking after external affairs, including market linkages, Sales, Fundraising, NABARD, regulatory, and statutory requirements, research and educational institutions for capacity building and FSSAI. Dr. Jitendra Chaturvedi from POPI (Krishak Vikas Sansthan, Ajmer NGO) is the team member who has been there with the FPO as the consultant by providing all sort of support.

As per discussion with FPOs, chairman, BODs, and few members, and from our market research, we have seen the tremendous potential for the value-added product of existing procured crops. We also have seen the demand for red karonda cherry value-added products. Since the Amla season is 6 months, the other season, we can utilize the facilities for the production of the other two crops (Jamun and Red Karonda Cherry).

6.5.6. Project Description

One of the significant horticulture crops grown in the Pushkar region is rose, Ambla, Jamun, etc. Farmers in our FPO are small and marginal farmers with a landholding size of 1.5 to 2 Acres. As per discussion with FPOs, chairman, BODs and few members, most of members are cultivating rose and amla, currently they have small rose gulkand production machineries, so that they wanted to expand their business in amla processing. We have seen the tremendous potential for the value-added product of existing procured crops.

6.5.6.1. Raw material procurement

We are describing the procurement of two major crops, Rose and Amla. Rose is procuring only for value addition, and Amla is procuring for both value addition as well as an output aggregator.

Area and Production of Rose in India (2011-2012 to 2016-2017-1st Advance Estimates)			
Year	Area (In ' 000 Hectare)	Production	
		Loose (In ' 000 MT)	Cut (In Lakh Nos.)
2011-2012	27.87	66.17	27401.08
2012-2013	28.13	75.66	19902.76
2013-2014	30.87	96.09	166.47*
2014-2015	26.33	91.75	120.95*
2015-2016	29.41	113.19	188.76*
2016-2017 (1st Advance Estimates)	29.57	111.74	172.29*

Note : * : Figuare in ' 000 MT.

Source : Ministry of Agriculture and Farmers Welfare, Govt. of India. (ON1549) & Past Issues.

Selected State-wise Area and Production of Rose in India (2015-2016)			
States	Area (In ' 000 Hectare)	Production	
		Loose (In ' 000 MT)	Cut (In ' 000 MT)
Andhra Pradesh	0.48	2.87	-
Arunachal Pradesh	0.00	-	0.03
Assam	0.41	2.71	5.29
Chhattisgarh	0.92	-	37.90
Gujarat	4.28	39.10	-
Haryana	0.19	1.03	1.43
Himachal Pradesh	0.04	-	2.05
Jammu and Kashmir	0.02	0.02	-
Karnataka	2.80	0.60	50.12
Madhya Pradesh	2.48	14.00	-
Maharashtra	1.56	2.88	27.77
Manipur	0.01	-	0.02
Mizoram	0.02	0.09	-
Nagaland	0.00	-	0.38
Rajasthan	1.49	2.45	0.00
Sikkim	0.03	-	0.00
Tamil Nadu	2.02	19.34	0.45
Telangana	0.43	0.83	-
Uttar Pradesh	10.39	27.11	0.00
Uttarakhand	0.11	0.13	-

West Bengal	1.74	-	63.32
Others	0.01	0.03	0.00
India	**29.41**	**113.19**	**188.76**

Source : Ministry of Agriculture and Farmers Welfare, Govt. of India. (ON1769)

The area under rose flower growing in the country is about 30,000 hectares, production of loose flowers is about 1,13,000 MT, and production of cut flowers is about 1,89,000 MT in 2015-16 (Table). The primary flower growing states are Uttar Pradesh, Gujarat, Karnataka, Madhya Pradesh, West Bengal, Maharashtra, and Rajasthan.

Selected State-wise Area and Production of Aonla/Gooseberry (Amla) in India (2017-2018)

States	Area (In ' 000 Hectare)	Production (In ' 000 MT)
Andhra Pradesh	0.64	10.76
Assam	0.91	17.76
Bihar	1.59	14.92
Chhattisgarh	3.80	43.29
Gujarat	8.15	81.90
Haryana	2.24	10.75
Himachal Pradesh	2.56	1.97
Jammu and Kashmir	1.96	12.10
Jharkhand	0.30	1.49
Karnataka	0.11	0.68
Kerala	0.10	0.10
Madhya Pradesh	20.42	302.18
Maharashtra	1.60	12.25
Mizoram	0.30	1.32
Nagaland	0.27	2.88
Odisha	2.03	0.73
Punjab	0.56	7.70
Rajasthan	1.57	11.19
Tamil Nadu	7.44	152.87
Telangana	0.07	0.71
Uttar Pradesh	35.16	384.32
Uttarakhand	1.33	2.65
Others	0.02	0.10
India	**93.12**	**1074.60**

Source : Ministry of Agriculture & Farmers Welfare, Govt. of India. (ON1955)

The area under amla growing in the country is about 94,000 hectares and production of is about 10,74,000 MT in 2017-18 (Table). The primary flower growing states are Uttar Pradesh, Madhya Pradesh, Tamilnadu, Odisha, Chhattisgarh, Haryana, Himachal Pradesh and Rajasthan.

6.5.6.2. Rose Procurement

The FPO procures Rose from 40 farmers from 4 villages. All farmers are small and marginal farmers with average landholdings of 0.03 - 0.2 hectares. Pushkar is part of the rose cluster of Ajmer, Rajasthan, with rose procurement in an area of 60 square kilometers. The annual production of rose flowers in Ajmer is 3 million metric tons. There are mediators for collecting roses from medium and large farmers. They give advance to these farmers and procure the rose from them. Small and marginal farmers are left out in the process as mediators will not have the incentive to collect from these farmers, which can increase their cost. The FPO procures roses from these small and marginal farmers who help in market linkage for their produce.

The collection starts with the harvesting of rose flowers, which happens daily between 4:30 am, and 7:30 am. This ensures that the aroma of the flower is not lost due to the incidence of sunlight, which helps to ensure superior quality value-added products. The collection of these flowers happens at the FPO at around 9 in the morning. Collected roses are given to the rural households for getting petals from the flower at a rate of 3 rupees per Kg. The leaves are then collected back, and usually, 100 Kg rose flower will give approximately 65 Kg rose petals.

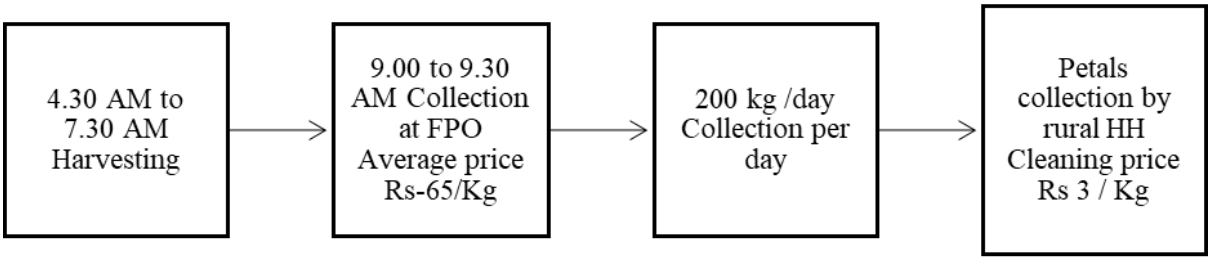


Figure 7- Procurement of Rose

The FPO currently procures on an average of about 200 Kg of roses from the farmers daily. The procurement potential of rose flowers from the area is 20 Tons per day. While collecting roses from the farmers, the FPO pays 15 Rs/Kg more than what mediators pay, and this helps farmers get better profit and increase the farmers' income.

6.5.6.3. Amla or Aonla Procurement

The FPO have plan to procures 22 tons of Amla annually from six villages. The potential of Amla from Pushkar is 200 metric tons annually. Farmers bring their produce to the FPO in either gunny bags or small crates. The procurement price of Amla is about 25 Rs./Kg, which is higher than the market price of 15 Rs./Kg, which helps farmers to earn extra income. Then the Amla is unloaded and cleaned and transferred to the grading machine. The Amla graded according to their size in the grading machine.

According to the grade, they decide whether to use it for value addition or directly sell to the Vashi Market. The average price they get in the Vashi market is 35 Rs./Kg, and if they decide to go to value addition, they can get up to 80 Rs./Kg.

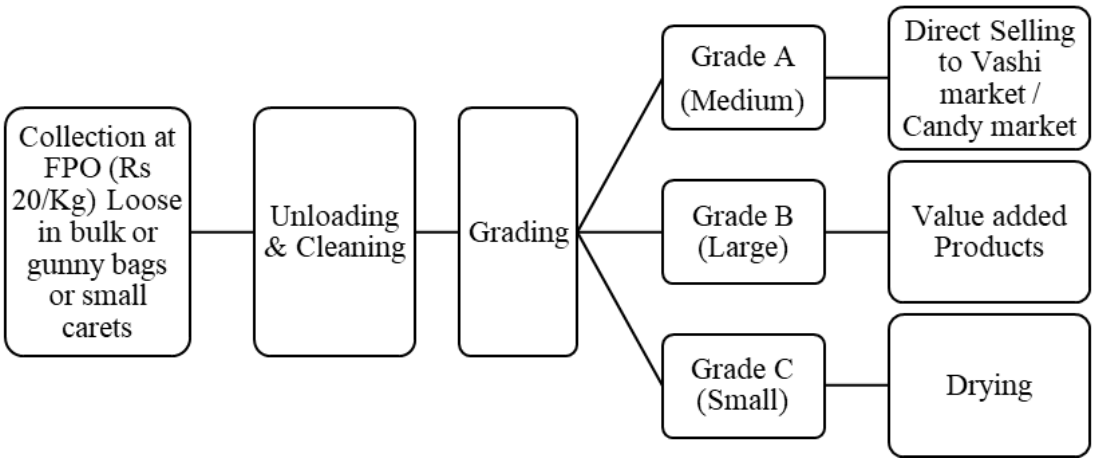


Figure 8- Procurement of Amla

Amla Procurement Cost (Rs. /Kg)	Direct Selling Price -Vashi Market (Rs/Kg)	Price after Value Addition (Rs/Kg)
20	32	80

Table 5- Procurement Price of Amla

6.5.6.4. Product portfolio

The uniqueness of Pushkar roses (Rosa damascena, R. bourboniana, R.centifolia) had helped the FPO to get popularity in the local and nearby areas. The FPO realized that raw flower sales would not add value to the FPO, and with the raw flower, FPO cannot succeed in the long run. Currently, the procured rose is wholly used for value-added product making. Apart from the rose, the FPO procures Amla. Amla contributes lion share to the procurement. From the seasonality diagram, we can understand that we will get Rose almost every day. It includes 300 days rose season. Where we get maximum quantity rose with high quality. Amla season starts in September, and it ends in January.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Amla												
Rose												

Table 3- Seasonality Diagram

Product Details

Gulkand

Candy

Rose Sharbat

Murabba

Rose Water

Amla juices

6.5.6.5. Market Opportunity

The FPO has access to the Local markets and domestic markets. With the help of exhibitions, the CEO has established several distributors in the market. But the market connect is not as equipped with the potential. The FPO has established four markets in Rajasthan, and apart from that, the FPO has distributors in the following markets;- Hyderabad, Bangalore, Anand, Mumbai, Baroda, Ahmedabad, Calicut, Chennai, Indore, and Kolkata. The local markets are Bikaner, Jaipur, Jodhpur, Jaisalmer, etc.

Figure 5-Existing Market

The lion share of the sales is credit-based, and exhibition sales are ready cash-based. The FPO sees South Indian Tier 1, and Tier 2 cities are potential markets based on the four reasons;- The fewer competitors' presence, Huge demand for fresh Ayurvedic products, Purchasing power of Customer, and Good repayment of credit by the distributors.

The FPO has payment issues in the North Indian markets. But this issue is not persisting in south India. The FPO has to find more distributors in PAN India level to increase the sales. So, it requires professionals on board to connect the market and control the business.

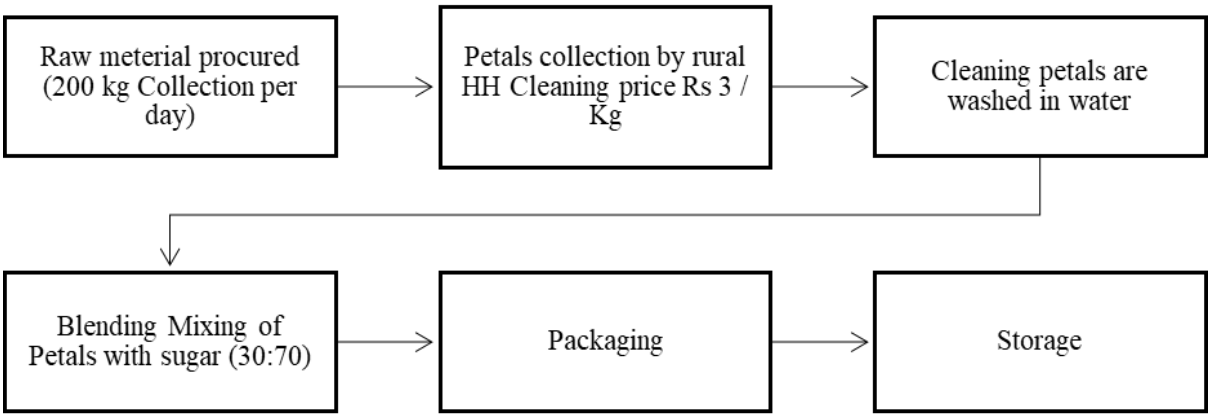
- Customer Segment (CS): This block defines the different groups of people or organizations a business aims to reach and serve. The various segments include mass, niche, multi-sided, diversified, and segmented markets. In our organization, the sector is mass, and different segments include smallholder farmers, Landowners, Agro-food industries, and various farmer organizations.
- Value proposition (VP): This block describes the bundle of products and services that create value for a particular customer segment. This value proposition creates value through a distinct mix of elements that include performance, newness, customization, design, brand/status, price, etc. The value proposition that our organization provides includes Gulkand and Rosewater from rose, Amala Candy from Amala MSP for rose and amala to the farmers, reasonable price, sustainable use of land, more control over quality and quantity.
- Channel (CH): This block describes how an organization connects with and reaches its customer segment to deliver a value proposition. This block includes direct channels such as salesforce, web sales, and indirect channels such as own stores, partner stores, and wholesalers. Our organization's channel consists of an extension through farmer leaders, shows, exhibitions, campaigns, and word of mouth.

- Customer Relationship (CR): This block describes relationships a business forms with particular Customer Segments. These relationships can include categories such as personal assistance, self-service, automated services, co-creation, etc. In our part, dedicated personal support to the farmers, personal contact on the farm, and group communication is covered.
- Revenue Streams (RS): This block represents the money a business makes from its Customer Segments. Several ways to generate revenue streams include asset sale, lending, leasing, renting, licensing, subscription fees, etc.
- Key resources (KR): This block defines the most significant assets required to make the business model work and categorized as physical, intellectual, human, and financial. The resources are farm inputs, Kisan Sahayaks, financial aid, staff, and different types of machinery.
- Key Activities (KA): This block describes the most significant things that a business must do to make the business model work and categorized as production, platform/network, etc. The key activities include buying seeds for the farmers, buying fertilizers, training to the farmers and laborers, providing machinery, and direct sales of value-added products.
- Key partnerships (KP): This block defines the network of suppliers and partners that makes the business model work. The different types include buyer-supplier relationships, joint ventures, a strategic alliance between non-competitors, and cooperation between competitors. Our organization's key partners include farmers, local action groups, agribusiness companies, agricultural lab, F&V exporters, and different buyers.
- Cost Structure (CS): This block defines all costs incurred to operate the business model. These structures can be either cost-driven or value-driven. The cost of the machinery required is 17.65 lac rupees, the value of the plant & building that is needed is 14 lac rupees, and the working capital required is 15.10 lac rupees.

6.5.6.6. Step involved in processing

6.5.6.6.1. Processing of Rose

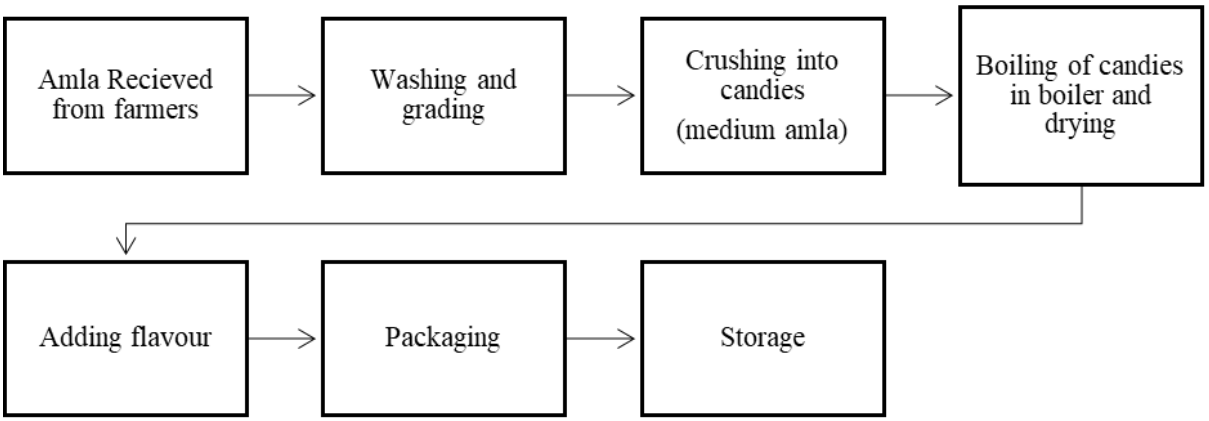
The petals were clean by washing in water. For making Gulkand, they mix rose petals and sugar in the ratio of 3:7 in a blender for half an hour and then stored in a container.



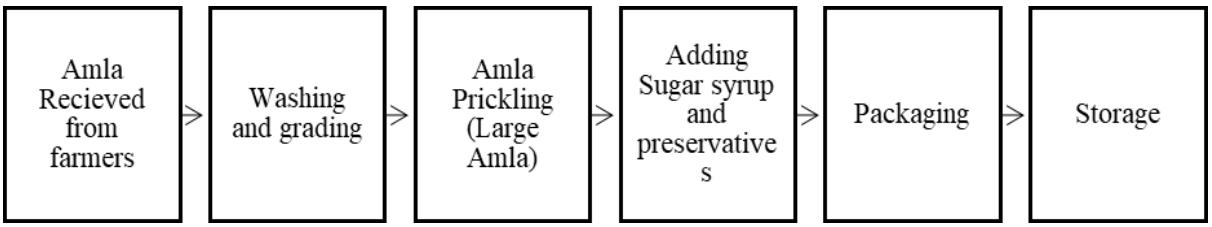
6.5.6.6.2. Processing of Amla

The amla processing for making amla candy, amla murabba, and amla juice. The details of making products are given below.

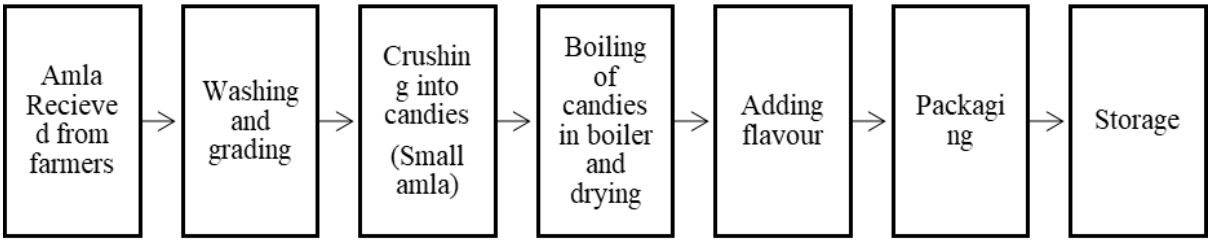
Amla Candy



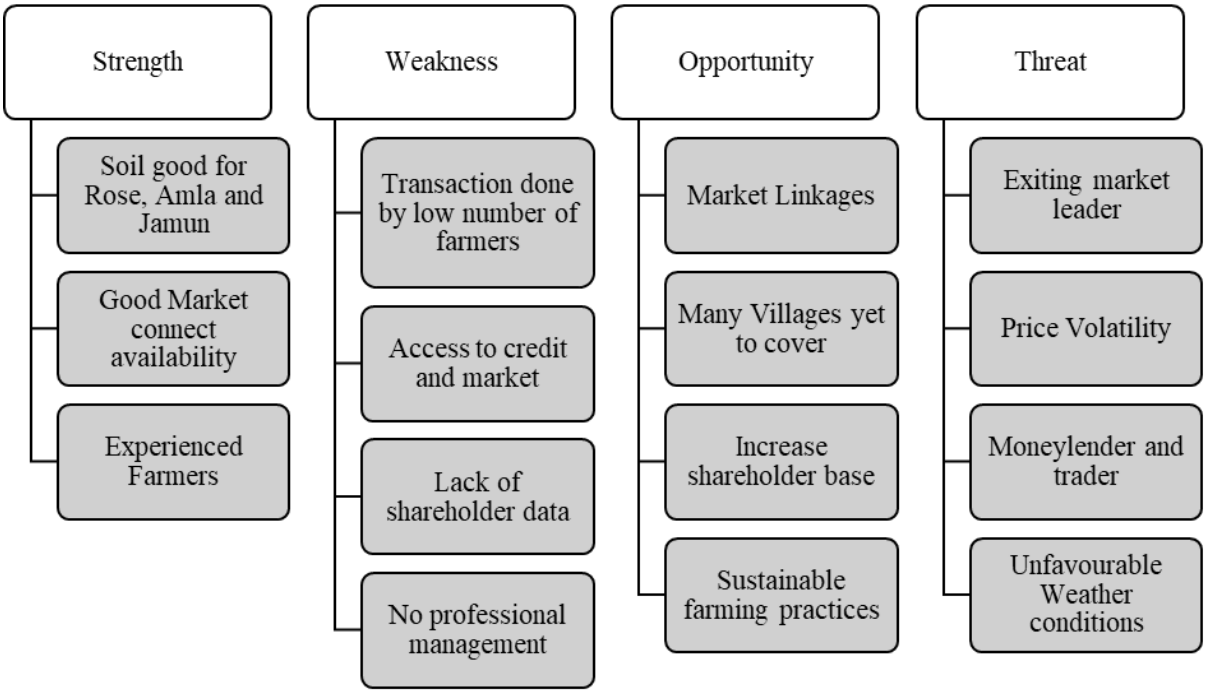
Amla Murabba



Amla Juice



6.5.7. SWOT Analysis



6.5.7.1 Strength

- Soil good for Rose, Amla and Jamun: Black clayey to loam soil (Black cotton soil), silt caly loam to clay loam soils, good for paddy crop.
- Good Market connect availability: Mandi Near By – Ajmer. The big traders, retail stores are available in Ajmer. Also, the Jaipur is having road and rail connectivity. So PRAYE has good connectivity to market.
- Experienced Farmers: Most of the farmers has more than 8 to 10 years' experience in farming.

6.5.7.2 Weakness

- Transaction done by a low number of farmers: As per analysis till now, very few farmers have done transactions with the PRAYE. So the reason behind the less transaction is traders and money lenders and the credit facility that they give. This is very difficult to overcome.
- Access to credit and market: There is no working capital to run the business, so loan has been taken from Banks at the rate of 11%. Due to this, a large amount around of 3.5 lakhs has gone as interest only.
- Lack of shareholder data: There is less data of shareholder with us so it is very much difficult for to inform and get the demand of the member farmers.
- No professional management: Professional management right now in the company is lacking. The company is supported by, and its management is done by BOD's & CEO, who are more inclined towards social aspects. And to sustain the business mindset is necessary. So in the future, for sustainability, professional management is necessary.

6.5.7.3. Opportunity

- Market Linkages: There is a very large market for agriculture produce. Many channels are in Jaipur, like online grocery stores, modern retail sector, etc. So there are lots of opportunities to tie up with them. Ajmer is very near to Puskar, and Ajmer has connectivity with Jaipur, it has huge market potential for agricultural produce.
- Many Villages yet to cover: There are many villages in Ajmer District. With the aim to become federation, PRAYE should cover all the villages. This expansion can be informed of three ways: A)Opening of new Producer companies in the new villages, B)Addition of existing producer companies present in the district and C)Addition of farmers as shareholders to these villages
- Increase shareholder base - Right now 1000 members are shareholders so there is opportunity to add more farmers.
- Sustainable farming practices: The demand is changing to organic products now. Here, rose and amla is grown in a conventional way, so there is a lot of opportunities to go for IPM and organic practices. The product, although generated less, will charge a premium amount. The Producer Company can promote other products also.

6.5.7.4. Threat

- Exiting market leader: There are so many other players as well, and other big companies also create an entry barrier for new entrants.
- Price Volatility: The fluctuation is price due to various reasons, which are explained later (Like high or low production).
- Moneylender and trader: The moneylender and the trader take 50% of the product in the harvesting season itself. This is because of the debt the farmers own to the traders and money lenders. Due to this large amount of production already goes into the market. If PRAYE grows and large orders come from the Big buyers, then this cycle would prove a threat to PRAYE.
- Unfavourable Weather conditions: This is the major threat to agriculture produce. If the rain happens at the wrong time or more, then it affects heavily.

6.5.7. Financial Plan

6.5.7.1. Land and land development

It will be ideal to acquire a land of about 600 square meters of land, keeping in mind the project's future expansion. Accordingly, a land cost of Rs.60,000 (On lease) for first-year has been considered in this model. And every year a 5% increase in the previous year's rent.

6.5.7.2. Building and civil work

The following buildings and fabrication work have been considered for this model. Milling and storage Area 40 W * 20 H *100 L foot

The fabrication work include the following : Main door : 2 (Shuttle), Window : 4, and Air roofing ventilator : 6

Hence, the total fabrication work cost for the built-up area is Rs. 14.00 Lakhs.

6.5.7.3. Plant and Machinery

Mechinery Cost				
Sr. No.	**Description**	**Qty**	**RATE / SET**	**Basic Amount**
1	AMLA GRADER & SORTER	1	₹ 3,90,000.00	₹ 3,90,000.00
2	AMLA STORE TUBS	5	₹ 21,000.00	₹ 1,05,000.00
3	NON-JACKETED BOILER	1	₹ 3,58,000.00	₹ 3,58,000.00

4	SOLAR TUNNEL DRYER	1	₹ 2,18,000.00	₹ 2,18,000.00
5	AMLA PRICKLING MACHINE	1	₹ 2,50,000.00	₹ 2,50,000.00
6	AMLA CRUSHING MACHINE	1	₹ 1,80,000.00	₹ 1,80,000.00
7	AMLA MOUTH FRESH MAKING MACHINE	1	₹ 1,90,000.00	₹ 1,90,000.00
8	AMLA DRY COOLER	2	₹ 12,000.00	₹ 24,000.00
Basic Cost				**₹ 17,15,000.00**
Transportation & Installation				**₹ 50,000.00**
Total Amount				**₹ 17,65,000.00**

6.5.7.4. Miscellaneous fixed assets

Cost of office furniture, computer, printer, etc. is considered under miscellaneous fixed assets. A provision of Rs. 70,000 is needed to take care of this expenditure.

6.5.7.5. Contingency

Contingency charges are considered as 2 % of the cost of project excluding the pre-operative expenses and land cost. The contingency charges amount is Rs.65,000.

6.5.7.6. Project cost

Project Fixed Cost			
No.	**Particulars**	**Qty.**	**Amount (In lakh)**
1	Land on lease	600 sq. meter	
2	Civil Work	600 sq. meter	₹ 14.00
3	Plant and Machinery		₹ 17.65
4	Miscellaneous Fixed Assets		₹ 0.70
5	Contingency @2%		₹ 0.65
Total			₹ 33.00

6.5.7.7. Manpower requirements

Year | Position	Manager/ Supervisor	Semi-Skilled (Operator/ Technician)	Unskilled Worker	Per annum Salary
2021	1	1	1	₹ 3,63,624.00
2022	1	1	1	₹ 3,92,713.92
2023	1	1	2	₹ 5,35,125.66
2024	1	1	2	₹ 5,77,935.71
2025	1	1	2	₹ 6,24,170.57
2026	1	1	3	₹ 8,13,925.47
2027	1	1	3	₹ 8,79,039.51

* Note: Manager/ Supervisor , Semi-Skilled (Operator/Technician) , unskilled worker are number of person

Additionally, we need daily basis workers for three months in peak season time. The daily wages are Rs.305 per person, and monthly payments are Rs.7930 per person. The annual cost for extra labor is shown in the below table.

Year | Position	Unskilled Worker (No. Of Person)	Per annum Salary or Wages(Rs.)
2021	3	₹ 95,160.00
2022	4	₹ 1,26,880.00
2023	4	₹ 1,26,880.00
2024	4	₹ 1,26,880.00
2025	5	₹ 1,58,600.00
2026	5	₹ 1,58,600.00
2027	5	₹ 1,58,600.00

6.5.7.8. Plant Break even analysis

Growth	Year	2021	2022	2023	2024	2025	2026	2027
20%	Annual cost of procurement	1507150	1830720	2224495	2703877	3287687	3998932	4865746
5%	Plant + warehouse Land (Rent per year) (600 sq. meter.)	60000	63000	66150	69458	72930	76577	80406
20%	Transportation cost	1029000	1234800	1481760	1778112	2133734	2560481	3072578
8%	Salary	363624	392714	535126	577936	624171	813925	879040
	Labour Expenses	95160	126880	126880	126880	158600	158600	158600
20%	Overhead cost	546000	655200	786240	943488	1132186	1358623	1630347
10%	Other Expenses (courier and small other expenses)	107000	117700	129470	142417	156659	172325	189557
	Total cost	3707934	4421014	5350120	6342167	7565967	9139463	10876273
	Total Revenue	4310000	5172000	6206400	7447680	8937216	10724659	12869591
	Profit	602066	750986	856280	1105513	1371249	1585196	1993318
	Interest on term loan@11%	363000	363000	363000	363000	363000	363000	363000
	Interest on working capital@11%	75358	91536	111225	135194	164384	199947	243287
	Depreciation @10% machinary and @5% Building	248500	227150	207760	190143	174129	159567	146319
	Profit after depreciation and interest	-84792	69300	174295	417176	669736	862682	1240712
	Profit Margin	-2.29%	1.57%	3.26%	6.58%	8.85%	9.44%	11.41%

6.5.7.9. P & L projection in details

	2021	2022	2023	2024	2025	2026	2027
Procurement Cost							
Rose	461250	575640	718399	896562	1118909	1396398	1742705
Amla	550000	660000	792000	950400	1140480	1368576	1642291
Sugar	495900	595080	714096	856915	1028298	1233958	1480749
Total Cost	1507150	1830720	2224495	2703877	3287687	3998932	4865746

Indirect Expenses							
Transportation	1029000	1234800	1481760	1778112	2133734	2560481	3072578
Labour	95160	126880	126880	126880	158600	158600	158600
Rents	60000	63000	66150	69458	72930	76577	80406
Other Miscellaneous overheads	546000	655200	786240	943488	1132186	1358623	1630347
Other Expenses (courier and small other expenses)	107000	117700	129470	142417	156659	172325	189557
Salary	363624	392714	535126	577936	624171	813925	879040
Total Expenses	3707934	4421014	5350120	6342167	7565967	9139463	10876273

Revenue							
Gulkand	720000	864000	1036800	1244160	1492992	1791590	2149908
Rose water	980000	1176000	1411200	1693440	2032128	2438554	2926264
Rose Sarbat	150000	180000	216000	259200	311040	373248	447898
Amla Candy	780000	936000	1123200	1347840	1617408	1940890	2329068
Amla Murraba	720000	864000	1036800	1244160	1492992	1791590	2149908
Amla Juice	960000	1152000	1382400	1658880	1990656	2388787	2866545
Total Revenue	4310000	5172000	6206400	7447680	8937216	10724659	12869591
EBITDA	602066	750986	856280	1105513	1371249	1585196	1993318
Interest	438358	454536	474225	498194	527384	562947	606287
EBTDA	163709	296450	382055	607319	843865	1022249	1387031
Depreciation	248500	227150	207760	190143	174129	159567	146319
EBT	-84792	69300	174295	417176	669736	862682	1240712
Tax	30103.30	150197.22	256883.89	331653.90	411374.77	475558.83	597995.47
PAT	-114895	-80897	-82589	85523	258361	387124	642717
Net profit	**-114895**	**-80897**	**-82589**	**85523**	**258361**	**387124**	**642717**

6.5.7.10. Cash flow statement

Cash Flow Statement								
Particulars	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Initial Investment	33,00,000.00							
Sales		43,10,000.00	51,72,000.00	62,06,400.00	74,47,680.00	89,37,216.00	1,07,24,659.20	1,28,69,591.04
Variable Cost		15,07,150.00	18,30,720.00	22,24,494.72	27,03,876.80	32,87,687.12	39,98,932.17	48,65,745.72
Contribution		28,02,850.00	33,41,280.00	39,81,905.28	47,43,803.20	56,49,528.88	67,25,727.03	80,03,845.32
Fixed Cost		4,23,624.00	4,55,713.92	6,01,275.66	6,47,393.21	6,97,100.94	8,90,502.37	9,59,445.25
Overhead Cost		16,82,000.00	20,07,700.00	23,97,470.00	28,64,017.00	34,22,578.70	40,91,428.57	48,92,481.83
EBIDTA		6,97,226.00	8,77,866.08	9,83,159.62	12,32,392.99	15,29,849.24	17,43,796.09	21,51,918.24
Depreciation		2,48,500.00	2,27,150.00	2,07,760.00	1,90,142.75	1,74,129.29	1,59,567.13	1,46,318.65
OPBT		4,48,726.00	6,50,716.08	7,75,399.62	10,42,250.24	13,55,719.95	15,84,228.96	20,05,599.59
Tax		34,861.30	1,30,143.22	1,55,079.92	3,69,717.90	4,58,954.77	5,23,138.83	6,45,575.47
OPAT		4,13,864.70	5,20,572.86	6,20,319.70	6,72,532.34	8,96,765.18	10,61,090.14	13,60,024.12
Depreciation		2,48,500.00	2,27,150.00	2,07,760.00	1,90,142.75	1,74,129.29	1,59,567.13	1,46,318.65
OCF		6,62,364.70	7,47,722.86	8,28,079.70	8,62,675.09	10,70,894.47	12,20,657.27	15,06,342.77
WC Required	4,31,000.00	5,17,200.00	6,20,640.00	7,44,768.00	8,93,721.60	10,72,465.92	12,86,959.10	-
Change in WC		86,200.00	1,03,440.00	1,24,128.00	1,48,953.60	1,78,744.32	2,14,493.18	
Sale of plant and MC								18,31,432.00
Cash Flow		5,76,164.70	6,44,282.86	7,03,951.70	7,13,721.49	8,92,150.15	10,06,164.08	46,24,733.87

Details of overhead cost for 1st year

No	Overhead Costs	
1	Rent	₹ 60,000.00
2	Other Expenses (courier and small other expenses)	₹ 24,000.00
3	Packaging	₹ 5,46,525.00
4	Professional Fees(loan processing) + Audit Fee	₹ 43,000.00
5	Other Miscellaneous overheads (Electricity, water, etc..)	₹ 40,000.00
Overhead costs (Rs.)		₹ 6,53,525.00

6.5.7.11. Internal Rate of Return

Particulars	Cash Flow	Present Value
Initial Investment	₹ -33,00,000.00	
Year 0		
Year 1	₹5,76,164.70	₹ 5,19,067.30
Year 2	₹ 6,44,282.86	₹ 5,22,914.43
Year 3	₹ 7,03,951.70	₹ 5,14,723.41
Year 4	₹ 7,13,721.49	₹ 4,70,150.45
Year 5	₹ 8,92,150.15	₹ 5,29,447.69
Year 6	₹ 10,06,164.08	₹ 5,37,936.41
Year 7	₹ 46,24,733.87	₹ 22,27,541.97
Internal Rate of Return		**23%**
NPV		**Rs. 53,21,781.65**

An initial investment Rs. 33,00,000.00 of on plant and machinery is expected to generate net cash flows of ₹576164.70, ₹644282.86, ₹703951.70, ₹713721.49, ₹892150.15, ₹1006164.08 and ₹4624733.87 at the end of first, second, third, fourth, fifth, six and seven year respectively. At the end of the seven year, the machinery will be sold for Rs 1831432.00. Calculate the net present value of the investment if the discount rate is 11%. Net present value is Rs. 4335343.59 and Internal rate of return is 25 percent.

6.5.7.12. Payback Period

Particulars	Cash Flow	Net Invested Cash
Year 0		₹ -33,00,000.00
Year 1	₹ 5,76,164.70	₹ -27,23,835.30
Year 2	₹ 6,44,282.86	₹ -20,79,552.44

Year 3	₹ 7,03,951.70	₹ -13,75,600.74
Year 4	₹ 7,13,721.49	₹ -6,61,879.25
Year 5	₹ 8,92,150.15	₹ 2,30,270.90
Year 6	₹ 10,06,164.08	₹ 12,36,434.98
Year 7	₹ 46,24,733.87	₹ 58,61,168.86

The table indicates that the payback period is located somewhere between Year 4 and Year 5. There is Rs.26,38,120.00 of investment yet to be paid back at the end of Year 4, and there is Rs. 8,92,150.15 of cash flow projected for Year 5. The analyst assumes the same monthly amount of cash flow in Year 5, which means that the estimate final payback as being just short of 4.5 years.

6.5.8. Risk Management Strategy

- **Risk-reducing inputs**: Risk-reducing inputs are production inputs that improve the chances of better quantity or quality of farm products. Fertilizers and compost are used to reduce the risk of low yields. Pesticides and Integrated Pest Management (IPM) practices are used to reduce the risk of crop damage. Irrigation is used to reduce the risk of low rainfall.
- **Risk-reducing technology:** We will reduce risk by learning about and applying new techniques and practices designed to address specific risks common to their area of production.
- **Marketing risk:** Marketing risk exists because of the variability of product prices and the uncertainty of future market prices that farmers face when deciding to produce a commodity. And for this, we will store the produce and sell it when prices are most favorable.
- **Contractual Agreements**: Price uncertainty could be reduced by making an advance contract with buyers of the product. Contractual agreements can be made with a private individual or company.
- **Forward pricing:** Forward pricing is a practice where the buyer and FPO agree on a price for the sale of crops in advance of delivery. An agreement is reached to deliver the yield at an agreed price, quantity, quality, and time. This practice enables FPO to reduce the risk that the amount they receive for their output might not cover production costs.

- **Insurance:** We will insure their farms against significant risks, like fires or other hazards that destroy capital items, loss of crops by hail, storms, and floods.
- **Human resource management:** An aspect of managing risk for larger farmers is proper human resource management. It includes: selecting casual workers with suitable skills and experience, ensuring workers are employed according to the relevant law, regular communication, ensuring the safety of workers, and providing adequate supervision and discipline.
- **Labour planning:** It involves strategies to guard against unexpected changes in the availability and productivity of labor. Careful labor planning, such as using a seasonal labor calendar, ensures that to know exactly what and how much labor needed during the production.

6.5.9. Social and Economic impact

6.5.9.1. Economic Impact

As per discussions with the FPO members, farmers get offered a better price for the commodities when they sell it to the FPO as compare to the market.

Crop	Market Price (Rs./Kg)	Price offered by FPO (Rs./Kg)
Rose	60	70
Amla	15	25

As the major crop is rose, we have analyzed the economic impact of Rose. From the above table, farmers get an extra Rs.10 /kg when they sell their produce to the FPO. This hed arrived at without considering the opportunity cost the farmer would have if he/she has to take the produce to the market and the transportation cost. In addition to this, 25 percent of the profit from the proposed would be distributed among the farmers. This would turn in to result in additional revenue for the farmers. The below table indicates approximately how much profit would be distributed to each farmer over the next five years.

6.5.9.2. Social Impact

The project would result in the income obtained by the farmers. These would turn in to help in improving socio-economic wellbeing. It inculcates a pride in farmers to be part of the FPO. As a result, the additional income farmers have become more self-reliant and can afford luxuries

such as two-wheelers, cars, pickup trucks, tractors, etc. Also, they have become more technology-oriented and have started owning mobile phones and computers. The farmers can provide good education to their children. Another benefit is that through the workshops and meetings, farmers are gaining more extensive exposure to the outside world than what they had previously got. These have made them aware of several new opportunities. Women empowerment by adding a greater number of women farmers and also it will increase their participation level in the society. Adding more women will impact children's education level and savings because a woman has higher bargaining power within the household traditionally in terms of these two things. Financial inclusion by opening bank accounts for members and slowing moving towards digital payment for the procurement of products.

References

- https://www.business-standard.com/article/markets/rajasthan-sets-up-rose-market-in-ajmer-107070301052_1.html
- http://finetrain.com/business-opportunity-amla-processing/#:~:text=Amla%20Candy%3A%20Amla%20candies%20are,to%20that%20of%20the%20candy.
- https://www.bestengineeringtechnologies.com/amla-processing-plant.html
- https://www.food-processing.net/amla-processing-plant.html

6.6. Business plan for Krishakmitra Agricultural Marketing and Export Producer Company producer company limited (PRAYE)

6.6.1. Introduction

Krishakmitra Agricultural Marketing and Export Producer Company was established on 20th Nov. 2015 in Rajasthan's Ajmer district. It is a producer company incorporated with the help of facilitating agency Krishak Vikas Sansthan. The FPO has 510 members registered, and 230 members are unregistered with a capital base of 10.0 lakhs from the NABARD and a paid-up capital of 5.10 lakhs. All the members are small and marginal farmers with an average landholding of 1.5 acres.

Agriculture is the main occupation of the members of Krishakmitra Agricultural Marketing and Export Producer Company limited. They are involved in the cultivation of Seasonal vegetables like okara, chilli, fenugreek, cauliflower, bitter gourd, etc. The farmer producer company's primary objective is to improve the livelihood of small and marginal farmers by establishing a commercially viable organization of the farmers. They also aid in enhancing the shareholders' income by developing functional linkages with agribusiness trade and developing the support system to enable the farmers to thrive independently in the agribusiness environment.

As per discussion with FPOs, chairman, BODs, and few members, 80 percent of members cultivate seasonal vegetables; in the peak season of vegetables, farmers did not get a better price for vegetables. Though value addition in vegetables, they can procurement dry vegetables for at least six months, so they do not have to sell their vegetables at a low rate; so that they need a dry vegetable business plan.

6.6.2. Project Description

Ajmer district is well-known for growing for Vegetables. The farmers in the proposed area are engaged cultivation of the vegetable crops. The harvested crops have been sold in the local market, usually through an agent's price much lower than the retail market. Generally, prices received are very low and below the market price leading to an unprofitable return to farmers. The marketing of vegetable crops is complicated, mainly because of perishable in nature, seasonality, and bulkiness. The efficiency of marketing for vegetables in India has been of

significant concern in recent years. Low efficiency in the marketing channels and inadequate marketing infrastructure are believed to cause high and fluctuating consumer prices and little of the consumer rupee reaching the farmer. The company's primary aim is to do value addition in a vegetable. Marketing is done through direct consumer, whole seller, restaurant, and processor depending upon the demand.

Initially, our primary focus would be on marketing selected dry vegetables later to increase the product range. Furthermore, we have a plan to introduce produce chemical residue-free products and organic products. We will be beginning with the inclusion of 100 farmers initially.

6.6.2.1. Objectives of the project

- To improve the livelihood of small and marginal farmers.
- To reduce the price spread between the primary producer and ultimate consumer.

6.6.2.2. Raw Material Procurement

India is one of the largest producers of fruits and vegetables in the world. Ajmer district of the Rajasthan state is famous for cultivating vegetables. The major crops are cucurbit vegetables Okra, Brinjal, cabbage, cauliflower, cluster bean, etc. As discussed with FPO members, most of the farmers engaged in the cultivation of vegetables and colossal vegetable production.

6.6.2.3. Products Offering

Product	Variety	Special Characteristics
Dehydrated Vegetables (Fenugreek, Bottle gourd, small, Okra/ Lady finger, Cauliflower, Green peas, Chilli)	Any vegetable of suitable variety	The product shall be prepared from wholesome vegetables free from blight, discoloration, or fungi. Only the edible portion of the vegetable shall be used, and it shall be free from stalks, peel stems, and extraneous leaves. The dried or dehydrated vegetables may contain permitted preservatives. The finished product shall be of good edible quality and shall reasonably reconstitute to its original shape and quality on boiling from fifteen minutes to an hour.

6.6.2.4. Business Model Canvas

<table>
<tr>
<td rowspan="2">Key Partners
● NABARD
● Krishak Vikash Sansthan
● Local distributor
● APEDA</td>
<td>Key Activities
● Procurement of selected vegetables
● Providing Input Supply
● Transportation
● Storage and collection</td>
<td rowspan="2">Value Propositions
● Dehydrated vegetables
● Providing better prices and input services to farmers for their produce</td>
<td>Customer Relationship
● Feedback from the customers
● Vegetables in cities is sold on basis of trust</td>
<td rowspan="2">Customer Segment
● Restaurant
● Traders
● Exporters
● Online platform</td>
</tr>
<tr>
<td>Key Resources
● Shareholders
● CEO and Field officers
● Collection Centres
● Computer</td>
<td>Channels
● Direct selling to customers
● Institutional Buyers
● B2B marketing</td>
</tr>
<tr>
<td colspan="3">Cost Structure
● Labour Charges
● Share capital</td>
<td colspan="2">Revenue Structure
● Institutional buyers
● Individual Customers</td>
</tr>
</table>

6.6.2.5. Market Opportunities

- Customer Segment (CS): The different customer segments include mass, niche, multi-sided, diversified, and segmented markets. In an organization, the segment is mass, and other segments include smallholder farmers, Landowners, Agro-food industries, and different farmer organizations.
- Value proposition (VP): The value proposition that our organization provides includes vegetables into dehydrated vegetables, reasonable price, sustainable use of land, input services, and more control over quality and quantity.
- Channel (CH): This block includes direct channels and indirect channels such as own stores, partner stores, and wholesalers. Our organization's channel includes an extension through farmer leaders, food companies, exhibitions, wholesalers, and online retailers.
- Customer Relationship (CR): These relationships can include personal assistance, self-service, automated services, co-creation, etc. In our part, dedicated personal assistance to the farmers, personal contact on the farm, and group communication is covered.
- Revenue Streams (RS): In our organization, we can generate revenue by selling dehydrated vegetables.
- Key resources (KR): The resources are farm inputs, Kisan sahayaks, financial aid, staff, and different machinery.

- Key Activities (KA): The key activities include buying seeds for the farmers, training the farmers, buying vegetables from the farmers, making dehydrated vegetables, and creating market linkage.
- Key partnerships (KP): The different types include buyer-supplier relationships, joint ventures, a strategic alliance between non-competitors, and cooperation between competitors. Our organization's key partners include farmers, local action groups, agribusiness companies, agricultural labs., F&V exporters, and different buyers.
- Cost Structure (CS): These structures can be either cost-driven or value-driven. The cost of the machinery required is 11.00 lac rupees, the cost of building & others that is needed is 13.17 lac rupees, and the working capital required is 18 lac rupees.

6.6.2.6. Market Segmentation

The target customers include oriental vegetable markets demanding dehydrated vegetables, hotels, restaurants, and individual private buyers through direct selling. The company will also target virtually all main food outlets. The company plans to use the Internet as one of its marketing channels in the future. The company's target customers will be as follows:

Dehydrated Vegetables:

- Oriental vegetable markets demanding dehydrated vegetables.
- Vegetable processors.
- Kisan Bazar
- People approaching the Directly
- Bulk buyer, whole-sellers, and retailers
- Vegetable processors/Company –IQF for CRF vegetables
- B2B market

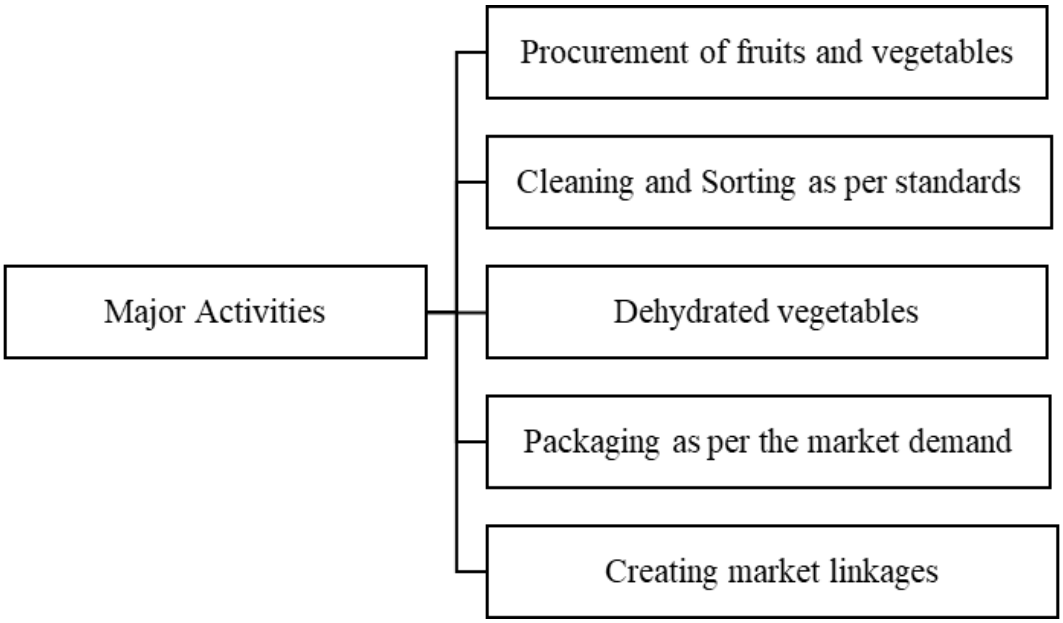
6.6.2.7. Marketing Strategy

This strategy will allow Farmers Groups to produce crops during most of the year and enable double cultivation by a two-tier vegetable system. Also, plan to cultivate through contract farming by various companies. The FPOs aims to collect small farmers' agricultural produce at the cluster level and market to different buyers. Krishak Vikas Sansthan has market linkages in Ajmer, Jaipur, and Udaipur, so that it is accessible to market dehydrated vegetables. Distribution is the most successful and proven way of marketing. We can supply in-market demand or send the goods to the wholesalers. Also, we can consider keeping our products in

the online marketplaces as our business grows. We can consider several different ways to promote our dehydrated vegetable business entire Rajasthan.

Primary target markets are the whole sellers that purchase dehydrated vegetables. The secondary market includes companies that do buyback guarantees for export or IQF storage exporters for selected vegetables. Further, we target food processing industries and big retailers like Reliance Fresh, Godrej Natures Basket, E-Commerce such as Big Basket, Grofers, etc.

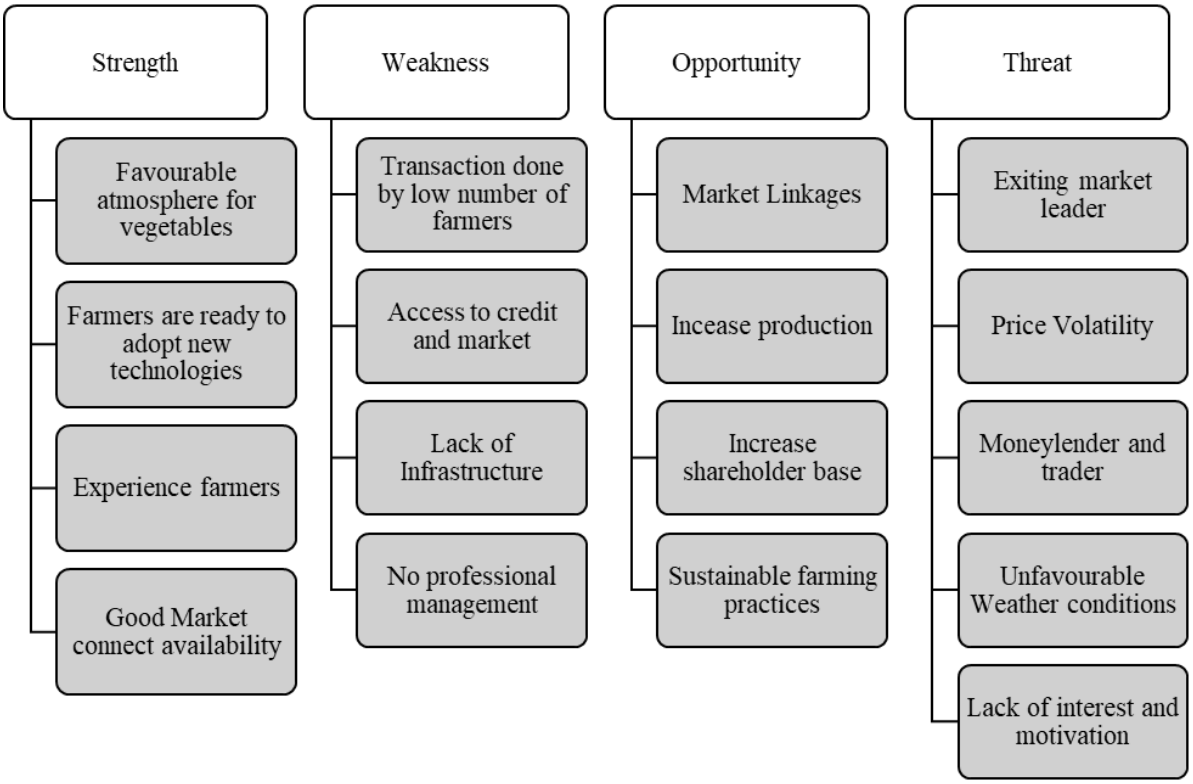
Major Activities



FPO level flow of product and Value addition

- Procurement: We would be procured vegetables from 100 farmers at a given decided price. Procurement would be done on a credit period of 12 days from the farmers.
- Processing and Value addition: We would purchase small scale procurement center. We will do the processing of selected vegetables.
- Packaging and transportation: We would also purchase a packaging machine. We will pack it to the required size as per the demand from buyers.
- End customers: Our end customers would be direct consumers, wholesalers, big retailers, and institutional buyers.

6.6.3. SWOT Analysis



6.6.3.1. Strength

- Favourable atmosphere for vegetables: Black clayey to loam soil (Black soil), silt clay loam to clay loam soils, good for vegetables. As well as enough water is available.
- Farmers are ready to adopt new technologies: Farmers are prepared to follow the latest technologies.
- Experienced Farmers: Most of the farmers have more than 8 to 10 years of farming experience.
- Good Market connect availability: Nearby location Ajmer and Udaipur. The big traders, online retail chains, retail stores are available in Udaipur. So FPC has good connectivity to the market.

6.6.3.2. Weakness

- Transaction done by a low number of farmers: As per analysis till now, only a few farmers have done transactions with the FPC. So the reason behind the less trade is traders and money lenders and the credit facility they give.
- Access to credit and market: There is no working capital to run the business, so a loan has been taken from Banks at the rate of 11 percentage. Due to this, a large amount has gone as interest only.

- Lack of Infrastructure: There is no infrastructure and asset with the company. The company does not have an office, no computer, and no collection center.
- No professional management: Professional management right now in the company is lacking. The company is supported by, and its management is done by BOD's & CEO, who are more inclined towards social aspects. And to sustain the business mindset is necessary. So in the future, for sustainability, professional management is necessary.

6.6.3.3. Opportunity

- Market Linkages: There is a huge market for agricultural produce. Many channels are in Udaipur and Ajmer, like food companies, online grocery stores, reliance fresh, etc. So there are many opportunities to tie up with them. Udaipur is very near to Ajmer, and Udaipur has huge market potential for agricultural produce.
- Increase production – Right now, a low number of members are giving their produce to FPC. So that we can increase production.
- Sustainable farming practices: The demand is changing to organic products now. There are opportunities to go for IPM and organic methods. The products, although generated less, will charge a premium amount. The Producer Company can promote other products also.

6.6.3.4. Threat

- Exiting market leader: There are so many other suppliers in a market that they will create new channel problems.
- Price Volatility: The fluctuation is due to various reasons, Like high or low production.
- Moneylender and trader: The moneylender and the trader take 50% of the product in the harvesting season itself. This is because of the debt the farmers own to the traders and money lenders.
- Unfavourable Weather conditions: This is the primary threat to agricultural produce. If the rain happens at the wrong time or more, then it affects heavily.

6.6.4. Financial Plan

6.6.4.1. Land and Land Development

It will be ideal to acquire about 400 square meters of space, keeping in mind the project's future expansion. Accordingly, a procurement and processing center cost of Rs.60,000 (On lease) for

Seven-year has been considered in this model. And every year a 5% increase in the previous year's rent.

6.6.4.2. Buildings and Civil Works

The following buildings and fabrication work have been considered for this model.

Milling and storage Area 40 W * 20 H *100 L foot

The fabrication work include the following : Main door : 2 (Shuttle), Window : 4 and Air roofing ventilator : 4

Hence, the total fabrication work cost for the built-up area is Rs. 12.00 Lakhs.

6.6.4.3. Plant and Machineries

Machinery Cost				
Sr. No.	**Description**	**Qty**	**RATE / SET**	**Total Amount**
1	Washing machine rotary type equipped with jet spray arrangement Size 9.3' × 3.3' × 6' Electric power 1.5 HP	1	₹ 1,50,000.00	₹ 1,50,000.00
2	Universal slicer for slicing of vegetable etc. capacity 1 Ton/Hr. Electric power 2 HP	1	₹ 2,10,000.00	₹ 2,10,000.00
4	Blanching tank with 6 Nos. S.S. perforated baskets with electric heating elements 5 K.W. Size 900×600×450 mm	1	₹ 1,30,000.00	₹ 1,30,000.00
5	Tray Drier Capacity 96 trays with extra 200 Nos. of aluminium Trays and 4 Nos. of Trolleys Electric power 2 HP for fan Heating Element 21 K.W	1	₹ 3,50,000.00	₹ 3,50,000.00
6	Impulse heat sealer electric power 400 watts @ Rs. 10,000 each	2	₹ 10,000.00	₹ 20,000.00
7	Preparation tables with aluminium top size 2350×860×860 mm	2	₹ 15,000.00	₹ 30,000.00
8	Aluminium trays size 450×300×70mm	50	₹ 600.00	₹ 30,000.00
9	Misc. equipments such as baskets, drums knives, peelers, mugs, weighing scales of different capacity etc.	1	₹ 80,000.00	₹ 80,000.00
Basic Cost				**₹ 10,00,000.00**
GST @5%				**₹ 50,000.00**

Transportation & Installation	**₹ 50,000.00**
Total Amount	**₹ 11,00,000.00**

6.6.4.4. Miscellaneous Fixed Assets

Cost of office furniture, computer, printer, etc. is considered under miscellaneous fixed assets. A provision of Rs. 70,000 is needed to take care of this expenditure.

6.6.4.5. Contingency

Contingency charges are considered as 2 % of the cost of project excluding the pre-operative expenses and land cost. The contingency charges amount is Rs.47,000.

6.6.4.6. Project Cost

Project Fixed Cost			
No.	**Particulars**	**Qty.**	**Amount (In lakh)**
1	Land (On Rent)	400 sq. meter	
2	Site development		₹ 12.00
3	Plant and Machinery		₹ 11.00
4	Miscellaneous Fixed Assets		₹ 0.70
5	Contingency @2%		₹ 0.47
Total			₹ 24.17

6.6.4.7. Manpower Requirement

Year | Position	**Manager (Overall Incharge)**	**Supervisor**	**Per annum Salary**
2021	1	1	₹ 2,68,464.00
2022	1	1	₹ 2,89,941.12
2023	1	1	₹ 3,13,136.41
2024	1	1	₹ 3,38,187.32
2025	1	1	₹ 3,65,242.31
2026	1	1	₹ 3,94,461.69
2027	1	1	₹ 4,26,018.63

* Note: Manager (Overall In-charge), Supervisor and unskilled worker are number of person

Additionally, we need daily basis workers for ten months. The daily wages are Rs.250 per person, and monthly payments are Rs.6500 per person. The annual cost for extra labor is shown in the below table.

Year | Position	Unskilled Worker (No. Of Person)	Per annum Salary or Wages(Rs.)
2021	4	₹ 2,60,000.00
2022	4	₹ 2,60,000.00
2023	4	₹ 2,60,000.00
2024	6	₹ 3,90,000.00
2025	6	₹ 3,90,000.00
2026	7	₹ 4,55,000.00
2027	7	₹ 4,55,000.00

6.6.4.8. Installed Capacity and Capacity Utilization

The installed capacity of the plant is 120 MT per year. The plant will be operated in 8 hours per day.

Year	2021	2022	2023	2024	2025	2026	2027
Capacity Utilization	**80.00 %**	**80.00 %**	**90.00 %**	**90.00 %**	**100.00 %**	**100.00 %**	**100.00 %**
Quantity (Tonne)	96.60	96.60	108.19	108.19	120.09	120.09	120.09

6.6.4.9. Procurement Plan

No	FPO vegetable procurement plan for First Year	
1	No. of farmers	100
2	Average Production of vegetable per season per farmer (Quintal)	9.6
3	Total procurement of vegetable per season for the FPO (Quintal)	960
4	Average procurement of vegetable per month for the FPO (Quintal) (10 month)	96.00

6.6.4.10. P&L projections in Detail

	2021	2022	2023	2024	2025	2026	2027
Cost of procurement							
Fenugreek	161000	167440	195034	202835	234153	243519	253260
Bottle gourd	483000	502320	585102	608506	702460	730558	759781
Okra/ Lady finger	193200	200928	234041	243403	280984	292223	303912
Cauliflower	241500	251160	292551	304253	351230	365279	379890
Green peas	322000	334880	390068	405671	468307	487039	506520
Chilli	402500	418600	487585	507089	585383	608799	633150
Total Cost	1803200	1875328	2184382	2271757	2622517	2727417	2836514
Indirect Expenses							
Labour	195000	195000	260000	260000	325000	325000	325000
Rents	60000	63000	66150	69458	72930	76577	80406
Other Miscellaneous overheads	307000	322350	338468	355391	373160	391818	411409
Other Expenses (courier and small other expenses)	12000	12960	13997	15117	16326	17632	19042
Salary	268464	289941	313136	338187	365242	394462	426019
Total Expenses	2645664	2758579	3176133	3309910	3775176	3932906	4098390
Revenue							
Fenugreek	225400	236670	278324	292240	340606	357636	375518
Bottle gourd	740600	777630	914493	960218	1119134	1175090	1233845
Okra/ Lady finger	555450	583223	685870	720163	839350	881318	925384
Cauliflower	225400	236670	278324	292240	340606	357636	375518
Green peas	772800	811440	954253	1001966	1167792	1226181	1287490
Chilli	579600	608580	715690	751475	875844	919636	965618
Total Revenue	3099250	3254213	3826954	4018302	4683331	4917497	5163372
EBITDA	453586	495633	650821	708392	908155	984591	1064982
Interest	356030	359636	375089	379458	396996	402241	407696

EBTDA	97556	135997	275732	328934	511159	582350	657286
Depreciation	177000	162300	148920	136736	125634	115514	106284
EBT	-79444	-26303	126812	192199	385525	466836	551002
Tax					272446.5	295377.2	319494.5
PAT	-79444	-26303	126812	192199	113079	171458	231507
Net profit	**-79444**	**-26303**	**126812**	**192199**	**113079**	**171458**	**231507**

6.6.4.11. Cash flow statement

Cash Flow Statement								
Particulars	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Initial Investment	24,17,000.00							
Sales		30,99,250.00	32,54,212.50	38,26,953.90	40,18,301.60	46,83,330.51	49,17,497.03	51,63,371.89
Variable Cost		18,03,200.00	18,75,328.00	21,84,382.05	22,71,757.34	26,22,516.67	27,27,417.34	28,36,514.03
Contribution		12,96,050.00	13,78,884.50	16,42,571.85	17,46,544.26	20,60,813.84	21,90,079.70	23,26,857.86
Fixed Cost		3,28,464.00	3,52,941.12	3,79,286.41	4,07,644.82	4,38,172.68	4,71,038.59	5,06,424.37
Overhead Cost		5,14,000.00	5,30,310.00	6,12,464.30	6,30,507.42	7,14,486.29	7,34,450.38	7,55,451.85
EBIDTA		4,53,586.00	4,95,633.38	6,50,821.14	7,08,392.02	9,08,154.87	9,84,590.74	10,64,981.64
Depreciation		1,77,000.00	1,62,300.00	1,48,920.00	1,36,735.50	1,25,634.08	1,15,514.19	1,06,284.11
OPBT		2,76,586.00	3,33,333.38	5,01,901.14	5,71,656.52	7,82,520.80	8,69,076.55	9,58,697.53
Tax				1,00,380.23	2,12,517.61	2,72,446.46	2,95,377.22	3,19,494.49
OPAT		2,76,586.00	3,33,333.38	4,01,520.91	3,59,138.91	5,10,074.33	5,73,699.33	6,39,203.04
Depreciation		1,77,000.00	1,62,300.00	1,48,920.00	1,36,735.50	1,25,634.08	1,15,514.19	1,06,284.11
OCF		4,53,586.00	4,95,633.38	5,50,440.91	4,95,874.41	6,35,708.41	6,89,213.51	7,45,487.15
WC Required	3,09,925.00	3,25,421.25	3,82,695.39	4,01,830.16	4,68,333.05	4,91,749.70	5,16,337.19	-
Change in WC		15,496.25	57,274.14	19,134.77	66,502.89	23,416.65	24,587.49	
Sale of plant and MC								13,97,000.00
Cash Flow		4,38,089.75	4,38,359.24	5,31,306.14	4,29,371.52	6,12,291.76	6,64,626.03	26,58,824.33

6.6.4.12. Details of overhead cost for 1st year

No	Overhead Costs	
1	Total procurement of vegetable per season for the FPO (Quintal)	960
2	Electricity charges	1,20,000.00
3	Packaging of vegetables	1,44,000.00
4	Professional Fees(loan processing) + Audit Fee	43,000.00
Overhead costs (Rs.)		3,07,000.00

6.6.4.13. Internal Rate of Return

Particulars	Cash Flow	Present Value
Initial Investment	₹ -24,17,000.00	
Year 0		
Year 1	₹ 4,38,089.75	₹ 3,94,675.45
Year 2	₹ 4,38,359.24	₹ 3,55,782.19
Year 3	₹ 5,31,306.14	₹ 3,88,486.47
Year 4	₹ 4,29,371.52	₹ 2,82,840.32
Year 5	₹ 6,12,291.76	₹ 3,63,365.36
Year 6	₹ 6,64,626.03	₹ 3,55,336.22
Year 7	₹ 26,58,824.33	₹ 12,80,645.10
Internal Rate of Return		**20%**
		Rs.
NPV		**34,21,131.11**

An initial investment Rs. 24,17,000.00 of on plant and machinery is expected to generate net cash flows of ₹ 438089.75, ₹ 438359.24, ₹ 531306.14, ₹ 429371.52, ₹ 612291.76, ₹ 664626.03 and ₹ 265,824.33 at the end of first, second, third, fourth, fifth, six, and seven years, respectively.

At the end of the seven years, the machinery will be sold for Rs 1397000. Calculate the net present value of the investment if the discount rate is 11%. Net present value is Rs. 3421131, and the Internal rate of return is 20 percent.

6.6.4.14. Payback Period

Particulars	Cash Flow	Net Invested Cash
Year 0		₹ -24,17,000.00
Year 1	₹ 4,38,089.75	₹ -19,78,910.25
Year 2	₹ 4,38,359.24	₹ -15,40,551.01
Year 3	₹ 5,31,306.14	₹ -10,09,244.87
Year 4	₹ 4,29,371.52	₹ -5,79,873.35

Year 5	₹ 6,12,291.76	₹ 32,418.41
Year 6	₹ 6,64,626.03	₹ 6,97,044.44
Year 7	₹ 26,58,824.33	₹ 33,55,868.77

The table indicates that the payback period is located somewhere between Year 4 and Year 5. There is Rs.24,17,000.00 of investment yet to be paid back at the end of Year 4, and there is Rs. 6,12,291.76 of cash flow projected for Year 5. The analyst assumes the same monthly cash flow in Year 5, which means that the estimated final payback is just short of 4.5 years.

6.6.5. Risk management strategy

For the successful operations of FPC's activities, short-term and medium-term plan of action must be developed. Based on the information collected, interaction during the field visit, and feedback received from the farmers, it is envisaged that the FPC can start with consolidating its current operations by integrating systems within the operations in the first year of the current business plan. The phasing of the activities can be carried out to minimize the risks identified with different business kinds.

While the company is operating in the market, many risks have not been adequately recognized by the company, requiring some deft handling. The risks can be broadly classified as external and internal. The external risks are price risk, climate risk, transportation & logistics, etc. The internal risks are – quality, quantity, storage, and internal control & frauds, etc. The company will evolve and ensure measures for guarding against the various risks during the business plan period.

6.6.5.1. Avoidance of Risk

Out of the many risks, some are those which can be avoided in the first place. The loan or the debt, whichever will be taken, should be well thought and then taken. They can avoid this risk because they are well aware of their production capacity and the revenue they can generate. All the financials should be considered before going for a loan. The company can set up good SOPs to deal with internal quality control and fraud.

6.6.5.2. Risk Mitigation

Risk mitigation strategies can be used for the risk, which can’t be avoided entirely. Climate and the use of appropriate manure are these two kinds of risks that the company will face. The

company can provide timely extension services and guidance to the farmers to mitigate this risk as much as possible. Climate risk can mitigate to an extent by taking help from the government extension services also.

6.6.5.3. Transfer of Risk

In some instances of risk, the company can transfer the risk to a third party. Take an example of Storage and Logistics, where the company can hire a third party to do the work. The company can also ensure its produce against the warehouse produce. This receipt can also be further be used for insurance. The company can take up the insurance more actively and invest an appropriate amount in avoiding the loss to its members.

6.6.6. Social and Economic Impact

The members had encountered an increase in the income from their share in the FPC. Before establishing FPC, most of these members were their produce only to the mediators like traders, processors, and other aggregators. And the main aim of these aggregators was to get the best quality produces at the lowest price possible. Hence, a shared experience of all these members before the establishment of FPC was that they used to get a significantly lower price for the produces than the rates provided by the market linkages developed by the FPC members.

The FPC is impacting the lives of its members by providing the following services:

1. Marketing services (input supply, output marketing, and processing, market information) 2. Financial services (savings, loans, and other forms of credit)
3. Technology services (education, extension, research)
4. Education services (business skills, health, and general)
5. Welfare services, (health, safety nets)
6. Policy advocacy

By implementing the activities considered above, it tried to change the social life of its members. Providing loans for animals rearing and diminishing the money lenders' distress leads to improved family members' social life. The members are provided training on various new methodologies of cultivation of the agri-produce shown to skill up-graders' market demand conditions. They can also connect their communities to new markets and have raised entrepreneurial and leadership skills.

With the aggregation of farmer's produces, economies of scale will rise in an overall reduction in the total production cost. Hence, economies of scale are supporting the FPC members by

providing more favorable prices for the produces and, at the same time, also reducing the cost of production for the members. The women members have experienced an expansion in mobility, which they have gained through their share. Their membership in FPC has empowered these women to come out of their home villages to attend meetings and events and take on leadership roles within the FPC.

Members, particularly women members, have felt improved self–confidence and self-respect by being a part of the FPC. By diversification into crops with longer shelf life, the members have tried to reduce their dependency on climate change, decreasing their vulnerability to covariant risks. Also, organic techniques, building storage warehouse facilities, etc., have reduced pest attacks' threats. All these changes have helped them to become more adaptable to the various climate change happenings. Hence, through all these multiple ways, the FPC has influenced its members' lives and made significant impacts on the FPC member households' social and economic life.

Address of plant & machinery

M/s. Mather and Platt (India) Ltd. 805-806, Ansal Bhawan, 16, Kasturba Gandhi Marg, New Delhi - 110 001.	**M/s. Raylons Metal Works** Kondivita Lane, Post Box - 17426, P.O. M.J.B. Nagar, Andheri (E), Mumbai - 400 059
M/s. International Food Machinery Corporation Krishna Opp. Deep Bhavan, Pandit Nehru Marg, Jamnagar - 361 008 (Gujarat)	**Shree Ram Engineering** Plot No. D-5/15, Road No. 5 Hojiwala Industrial Estate Behind Ramji Mandir Street, Vanz, Sachin,, Surat- 394230, Gujarat, India
M/s. Narangs Corporation P-25, Cannaught Place, (Below Madras Hotel), New Delhi - 110 001.	**M/s. B. Sen Barry and Co.** 65/11, Rohtak Road, Karol Bagh, New Delhi - 110 005.
M/s. The Master Mechanical Works Pvt. Ltd. 75, Link Road, Ist Floor, Adjacent to Moolchand Hospital, Lajpat Nagar - III, New Delhi - 110 024.	

6.7. Business plan for shree kamal dairy & horticulture export producer company limited

6.7.1. Introduction

Shree Kamal Dairy & Horticulture Export Producer Company incorporated on 29 January 2016 in Rajasthan's Nagaur district. It is a producer company incorporated with the help of facilitating agency Krishak Vikas Sansthan. The FPO has 500 members with a capital base of 10.0 lakhs from the NABARD and a paid-up capital of 5.10 lakhs. All the members are small and marginal farmers with an average landholding of 1.5 acres.

The FPC setup sells fresh milk & fresh vegetables to the nearby urban areas and creates value for the farmers. However, from the last three years, the daily procurement of milk has been only 100 liters per day. Only 20-25 members are actively involved in pouring milk. The sale of milk is entirely unorganized as anyone from the staff sells the milk to the nearby hotels & tea stall in Nagaur situated 30 Kms away. The FPC does not offer any veterinary or other dairy services to the member farmers. Currently, the FPC is acting as Dudhwala. The main reason for the failure of FPC in the dairy business is the presence of five major dairy players in the area for the procurement of milk with professional management, and our FPC does not have experienced managers. These five players are AMUL, Paayas Dairy, Ajmer Dairy, Reliance Dairy & Saras Dairy. These players provide a reasonable rate as well as good veterinary services to the farmers. Due to the dairy business's no-growth situation, the FPC board has decided to phase out.

The region is well endowed with indigenous people with unique pulses, spices, and vegetables that can be dried and sold into the market. Currently, the FPC has started pursuing the small scale business of Kadaknath chicken. A team of six directors heads SDHEPL. The gender ratio onboard is 50:50 for male: female. In reality, female leaders act as proxies for their male counterparts. The tenure for a director is two years, and the outgoing director chooses the new director. FPC has a CEO and two staff members to coordinate the day to day activity. FPC has the license to sell fertilizers to the farmers who are carrying out the same. The last Annual General Meeting (AGM) was last held on 30 September 2018, and as per records from the Ministry of Corporate Affairs (MCA), its balance sheet was last filed on 31 March 2018. With more significant opportunities and a broader scope of growth, the FPC has many gateways to venture and create value for the members. To diversify the business and create continuous economic activities for the farmers. As discussed with the Chairman, BODs, and few members,

80 percent of members cultivating bajra; there is a tremendous demand for bajra puff in the market. FPC wanted to enter into bajra processing.

6.7.2. Project Description

The Nagaur district is located in the Agro-climatic Zone-IIA (Transitional Plain of inland drainage). The Nagaur district is in Rajasthan, its total geographical area is 17718 sq. kilometers, and the cultivated area is 1259705 ha. The net irrigated area is 249671 ha. The average annual rainfall of the district is 362 mm. The soil is sandy to sandy loam, and the source of irrigation is a tube well. Major crops in Kharif is Pearl millet (353028 ha), Green gram(381622 ha), Moth bean(121356 ha), Cluster bean (192870 ha), Sesame (11176 ha) etc. In Rabi is Wheat (72300 ha), Mustard (57350 ha), Gram (21440 ha), Cumin (37985 ha) & Isabgol (44950 ha) crops are grown. The district's primary area is rain-fed(Source: Krishi Vigyan Kendra, Nagaur - 341 001 (Rajasthan)). The farmers in the proposed area are engaged in the cultivation of the bajra. The harvested crops have been sold in the local market, usually through an agent's price. Generally, prices received are less than and below the market price leading to an unprofitable return to farmers. The marketing of bajra crops is complicated, mainly because of seasonality, unavailable storage facility, and bulkiness. Direct marketing of products by the marginal farmer in India has been of significant concern in recent years. Low efficiency in the marketing channels and inadequate marketing infrastructure are believed to cause high and fluctuating consumer prices and little of the consumer rupee reaching the farmer. The company's primary aim is to do value addition in a bajra. Marketing is done through direct consumer, whole seller, B2B marketing, and online Grocery chains depending upon the demand.

Initially, our primary focus would be on marketing bajra puff, later to increase the product range. Furthermore, we have a plan to introduce organic products. We will be beginning with the inclusion of 100 farmers initially.

6.7.2.1. Objectives of the project

- To improve the livelihood of small and marginal farmers.
- To reduce the price spread between the primary producer and ultimate consumer.

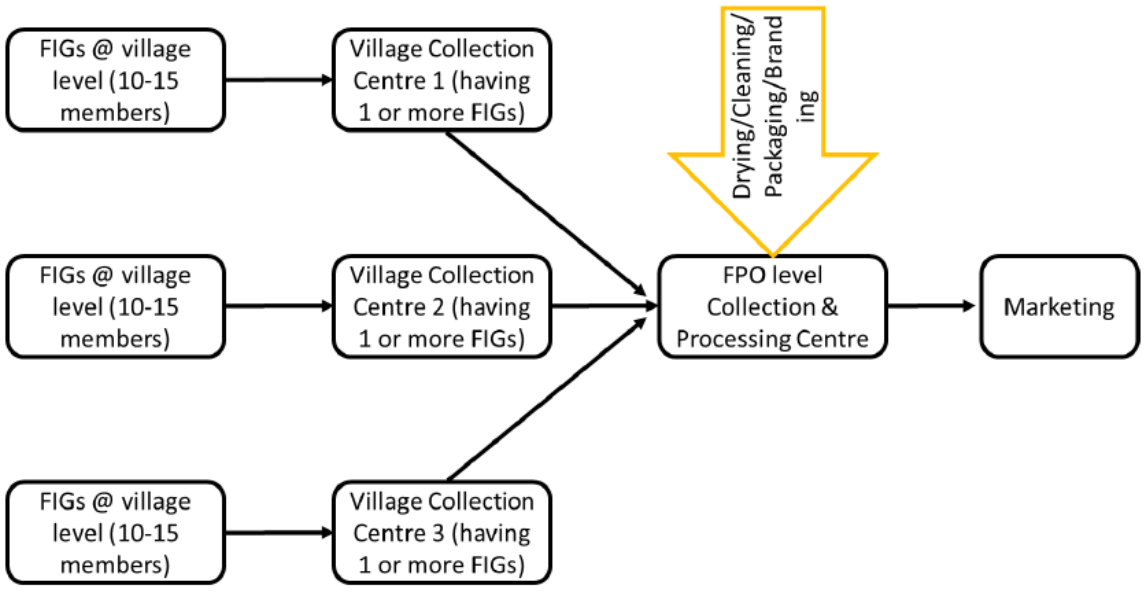
6.7.2.2. Raw Material Procurement

Bajra, also known as Pearl millet has the largest share in millets markets in 2018. The Indian Millet market is growing at a CAGR of 3%. It grows well even in drought conditions, high

temperatures, and low soil fertility. The Bajra crop production cycle starts from May/ June, and harvesting is done between September to December. Bajra has many health benefits. It is Gluten Free, Gut Health, Help manage diabetes & Healthy Heart.

Each village has Farmer Interest Groups (FIGs) of 10-15 members. All communication is done with the help of FPG leaders. It will reduce the transaction cost for FPO. It will be the responsibility of the leaders to make sure the information reaches all other members.

Each village will have a village level collection center. Farmers of FIG can sell their produce on the date specified by FPO. Leaders must ensure the collection process is conducted smoothly at the village level.



6.7.2.3. Products Offering

Product	Special Characteristics
Bajra Puff	Puffed bajra is a healthy snacking alternative that will be a surprise snack. It contains more fat, protein, and minerals than soft grains such as rice and millet, sorghum. It is free of trans fats and preservatives.

6.7.2.4. Business Model Canvas

<table>
<tr>
<td rowspan="2">Key Partners

● FPO
● NABARD
● Krishak Vikash Sansthan</td>
<td>Key Activities

● Procurement of Bajra
● Bajra processing into Bajra puff
● Transportation of bajra from village level collection center to FPO level collection center</td>
<td rowspan="2">Value Propositions

● Increase health consciousness among urban population
● Government initiatives to promote millet</td>
<td>Customer Relationship

● Feedback from the customers
● Discount on bulk purchase</td>
<td rowspan="2">Customer Segment

● Traders
● Retailers
● Online platform</td>
</tr>
<tr>
<td>Key Resources

● Shareholders
● CEO and Field officers
● Collection Centres
● Computer</td>
<td>Channels

● Direct selling to customers
● B2B marketing
● Online Grocery chain</td>
</tr>
<tr>
<td colspan="3">Cost Structure

● Procurement cost
● Labour charges</td>
<td colspan="2">Revenue Structure

● Selling of Bajra Puff
● Selling of Bajra animal feed product</td>
</tr>
</table>

6.7.2.5. Market Opportunities

- Customer Segment (CS): The different customer segments include mass, niche, multi-sided, diversified, and segmented markets. In an organization, the segment is mass, and other segments include smallholder farmers, Landowners, and different farmer organizations.
- Value proposition (VP): The value proposition that our organization provides includes bajra into bajra puff at a reasonable price, sustainable use of land, input services, and more control over quality and quantity.
- Channel (CH): This block includes direct channels and indirect channels such as own stores, partner stores, and wholesalers. Our organization's channel consists of an extension through farmer leaders, exhibitions, wholesalers, and online retailers.
- Customer Relationship (CR): These relationships can include personal assistance, self-service, automated services, co-creation, etc. In our part, dedicated personal assistance to the farmers, personal contact on the farm, and group communication is covered.
- Revenue Streams (RS): Our organization can generate revenue by selling bajra puff and animal feed generated during making bajra puff.

- Key resources (KR): The resources are farm inputs, Kisan sahayaks, financial aid, staff, and different machinery.
- Key Activities (KA): The key activities include buying seeds for the farmers, training the farmers, buying bajra from the farmers, making bajra puff, and creating market linkage.
- Key partnerships (KP): The different types include buyer-supplier relationships, joint ventures, a strategic alliance between non-competitors, and cooperation between competitors. Our organization's key partners include farmers, local action groups, agribusiness companies, agricultural labs., exporters, and different buyers.
- Cost Structure (CS): These structures can be either cost-driven or value-driven. The cost of the machinery required is 8.53 lac rupees, the cost of building & others that is needed is 13.12 lac rupees, and the working capital required is 26 lac rupees.

6.7.2.6. Market Segmentation

The scope of value addition is relatively high in Bajra. So FPO can go for bajra puff, which can sell at a high price in the market. It has a high self-life, is available in different varieties, and can be served as evening and inflight snacks. Bajra puff will sell through direct retailing, relationship marketing, distributor, and retailer. It will also sell to nearby markets in Udaipur, Ajmer, Merta, Jodhpur, Bikaner, and Pali. According to DHAN foundation research, millet product is preferred by the consumer in the 250-500 gm packed. There is no prominent player in the market, so Shree kamal can easily capture the market if Bajra Puff can be launched in the right packaging.

Main channels for Bajra Puff:

- Kisan Bazar
- People approaching the Directly
- Bulk buyer, whole-sellers, and retailers
- Exporters
- B2B market
- Online Grocery chain (Like Groffers, Bigbasket, flipkart retails, etc..)

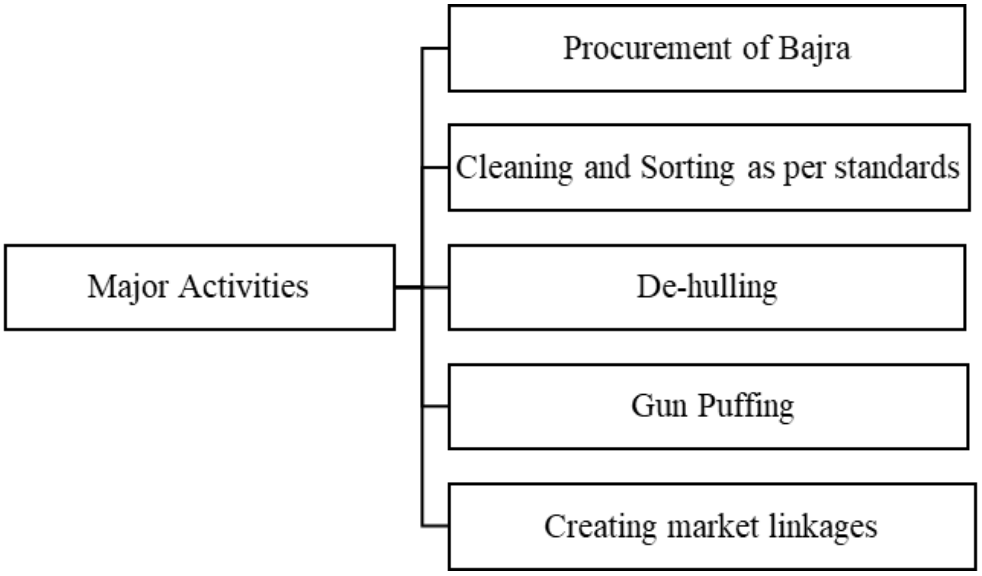
6.7.2.7. Marketing Strategy

This strategy will allow Farmers Groups to produce crops during the season. The FPOs aims to collect small farmers' agricultural produce at the cluster level and market to different buyers. Krishak Vikas Sansthan has market linkages in Ajmer, Jaipur, and Udaipur so that it is

accessible to market bajra puff. Distribution is the most successful and proven way of marketing. We can supply in-market demand or send the goods to the wholesalers. Also, we can consider keeping our products in the online marketplaces as our business grows. We can consider several different ways to promote our bajra puff business entire Rajasthan.

Primary target markets are the whole-sellers, retailers that purchase bajra puff. Further, we target food processing industries and big retailers like Reliance Fresh, Godrej Natures Basket, E-Commerce such as Big Basket, Grofers, etc.

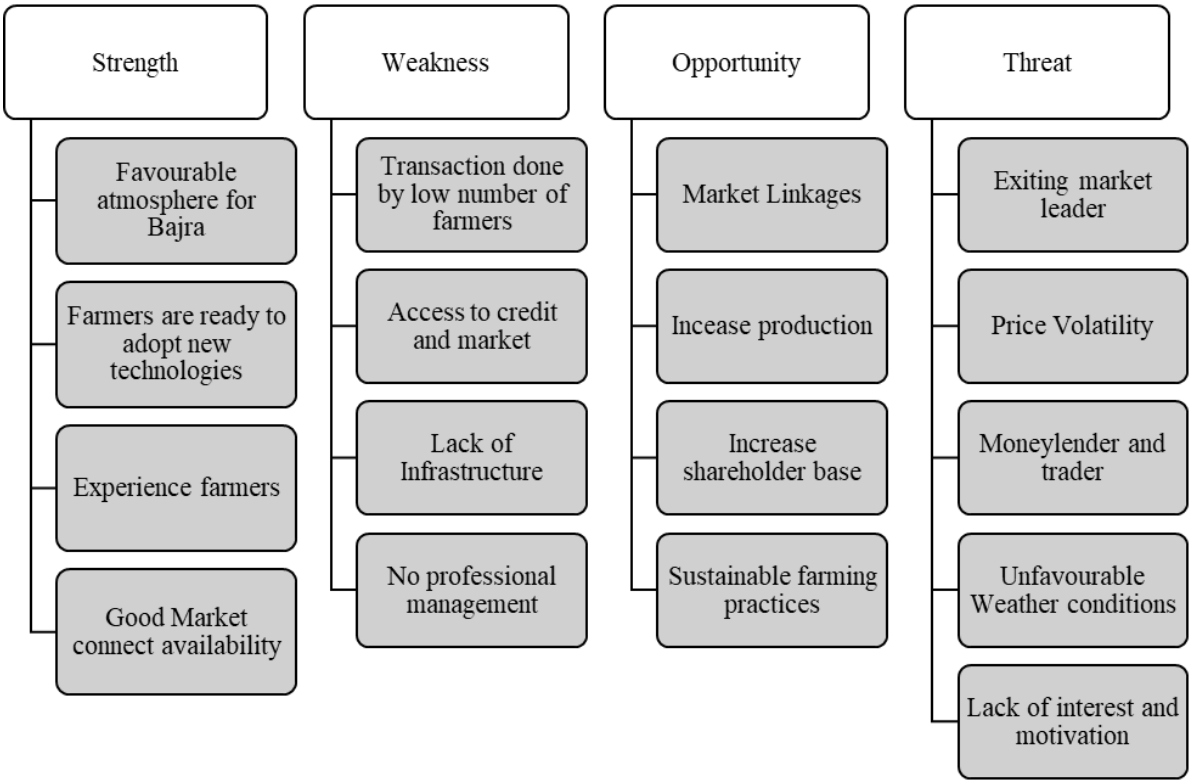
Major Activities



FPO level flow of product and Value addition

- Procurement: We would be procured Bajra from 100 farmers at a given decided price. Procurement would be done on a credit period of 12 days from the farmers.
- Processing and Value addition: We would purchase small scale procurement center. We will do the processing of bajra.
- Packaging and transportation: We would also purchase a packaging machine. We will pack it to the required size as per the demand from buyers.
- End customers: Our end customers would be direct consumers, wholesalers, big retailers, and institutional buyers.

6.7.3. SWOT Analysis



6.7.3.1. Strength

- Favourable atmosphere for bajra: Black clayey to loam soil (Black soil), silt clay loam to clay loam soils, good for Bajra. As well as enough water is available.
- Farmers are ready to adopt new technologies: Farmers are prepared to follow the latest technologies.
- Experienced Farmers: Most of the farmers have more than 8 to 10 years of farming experience.
- Good Market connect availability: Nearby location Ajmer and Udaipur. The big traders, online retail chains, retail stores are available in Udaipur. So FPC has good connectivity to the market.

6.7.3.2. Weakness

- Transaction done by a low number of farmers: As per analysis till now, only a few farmers have done transactions with the FPC. So the reason behind the less trade is traders and money lenders and the credit facility they give.
- Access to credit and market: There is no working capital to run the business, so a loan has been taken from Banks at the rate of 11 percentage. Due to this, a large amount has gone as interest only.

- Lack of Infrastructure: There is no infrastructure and asset with the company. The company does not have an office, no computer, and no collection center.
- No professional management: Professional management right now in the company is lacking. The company is supported by, and its management is done by BOD's & CEO, who are more inclined towards social aspects. And to sustain the business mindset is necessary. So in the future, for sustainability, professional management is necessary.

6.7.3.3. Opportunity

- Market Linkages: There is a huge market for agricultural produce. Many channels are in Udaipur and Ajmer, like food companies, online grocery stores, reliance fresh, etc. So there are many opportunities to tie up with them. Udaipur is very near to Ajmer, and Udaipur has huge market potential for agricultural produce.
- Increase production – Right now, a low number of members are giving their produce to FPC. So that we can increase production.
- Sustainable farming practices: The demand is changing to organic products now. There are opportunities to go for IPM and organic methods. The products, although generated less, will charge a premium amount. The Producer Company can promote other products also.

6.7.3.4. Threat

- Exiting market leader: There are so many other suppliers in a market that they will create new channel problems.
- Price Volatility: The fluctuation is due to various reasons, Like high or low production.
- Moneylender and trader: The moneylender and the trader take 50% of the product in the harvesting season itself. This is because of the debt the farmers own to the traders and money lenders.
- Unfavourable Weather conditions: This is the primary threat to agricultural produce. If the rain happens at the wrong time or more, then it affects heavily.

6.7.4. Financial Plan

6.7.4.1. Land and Land Development

It will be ideal to acquire about 400 square meters of space, keeping in mind the project's future expansion. Accordingly, a procurement and processing center cost of Rs.48,000 (On lease) for

Seven-year has been considered in this model. And every year a 5% increase in the previous year's rent.

6.7.4.2. Buildings and Civil Works

The following buildings and fabrication work have been considered for this model. Milling and storage Area 40 W * 20 H *100 L foot. The fabrication work include the following : Main door : 2 (Shuttle), Window : 4 , and Air roofing ventilator : 4. Hence, the total fabrication work cost for the built-up area is Rs. 12.00 Lakhs.

6.7.4.3. Plant and Machineries

Machinery Cost				
Sr. No.	**Description**	**Qty**	**RATE / SET**	**Basic Amount with Drive Motor**
1	Manufacturing of cleaner COM GERDAR with 2 HP/1440 RPM Drive Motor	1	₹ 85,000.00	₹ 85,000.00
2	Manufacturing of De-Huller Machine Size : 4 " Dia with 5 HP/1440 RPM Drive Motor	1	₹ 1,30,000.00	₹ 1,30,000.00
3	Bajra Puffing machine	1	₹ 3,50,000.00	₹ 3,50,000.00
4	Semi-Automatic Grain Packaging Machine, with structure	1	₹ 2,00,000.00	₹ 2,00,000.00
Basic Cost				**₹ 7,65,000.00**
GST @5%				**₹ 38,250.00**
Transportation & Installation				**₹ 50,000.00**
Total Amount				**₹ 8,53,250.00**

Miscellaneous Fixed Assets

Cost of office furniture, computer, printer, etc. is considered under miscellaneous fixed assets. A provision of Rs. 70,000 is needed to take care of this expenditure.

6.7.4.4. Contingency

Contingency charges are considered as 2 % of the cost of project excluding the pre-operative expenses and land cost. The contingency charges amount is Rs.42,000.

6.7.4.5. Project Cost

Project Fixed Cost			
No.	**Particulars**	**Qty.**	**Amount (In lakh)**
1	Land on lease	400 sq. meter	

2	Civil Work	400 sq. meter	₹ 12.00
3	Plant and Machinery		₹ 8.53
4	Miscellaneous Fixed Assets		₹ 0.70
5	Contingency @2%		₹ 0.42
Total			₹ 21.65

6.7.4.6. Manpower Requirement

Year | Position	Manager/ Supervisor	Semi-Skilled (Operator/ Technician)	Unskilled Worker	Per annum Salary
2021	1	1	0	₹ 2,68,464.00
2022	1	1	0	₹ 2,89,941.12
2023	1	1	0	₹ 3,13,136.41
2024	1	1	0	₹ 3,38,187.32
2025	1	1	1	₹ 3,65,242.31
2026	1	1	1	₹ 4,97,234.49
2027	1	1	1	₹ 5,37,013.25

* Note: Manager (Overall In-charge), Supervisor and unskilled worker are number of person

Additionally, we need daily basis workers for ten months. The daily wages are Rs.264 per person, and monthly payments are Rs.7930 per person. The annual cost for extra labor is shown in the below table.

Year | Position	Unskilled Worker (No. Of Person)	Per annum Salary or Wages(Rs.)
2021	2	₹ 47,580.00
2022	3	₹ 71,370.00
2023	3	₹ 71,370.00
2024	3	₹ 71,370.00
2025	4	₹ 95,160.00
2026	4	₹ 95,160.00
2027	4	₹ 95,160.00

6.7.4.7. Procurement Plan

No	FPO Mill Capacity utilization (First Year)	
1	No. of farmers	100
2	Average Production of Bajra per season per farmer (Quintal)	12
3	Total procurement per season for the FPO (Quintal)	1200
4	Average procurement per month for the FPO (Quintal)	300
5	Capacity of Plant (Quintal/hour)	2
6	No. of hours per day	8

6.7.4.8. P&L projections in Detail

	2021	2022	2023	2024	2025	2026	2027
Agri Produce							
Bajra	2640000	3432000	4461600	5800080	7540104	9802135	12742776
Other Ingredient(Spices Flavour)	250000	312500	390625	488281	610352	762939	953674
Total Cost	2890000	3744500	4852225	6288361	8150456	10565075	13696450
Indirect Expenses							
Transportation	80000	88000	96800	106480	117128	128841	141725
Labour	47580	71370	71370	71370	95160	95160	95160
Rents	48000	50400	52920	55566	58344	61262	64325
Other Miscellaneous overheads	457720	549264	659117	790940	949128	1138954	1366745
Other Expenses (courier and small other expenses)	12000	13440	15053	16859	18882	21148	23686
Salary	268464	289941.12	313136.4096	338187.3224	365242.3082	497234.4928	537013.2522
Total Expenses	3803764	4806915	6060621	7667764	9754341	12507673	15925103

Revenue							
Bajra Puff	3590400	4757280	6303396	8352000	11066400	14662979	19428448
Bajra Puff waste	240000	318000	421350	558289	739733	980146	1298693
Total Revenue	3830400	5075280	6724746	8910288	11806132	15643125	20727141
EBITDA	26636	268365	664125	1242525	2051792	3135452	4802038
Interest	370150	409750	461230	528154	615155	728257	875289
EBTDA	-343514	-141385	202895	714371	1436636	2407195	3926749
Depreciation	152300	140070	128913	118729	109428	100929	93158
EBT	-495814	-281455	73982	595641	1327208	2306266	3833591
Tax			199237.50	372757.37	615537.48	940635.53	1440611.27
PAT	-495814	-281455	-125256	222884	711671	1365630	2392980
Net profit	**-495814**	**-281455**	**-125256**	**222884**	**711671**	**1365630**	**2392980**

6.7.4.9. Cash flow statement

Cash Flow Statement								
Particulars	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Initial Investment	21,65,000.00							
Sales		38,30,400.00	50,75,280.00	67,24,746.00	89,10,288.45	1,18,06,132.20	1,56,43,125.16	2,07,27,140.84
Variable Cost		28,90,000.00	34,32,000.00	44,61,600.00	58,00,080.00	75,40,104.00	98,02,135.20	1,27,42,775.76
Contribution		9,40,400.00	16,43,280.00	22,63,146.00	31,10,208.45	42,66,028.20	58,40,989.96	79,84,365.08
Fixed Cost		3,16,464.00	3,40,341.12	3,66,056.41	3,93,753.32	4,23,586.61	5,58,496.01	6,01,337.84
Overhead Cost		5,97,300.00	7,22,074.00	8,42,339.60	9,85,649.30	11,80,298.42	13,84,102.73	16,27,315.35
EBIDTA		26,636.00	5,80,864.88	10,54,749.99	17,30,805.83	26,62,143.16	38,98,391.22	57,55,711.89
Depreciation		1,52,300.00	1,40,070.00	1,28,913.00	1,18,729.20	1,09,428.41	1,00,929.08	93,157.52
OPBT		-1,25,664.00	4,40,794.88	9,25,836.99	16,12,076.63	25,52,714.76	37,97,462.14	56,62,554.37
Tax			22,039.74	1,85,167.40	5,19,241.75	7,98,642.95	11,69,517.37	17,26,713.57
OPAT		-1,25,664.00	4,18,755.14	7,40,669.59	10,92,834.88	17,54,071.81	26,27,944.77	39,35,840.80
Depreciation		1,52,300.00	1,40,070.00	1,28,913.00	1,18,729.20	1,09,428.41	1,00,929.08	93,157.52
OCF		26,636.00	5,58,825.14	8,69,582.59	12,11,564.08	18,63,500.21	27,28,873.86	40,28,998.32
WC Required	3,83,040.00	5,07,528.00	6,72,474.60	8,91,028.85	11,80,613.22	15,64,312.52	20,72,714.08	-
Change in WC		1,24,488.00	1,64,946.60	2,18,554.25	2,89,584.37	3,83,699.30	5,08,401.57	
Sale of plant and MC								12,79,473.00
Cash Flow		-97,852.00	3,93,878.54	6,51,028.35	9,21,979.71	14,79,800.92	22,20,472.29	73,81,185.40

Details of overhead cost for 1st year

No	Overhead Costs	
1	Total procurement per season for the FPO (Quintal)	1200
2	Production of Bajra per month (Quintal)	840
3	Machine hours used Bajra (Capacity 2 Q/hour)	600.0
5	Electricity for Packing Machine (40 HP motor @ 9.06Rs./unit)	₹ 48,000.00
6	Electricity for whole process mill for 20HP motor @ 9.06 Rs./unit	₹ 1,08,720.00
7	Electricity for warehouse (Lights and other equipment)	₹ 18,000.00
8	Packaging (1 kg @ Rs.2.5/piece) (120000 bags)	₹ 2,40,000.00
9	Professional Fees(loan processing) + Audit Fee	₹ 43,000.00
Overhead costs (Rs.)		₹ 4,57,720.00

6.7.4.10. Internal Rate of Return

Particulars	Cash Flow	Present Value
Initial Investment	₹ -21,65,000.00	
Year 0		
Year 1	₹ -97,852.00	₹ -88,154.95
Year 2	₹ 3,93,878.54	₹ 3,19,680.66
Year 3	₹ 6,51,028.35	₹ 4,76,026.32
Year 4	₹ 9,21,979.71	₹ 6,07,336.59
Year 5	₹ 14,79,800.92	₹ 8,78,189.82
Year 6	₹ 22,20,472.29	₹ 11,87,155.16
Year 7	₹ 73,81,185.40	₹ 35,55,210.03
Internal Rate of Return		**36%**
NPV		**Rs. 69,35,443.62**

An initial investment Rs. 21,65,000.00 of on plant and machinery is expected to generate net cash flows of ₹ -97852.00, ₹ 393878.54, ₹ 651028.35, ₹ 921979.71, ₹ 1479800.92, ₹2220472.29 and ₹ 7381185.40 at the end of first, second, third, fourth, fifth, six, and seven years, respectively. At the end of the seven years, the machinery will be sold for Rs 1279473. Calculate the net present value of the investment if the discount rate is 11%. Net present value is Rs. 6935443.62, and the Internal rate of return is 36 percent.

6.7.4.11. Payback Period

Particulars	Cash Flow	Net Invested Cash
Year 0		₹ -21,65,000.00
Year 1	₹ -97,852.00	₹ -22,62,852.00
Year 2	₹ 3,93,878.54	₹ -18,68,973.46
Year 3	₹ 6,51,028.35	₹ -12,17,945.12
Year 4	₹ 9,21,979.71	₹ -2,95,965.41
Year 5	₹ 14,79,800.92	₹ 11,83,835.51
Year 6	₹ 22,20,472.29	₹ 34,04,307.80
Year 7	₹ 73,81,185.40	₹ 107,85,493.20

The table indicates that the payback period is located somewhere between Year 4 and Year 5. There is Rs.21,65,000.00 of investment yet to be paid back at the end of Year 4, and there is Rs. 14,79,800.92 of cash flow projected for Year 5. The analyst assumes the same monthly cash flow in Year 5, which means that the estimated final payback is just short of 4.5 years.

6.7.5. Risk management strategy

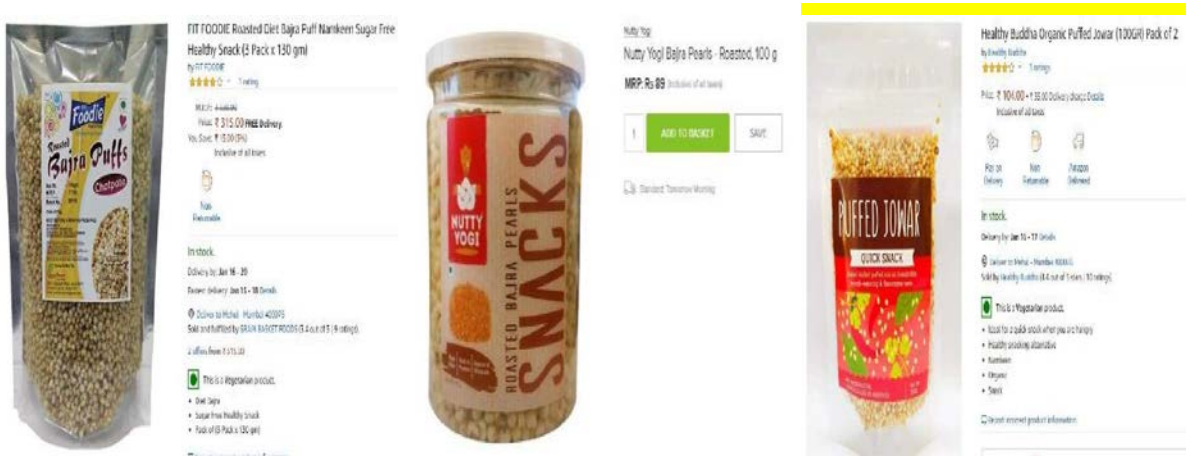
This section analyses the potential threats of the business in various aspects. The section also discusses the possible resilience of the proposed business in overcoming these threats. Based on the information collected, interaction during the field visit, and feedback received from the farmers, it is envisaged that the FPC can start with consolidating its current operations by integrating systems within the operations in the first year of the current business plan.

While the company is operating in the market, many risks have not been adequately recognized by the company, requiring some deft handling. The risks are price risk, climate risk, transportation & logistics, quality, quantity, storage, internal control & fraud, etc. The company will evolve and ensure measures for guarding against the various risks during the business plan period.

6.7.6. Competitor analysis

Many competitors are available in the market. However, almost all branded products are highly-priced. The competitors are mostly using e-commerce platforms for sale. Most of the products are from private players and not through FPCs. Making the product available in multiple flavors is crucial in getting more market share. Based on finances, price differentiation

will be the significant differentiation factor. However, the products' packaging and branding should be well designed, appealing to the targeted urban customers.



Few Brand competitor in the market

6.7.7. Social and Economic Impact

- The members had encountered an increase in the income from their share in the FPC. Before establishing FPC, most of these members were their produce only to the mediators like traders, processors, and other aggregators. And the main aim of these aggregators was to get the best quality produces at the lowest price possible. Hence, a shared experience of all these members before the establishment of FPC was that they used to get a significantly lower price for the produces than the rates provided by the market linkages developed by the FPC members.
- The proposed model is a social business, supplementing the local ecosystem. The major social impacts of the program are discussed below.
- Supporting the livestock ecosystem: The village has a flourishing dairy economy, and this business model will complement this ecosystem through cattle feed support from crop residue and residue from processing.
- Nutritional support: Bajra is a nutrient-rich that can enrich the diet. Bajra snacks can provide the consumer a nutrient-rich alternative snack. With the increased cultivation of Bajra, farmers can also benefit from a nutrient-rich diet.
- Promoting drought-resistant Bajra crop and preserving traditional variety: focusing only on immediate benefit, many farmers have moved to high water requirement cash crops.

Promoting the Bajra value chain will enable formers to move back to traditional variety with better resilience to climate vulnerabilities.

- Conserving water table: Increased cultivation of cash crops put stress on the groundwater table. The proposed business proposal has a positive externality of conserving water being a less water requirement crop.
- Improving soil fertility: Bajra crop helps in improving soil fertility by nitrogen fixation.
- Income support to farmers: The business model proposed that farmers have better price realization for Bajra crop.
- Creditability of farmers increases: Farmers get the opportunity to earn via formalized mode. This also helps in providing them loans easily.
- Increase income: The farm produce will no longer be sold in the local market. FPC will help them to fetch greater value by marketing their produce in organized markets.

6.8. Business plan for bio agricultural produce and processor producer company limited

6.8.1. Introduction

Bio agricultural produce and processor producer company limited incorporated on 04 November 2015 in Rajasthan's Ajmer district. It is a producer company incorporated with the help of facilitating agency Krishak Vikas Sansthan. The FPO has 500 members with a capital base of 10.0 lakhs from the NABARD and a paid-up capital of 5.10 lakhs. All the members are small and marginal farmers with an average landholding of 1.5 acres.

The FPC setup sells fresh fruits & vegetables to the nearby urban areas and creates value for the farmers. However, in the first year, FPO started procurement of onion and did Rs. 9 lakhs business, and due to high floatation in onion prices, FPO got a loss of around Rs. 1.50 lakh in 2016. The sale of onion is entirely unorganized. After getting learning from the first experience, FPO diversified their business in cauliflower procurement in 2017. In the first year of cauliflower procurement, FPO procured around 25 lakh and made a profit of about two lakh in that 250 members contributed. After getting some profit, till now, FPO continues to work on cauliflower procurement.

Business Activity of Bio FPC:

Year	Business has done (Rs. in lakh)	Profit/ loss (Rs. In lakh)	Number of members contributed
2016	9	(1.50)	200
2017	25	2	250
2018	19	0.90	250
2019	15	0.70	200
2020	20	1.20	250

The region is well endowed with indigenous people with unique vegetables and sold into the market. Currently, the FPC has started pursuing the small-scale business of tomato processing. But after facing a problem in marketing, FPO closes it within a short time. A team of six

directors heads. In reality, female leaders act as proxies for their male counterparts. The tenure for a director is two years, and the outgoing director chooses the new director. The last Annual General Meeting (AGM) was last held on 30 September 2019, and as per records from the Ministry of Corporate Affairs (MCA), its balance sheet was last filed on 31 September 2019. With more significant opportunities and a broader scope of growth, the FPC has many gateways to venture and create value for the members. To diversify the business and create continuous economic activities for the farmers. FPC has the potential to grow but lacks professional managers, it has not been able to grow according to its potential. As discussed with the Chairman, BODs, and few members, 80 percent of members cultivating Wheat and Bajra; there is a tremendous demand for wheat flour in the nearby market. FPC wanted to enter into wheat processing.

6.8.2. Project Description

The proposed area has an irrigation facility through Canal, which has brought about considerable improvement in its cropping pattern. Currently, the Rajasthan state accounts for 7.49 percent of the total wheat production and 7.24 percent of the total area under wheat in India. Over 20 districts are producing wheat, and 11 are significant producers. Ajmer is one of the essential wheat-producing districts of Rajasthan. The farmers in the proposed area are engaged in the cultivation of wheat, gram, bajra, etc. The harvested crops have been sold in the local market, usually through an agent's price. Generally, prices received are less than and below the market price leading to an unprofitable return to farmers. The marketing of wheat crops is complicated, mainly because of seasonality, unavailable storage facility, and bulkiness. Direct marketing of products by the marginal farmer in India has been of significant concern in recent years. Low efficiency in the marketing channels and inadequate marketing infrastructure are believed to cause high and fluctuating consumer prices and little of the consumer rupee reaching the farmer. The company's primary aim is to do value addition in wheat. Marketing is done through direct consumer, whole seller, B2B marketing, and online Grocery chains depending upon the demand.

Initially, our primary focus would be on marketing wheat flour, later to increase the product range. Furthermore, we have a plan to introduce organic products. We will be beginning with the inclusion of 100 farmers initially.

6.8.2.1. Objectives of the project

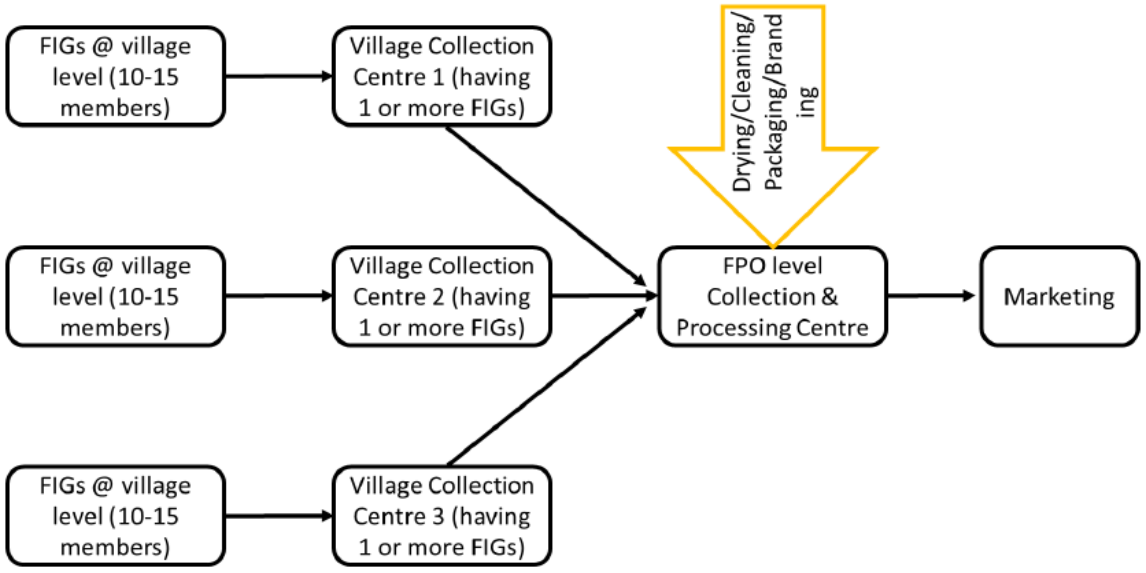
- To improve the livelihood of small and marginal farmers.
- To reduce the price spread between the primary producer and ultimate consumer.
- To sustainably increase agricultural productivity and farmers' incomes

6.8.2.2. Raw Material Procurement

The wheat crop production cycle starts from September / December, and harvesting is done between May to June. Wheat has many health benefits.

Each village has Farmer Interest Groups (FIGs) of 10-15 members. All communication is done with the help of FPG leaders. It will reduce the transaction cost for FPO. It will be the responsibility of the leaders to make sure the information reaches all other members.

Each village will have a village-level collection center. Farmers of FIG can sell their produce on the date specified by FPO. Leaders must ensure the collection process is conducted smoothly at the village level.



6.8.2.3. Products Offering

Product	Special Characteristics
Wheat Flour	Wheat flour is also known as Ghehu ka atta, which makes most flatbreads and chapati, roti, naan, and puri. Wheat flour is milled from difficult wheat types, called durum wheat, and is more precisely referred to as durum atta. Wheat flour is obtained from grinding complete wheat grains. Considering none is removed from proper whole meal atta, all of the wheat grain components are preserved.

	Traditionally, atta is made via stone grinding, which imparts a feature aroma and taste to the bread.

6.8.2.4. Business Model Canvas

<table>
<tr><td rowspan="2">Key Partners

● FPO
● NABARD
● Krishak Vikash Sansthan
● KVK, Ajmer</td><td>Key Activities

● Procurement of wheat
● wheat processing into wheat flour
● Transportation of wheat from village level collection center to FPO level collection center</td><td rowspan="2">Value Propositions

● Increase health consciousness among urban population</td><td>Customer Relationship

● Feedback from the customers
● Discount on bulk purchase</td><td rowspan="2">Customer Segment

● Restaurants
● Traders
● Retailers
● Online platform</td></tr>
<tr><td>Key Resources

● Shareholders
● CEO and Field officers
● Collection Centres
● Computer</td><td>Channels

● Direct selling to customers
● B2B marketing
● Online Grocery chain</td></tr>
<tr><td colspan="3">Cost Structure

● Procurement cost
● Labour charges</td><td colspan="2">Revenue Structure

● Selling of wheat flour</td></tr>
</table>

6.8.2.5. Market Opportunities

- Customer Segment (CS): The different customer segments include mass, niche, multi-sided, diversified, and segmented markets. In an organization, the segment is mass, and other segments include smallholder farmers, Landowners, and different farmer organizations.
- Value proposition (VP): The value proposition that our organization provides includes wheat into wheat flour at a reasonable price, sustainable use of land, input services, and more control over quality and quantity.
- Channel (CH): This block includes direct channels and indirect channels such as own stores, partner stores, and wholesalers. Our organization's channel consists of an extension through farmer leaders, exhibitions, wholesalers, and online retailers.

- Customer Relationship (CR): These relationships can include personal assistance, self-service, automated services, co-creation, etc. In our part, dedicated personal assistance to the farmers, personal contact on the farm, and group communication is covered.
- Revenue Streams (RS): Our organization can generate revenue by selling wheat flour.
- Key resources (KR): The resources are farm inputs, Kisan sahayaks, financial aid, staff, and different machinery.
- Key Activities (KA): The key activities include buying seeds for the farmers, training the farmers, buying wheat from the farmers, making wheat flour, and creating market linkage.
- Key partnerships (KP): The different types include buyer-supplier relationships, joint ventures, a strategic alliance between non-competitors, and cooperation between competitors. Our organization's key partners include farmers, local action groups, agribusiness companies, agricultural labs., exporters, and different buyers.
- Cost Structure (CS): These structures can be either cost-driven or value-driven. The cost of the machinery required is 13.98 lac rupees, the cost of building & others that is needed is 22.00 lac rupees, and the working capital required is 50 lac rupees.

6.8.2.6. Market Segmentation

Ajmer is one of the important wheat processing clusters within the Rajasthan state. A segment of consumers follows the conventional practice of sporting cleaned wheat to nearby chakkis to get their favored fineness of sparkling atta. Any other phase, which has grown at a quick pace in the nearby area, incorporates city populations in most cases preferring packaged wheat flour. In this phase, consumers in large part choose upon believed manufacturers like Aashirwad aata, Shakti Bhog Atta, Patanjali Atta, Pillsbury Chakki Fresh Atta, and Nature Fresh Sampoorna Chakki Atta. Wheat flour products additionally have great relevance in the well-known Rajasthan delicacies too. Rajasthani bread is created from traditional staples like corn, barley, and millet grounded into flour. Bread is usually roasted in frying pans and served after including ghee on every piece. Wheat flour has changed those traditional grains to a point. One of the famous cuisine, ‘Dal-Bati-Churma’

incorporates baked flaky round bread product of gehun ka atta (wheat flour), rava (semolina), besan (Bengal gram flour), salt, milk, and ghee which are usually served after dipping with ghee. A number of the popular ones are Gehun ki Bikaneri Khichdi made of wheat and moong dal.

The logistical gain gained from proximity to some fundamental markets. Rajasthan has proximity to large consumer markets inside the region that maintain a large share in India's meal consumption. Rajasthan stocks its border with five main Indian states: Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, and Gujarat. Flour mill in Rajasthan have to their gain, get access to this good-sized marketplace.

Main channels for wheat flour:

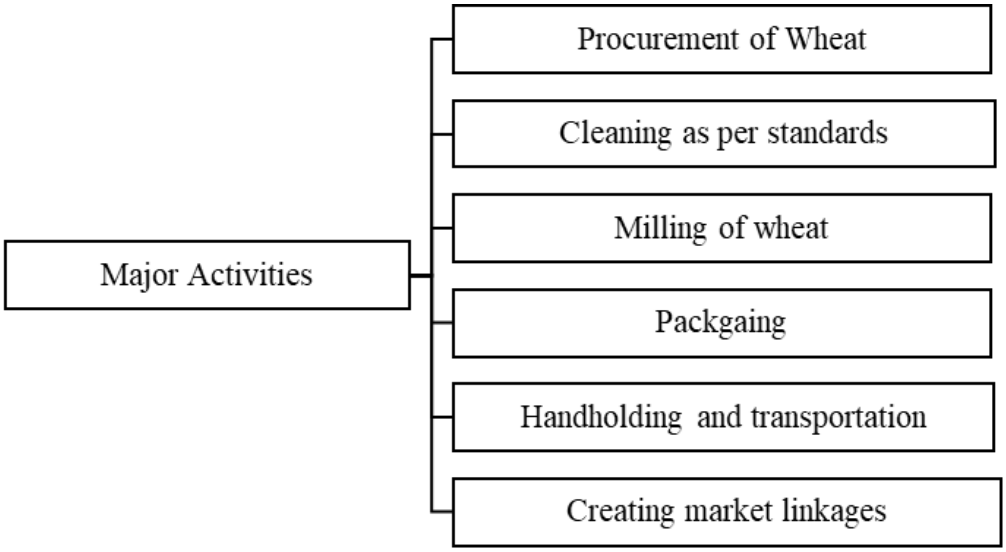
- Kisan Bazar
- Restaurants
- People approaching the Directly
- Bulk buyer, whole-sellers, and retailers
- Exporters
- B2B market
- Online Grocery chain (Like Groffers, Bigbasket, Flipkart retails, etc.)

6.8.2.7. Marketing Strategy

This strategy will allow Farmers Groups to produce crops during the season. The FPOs aim to collect small farmers' agricultural produce at the cluster level and market to different buyers. Krishak Vikas Sansthan has market linkages in Ajmer, Jaipur, Delhi, Ahmedabad, and Udaipur so that it is accessible to market wheat flour. Distribution is the most successful and proven way of marketing. FPC can supply in-market demand or send the goods to the wholesalers. Also, FPC can consider keeping their products in the online marketplaces as our business grows. FPC can consider several different ways to promote our business in the entire Rajasthan and other states in India.

Primary target markets are the whole-sellers, retailers, restaurants, etc. Further, FPC can target food processing industries and big retailers like Reliance Fresh, Godrej Natures Basket, E-Commerce such as Big Basket, Grofers, etc.

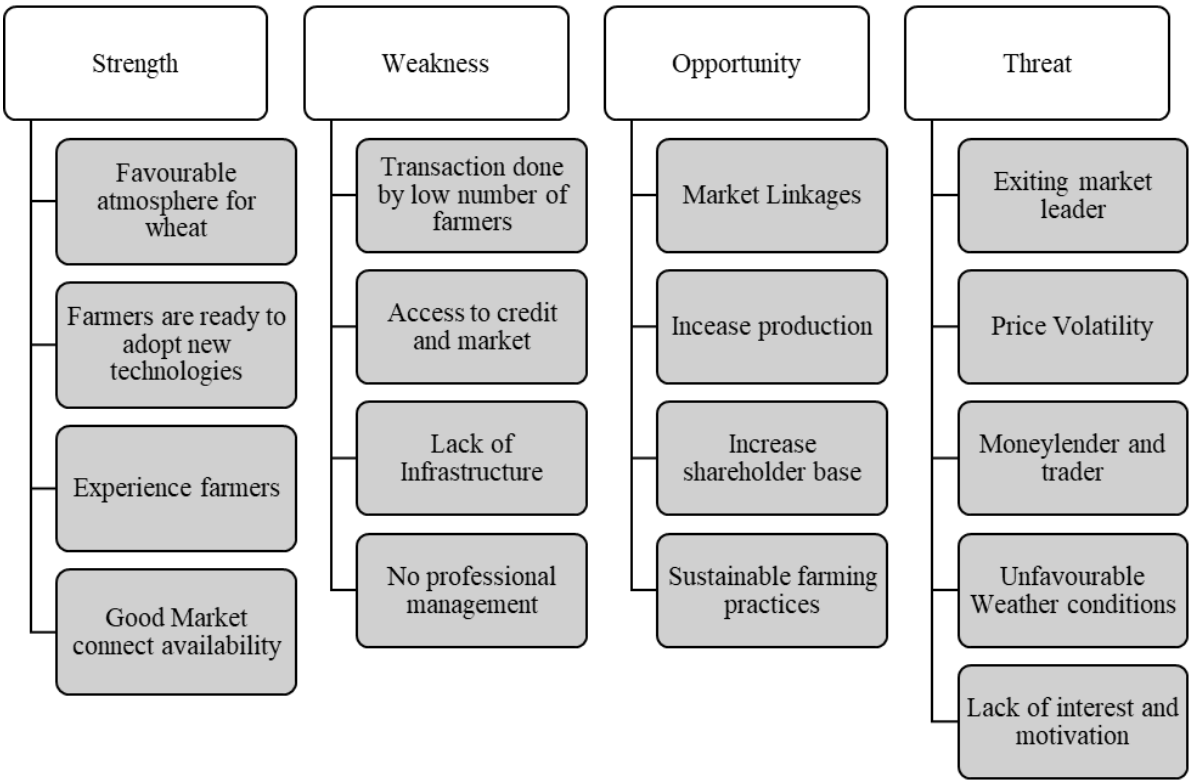
6.8.2.8. Major Activities



FPO level flow of product and Value addition

- Procurement: We would be procured wheat from 200 farmers at a given decided price. Procurement would be done on a credit period of 12 days from the farmers.
- Processing and Value addition: We would purchase small scale procurement center. We will do the processing of wheat.
- Packaging and transportation: We would also purchase a packaging machine. We will pack it to the required size as per the demand from buyers.
- End customers: Our end customers would be direct consumers, restaurants, wholesalers, big retailers, and institutional buyers.

6.8.3. SWOT Analysis



6.8.3.1. Strength

- Favourable atmosphere for wheat: Black clayey to loam soil (Black soil), silt clay loam to clay loam soils, good for wheat. As well as enough water is available.
- Farmers are ready to adopt new technologies: Farmers are prepared to follow the latest technologies.
- Experienced Farmers: Most of the farmers have more than 8 to 10 years of farming experience.
- Good Market connect availability: Nearby location Ajmer, Jaipur and Udaipur. The big traders, online retail chains, retail stores are available in Udaipur. So FPC has good connectivity to the market.

6.8.3.2. Weakness

- Transaction done by a low number of farmers: As per analysis till now, only a few farmers have done transactions with the FPC. So the reason behind the less trade is traders and money lenders and the credit facility they give.

- Access to credit and market: There is no working capital to run the business, so a loan has been taken from Banks at the rate of 11 percentage. Due to this, a large amount has gone as interest only.
- Lack of Infrastructure: There is no infrastructure and asset with the company. The company does not have an office, no computer, and no collection center.
- No professional management: Professional management right now in the company is lacking. The company is supported by, and its management is done by BOD's & CEO, who are more inclined towards social aspects. And to sustain the business mindset is necessary. So in the future, for sustainability, professional management is necessary.

6.8.3.3. Opportunity

- Market Linkages: There is a huge market for agricultural produce. Many channels are in Jaipur, Udaipur and Ajmer, like food companies, online grocery stores, reliance fresh, etc. So there are many opportunities to tie up with them.
- Increase production – Right now, a low number of members are giving their produce to FPC. So that we can increase production.
- Sustainable farming practices: The demand is changing to organic products now. There are opportunities to go for IPM and organic methods. The products, although generated less, will charge a premium amount. The Producer Company can promote other products also.

6.8.3.4. Threat

- Exiting market leader: There are so many other suppliers in a market that they will create new channel problems.
- Price Volatility: The fluctuation is due to various reasons, Like high or low production.
- Moneylender and trader: The moneylender and the trader take 50% of the product in the harvesting season itself. This is because of the debt the farmers own to the traders and money lenders.
- Unfavourable Weather conditions: This is the primary threat to agricultural produce. If the rain happens at the wrong time or more, then it affects heavily.

6.8.4. Financial Plan

6.8.4.1. Land and Land Development

It will be ideal to acquire about 700 square meters of space, keeping in mind the project's future expansion. Accordingly, a procurement and processing center cost of Rs.1,20,000 (On lease) for Seven-year has been considered in this model. And every year a 5% increase in the previous year's rent.

6.8.4.2. Buildings and Civil Works

The following buildings and fabrication work have been considered for this model.

Milling Area 40 W * 20 H *100 L foot Storage Area 40 W * 20 H *100 L foot

The fabrication work include the following : Main door : 2 (Shuttle), Window : 4, and Air roofing ventilator : 4

Hence, the total fabrication work cost for the built-up area is Rs. 22.00 Lakhs.

6.8.4.3. Plant and Machineries

Machinery Cost				
Sr. No.	**Description**	**Qty**	**RATE / SET**	**Basic Amount with Drive Motor**
1	Manufacturing of MS Bucket Elevator with Buckets and Belt with Drive Motor	1	₹ 38,000.00	₹ 38,000.00
2	Cleaning machine with Drive Motor (1 ton capacity)	1	₹ 2,10,000.00	₹ 2,10,000.00
3	Gravity Separator	1	₹ 2,60,000.00	₹ 2,60,000.00
4	Storage tank NOS 1 X 30000 (3 TON CAPACITY)	1	₹ 65,000.00	₹ 65,000.00
6	Manufacturing of MS Bucket Elevator with Buckets and Belt with Drive Motor	1	₹ 38,000.00	₹ 38,000.00
7	Manufacturing of wheat crushing mill	1	₹ 1,40,000.00	₹ 1,40,000.00
8	Pnumetic system with airlock, cyclone,blower, pipeing, structure	1	₹ 95,000.00	₹ 95,000.00
9	Semi-Automatic Grain Packaging Machine, with structure	1	₹ 3,90,000.00	₹ 3,90,000.00
Basic Cost				**₹ 12,36,000.00**
GST @5%				**₹ 61,800.00**
Transportation & Installation				**₹ 1,00,000.00**
Total Amount				**₹ 13,97,800.00**

6.8.4.4. Miscellaneous Fixed Assets

Cost of office furniture, computer, printer, etc. is considered under miscellaneous fixed assets. A provision of Rs. 85,000 is needed to take care of this expenditure.

6.8.4.5. Contingency

Contingency charges are considered as 2 % of the cost of project excluding the pre-operative expenses and land cost. The contingency charges amount is Rs.74,000.

6.8.4.6. Project Cost

Project Fixed Cost			
No.	**Particulars**	**Qty.**	**Amount (In lakh)**
1	Land on lease	700 sq. meter	
2	Civil Work	700 sq. meter	₹ 22.00
3	Plant and Machinery		₹ 13.98
4	Miscellaneous Fixed Assets		₹ 0.85
5	Contingency @2%		₹ 0.74
Total			₹ 37.57

6.8.4.7. Manpower Requirement

Year | Position	**Manager/ Supervisor**	**Semi-Skilled (Operator/ Technician)**	**Unskilled Worker**	**Per annum Salary**
2021	1	1	1	₹ 3,63,624.00
2022	1	1	1	₹ 3,92,713.92
2023	1	1	1	₹ 4,24,131.03
2024	1	1	1	₹ 4,58,061.52
2025	1	1	2	₹ 4,94,706.44
2026	1	1	2	₹ 6,74,104.21
2027	1	1	2	₹ 7,28,032.55

* Note: Manager (Overall In-charge), Supervisor and unskilled worker are number of person

Additionally, we need daily basis workers for ten months. The daily wages are Rs.264 per person, and monthly payments are Rs.7930 per person. The annual cost for extra labor is shown in the below table.

Year | Position	Unskilled Worker (No. Of Person)	Per annum Salary or Wages(Rs.)
2021	2	₹ 47,580.00
2022	3	₹ 71,370.00
2023	3	₹ 71,370.00
2024	3	₹ 71,370.00
2025	4	₹ 95,160.00
2026	4	₹ 95,160.00
2027	4	₹ 95,160.00

6.8.4.8. Procurement Plan

No	FPO Mill Capacity utilization (First Year)	
1	No. of farmers	100
2	Average Production of Bajra per season per farmer (Quintal)	25
3	Total procurement per season for the FPO (Quintal)	2500
4	Average procurement per month for the FPO (Quintal)	625
5	Capacity of Plant (Quintal/hour)	10
6	No. of hours per day	8
7	Total number of days required for processing (8 hours/day)	31.25
8	Total number of months the Mill will run (26 Days working in a month)	1.20
9	Maximum capacity of the mill in a month (Quintal per month (26 days working))	2080

6.8.4.9. P&L projections in Detail

	2021	2022	2023	2024	2025	2026	2027
Agri Produce							
Wheat	5000000	6240000	7787520	9718825	12129094	15137109	18891112
Total Cost	5000000	6240000	7787520	9718825	12129094	15137109	18891112
Indirect Expenses							
Transportation	600000	660000	726000	798600	878460	966306	1062937
Labour	47580	71370	71370	71370	95160	95160	95160
Rents	120000	126000	132300	138915	145861	153154	160811
Other Miscellaneous overheads	472000	566400	679680	815616	978739	1174487	1409384
Other Expenses (courier and small other expenses)	18000	20160	22579	25289	28323	31722	35529
Salary	363624	392713.92	424131.0336	458061.5163	494706.4376	674104.2124	728032.5494
Total Expenses	6621204	8076644	9843580	12026676	14750343	18232042	22382966

Revenue							
Wheat flour	6937500	8824500	11224764	14277900	18161489	23101413	29384998
Total Revenue	6937500	8824500	11224764	14277900	18161489	23101413	29384998
EBITDA	316296	747856	1381184	2251224	3411145	4869372	7002032
Interest	645780	707780	785156	881721	1002235	1152635	1340336
EBTDA	-329484	40076	596028	1369502	2408911	3716736	5661697
Depreciation	256780	236602	218167	201314	185898	171788	158865
EBT	-586264	-196526	377861	1168189	2223013	3544948	5502832
Tax				675367.09	1023343.58	1460811.45	2100609.69
PAT	-586264	-196526	377861	492821	1199669	2084137	3402222
Net profit	**-586264**	**-196526**	**377861**	**492821**	**1199669**	**2084137**	**3402222**

6.8.4.10. Cash flow statement

Cash Flow Statement								
Particulars	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Initial Investment	35,98,000.00							
Sales		69,37,500.00	88,24,500.00	1,12,24,764.00	1,42,77,899.81	1,81,61,488.56	2,31,01,413.44	2,93,84,997.90
Variable Cost		56,00,000.00	69,00,000.00	85,13,520.00	1,05,17,424.96	1,30,07,553.55	1,61,03,414.75	1,99,54,048.32
Contribution		13,37,500.00	19,24,500.00	27,11,244.00	37,60,474.85	51,53,935.01	69,97,998.69	94,30,949.58
Fixed Cost		4,83,624.00	5,18,713.92	5,56,431.03	5,96,976.52	6,40,567.19	8,27,258.00	8,88,844.03
Overhead Cost		11,37,580.00	13,17,930.00	14,99,629.20	17,10,874.70	19,80,682.55	22,67,675.19	26,03,009.86
EBIDTA		-2,83,704.00	87,856.08	6,55,183.77	14,52,623.63	25,32,685.27	39,03,065.50	59,39,095.70
Depreciation		2,56,780.00	2,36,602.00	2,18,166.80	2,01,313.87	1,85,898.05	1,71,788.03	1,58,865.02
OPBT		-5,40,484.00	-1,48,745.92	4,37,016.97	12,51,309.76	23,46,787.22	37,31,277.48	57,80,230.68
Tax					4,35,787.09	7,59,805.58	11,70,919.65	17,81,728.71
OPAT		-5,40,484.00	-1,48,745.92	4,37,016.97	8,15,522.67	15,86,981.64	25,60,357.83	39,98,501.97
Depreciation		2,56,780.00	2,36,602.00	2,18,166.80	2,01,313.87	1,85,898.05	1,71,788.03	1,58,865.02
OCF		-2,83,704.00	87,856.08	6,55,183.77	10,16,836.54	17,72,879.69	27,32,145.85	41,57,366.99
WC Required	6,93,750.00	8,82,450.00	11,22,476.40	14,27,789.98	18,16,148.86	23,10,141.34	29,38,499.79	-
Change in WC		1,88,700.00	2,40,026.40	3,05,313.58	3,88,358.87	4,93,992.49	6,28,358.45	
Sale of plant and MC								22,38,300.00
Cash Flow		-4,72,404.00	-1,52,170.32	3,49,870.19	6,28,477.66	12,78,887.20	21,03,787.41	93,34,166.78

Details of overhead cost for 1st year

No	Overhead Costs	
1	Total procurement per season for the FPO (Quintal)	1200
2	Production of Bajra per month (Quintal)	840
3	Machine hours used Bajra (Capacity 2 Q/hour)	600.0
5	Electricity for Packing Machine (40 HP motor @ 9.06Rs./unit)	₹ 48,000.00
6	Electricity for whole process mill for 20HP motor @ 9.06 Rs./unit	₹ 1,08,720.00
7	Electricity for warehouse (Lights and other equipment)	₹ 18,000.00
8	Packaging (1 kg @ Rs.2.5/piece) (120000 bags)	₹ 2,40,000.00
9	Professional Fees(loan processing) + Audit Fee	₹ 43,000.00
Overhead costs (Rs.)		₹ 4,57,720.00

6.8.4.11. Internal Rate of Return

Particulars	Cash Flow	Present Value
Initial Investment	₹ -35,98,000.00	
Year 0		
Year 1	₹ -4,72,404.00	₹ -4,25,589.19
Year 2	₹ -1,52,170.32	₹ -1,23,504.85
Year 3	₹ 3,49,870.19	₹ 2,55,822.06
Year 4	₹ 6,28,477.66	₹ 4,13,997.70
Year 5	₹ 12,78,887.20	₹ 7,58,957.31
Year 6	₹ 21,03,787.41	₹ 11,24,770.66
Year 7	₹ 93,34,166.78	₹ 44,95,879.94
Internal Rate of Return		**21%**
NPV		**Rs. 65,00,333.64**

An initial investment Rs. 35,98,000.00 of on plant and machinery is expected to generate net cash flows of ₹ -472404.00, ₹ -152170.32, ₹ 349870.19, ₹ 628477.66, ₹ 1278887.20, ₹2103787.41 and ₹ 9334166.78 at the end of first, second, third, fourth, fifth, six, and seven years, respectively. At the end of the seven years, the machinery will be sold for Rs 2238300.00. Calculate the net present value of the investment if the discount rate is 11%. Net present value is Rs. 6500333.64, and the Internal rate of return is 21 percent.

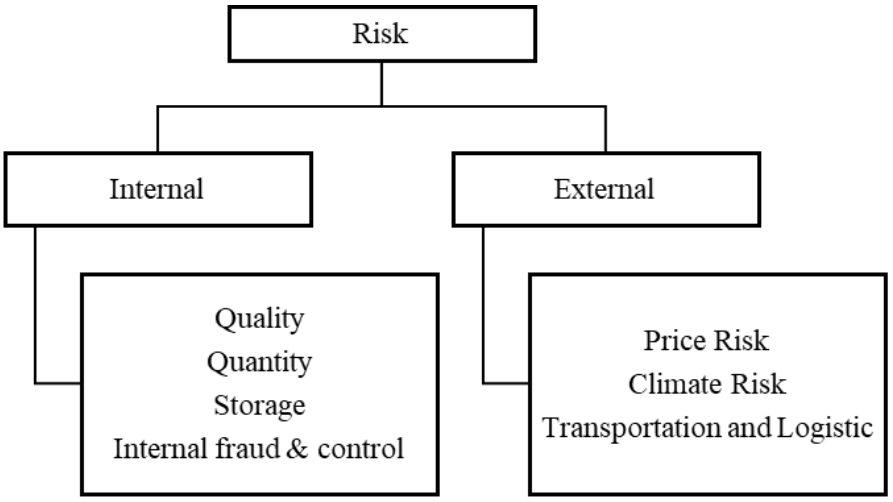
6.8.4.12. Payback Period

Particulars	Cash Flow	Net Invested Cash
Year 0		₹ -35,98,000.00
Year 1	₹ -4,72,404.00	₹ -40,70,404.00
Year 2	₹ -1,52,170.32	₹ -42,22,574.32
Year 3	₹ 3,49,870.19	₹ -38,72,704.13
Year 4	₹ 6,28,477.66	₹ -32,44,226.47
Year 5	₹ 12,78,887.20	₹ -19,65,339.27
Year 6	₹ 21,03,787.41	₹ 1,38,448.14
Year 7	₹ 93,34,166.78	₹ 94,72,614.91

The table indicates that the payback period is located somewhere between Year 5 and Year 6. There is Rs.35,98,000.00 of investment yet to be paid back at the end of Year 5, and there is Rs. 21,03,787 of cash flow projected for Year 6. The analyst assumes the same monthly cash flow in Year 6, which means that the estimated final payback is just short of 5.6 years.

6.8.5. Risk management strategy

This section analyses the potential threats of the business in various aspects. The section also discusses the possible resilience of the proposed business in overcoming these threats. Based on the information collected, interaction during the field visit, and feedback received from the farmers, it is envisaged that the FPC can start with consolidating its current operations by integrating systems within the operations in the first year of the current business plan.



While the company is operating in the market, many risks have not been adequately recognized by the company, requiring some deft handling. The risks are price risk, climate risk, transportation & logistics, quality, quantity, storage, internal control & fraud, etc. The company will evolve and ensure measures for guarding against the various risks during the business plan period.

6.8.6. Competitor analysis

Many competitors are available in the market like Aashirwad aata, Shakti Bhog Atta, Patanjali Atta, Pillsbury Chakki fresh Atta, and Nature fresh Sampoorna Chakki Atta. However, almost all branded products are highly-priced. The competitors are mostly using e-commerce platforms for sale. Most of the products are from private players and not through FPCs. Making the product available in multiple flavors is crucial in getting more market share. Based on finances, price differentiation will be the significant differentiation factor. However, the products' packaging and branding should be well designed, appealing to the targeted urban customers.

6.8.7. Social and Economic Impact

The members had encountered an increase in the income from their share in the FPC. Before establishing FPC, most of these members were their produce only to the mediators like traders, processors, and other aggregators. And the main aim of these aggregators was to get the best quality produces at the lowest price possible. Hence, a shared experience of all these members before the establishment of FPC was that they used to get a significantly lower price for the produces than the rates provided by the market linkages developed by the FPC members.

The other socio-economic impact of our paddy processing are discussed below:

- Livelihood Security: The wheat processing business plan gives them a year-long sustainable livelihood. As the cultivation of wheat crops doesn’t require much complex process, it provides continuous income to the tribal farmers.
- Economic Impact: As discussed earlier, we will have greater returns with the implementation of the business plan. It will enhance the profits and as well as increase production by adopting a member retention policy. This will also lead to more employment opportunities for the tribal community.

- Social Empowerment: The economic and social status of the tribal farmers in the region will improve multi-fold. The tribal farmer member will get recognition in the society, participate in social activities, get access to improved technologies, get actively involved in addressing social issues and problems, and develops a sense of leadership and social responsibility in the locality. He can ensure higher studies of his children with more income and motivated to do social work and being in more farmer members into FPO to reap the benefit.
- Educational Security: The farmers also get access to educational facilities, including higher education. They can send their children to nearby town schools with better market linkages the transportation facilities in the locality also improve and aid the school children in commutation.
- Health Security: As the farmers are empowered with better returns, they access health care facilities. As their income was significantly less and as they could not have price realization, they were deprived of adequate health care facilities. Now, farmers are more aware of government schemes and able to afford better health care facilities.
- Women Empowerment: The women in the tribal community are involved in wheat cultivation and give them social status as they are also the stakeholders. The income also acts as a safety net for the women who are generally the locality's vulnerable section. The women are self-confident as they are the FPO members and can make decisions in the day-to-day activities and provide education to their children.

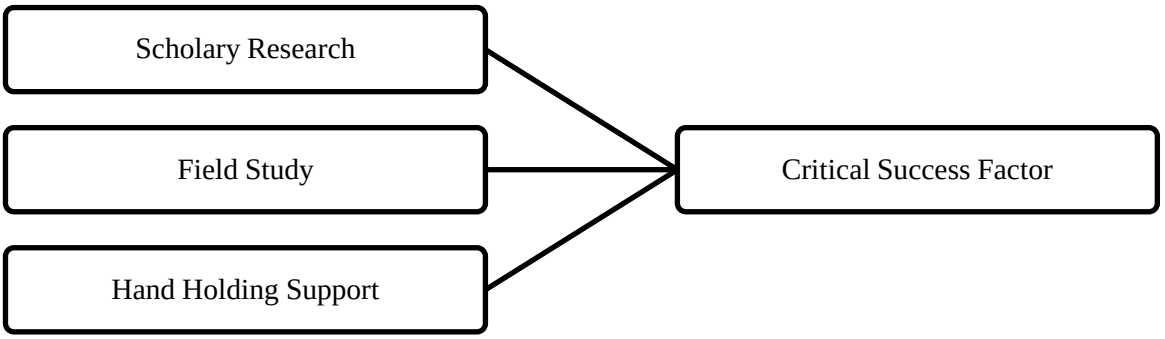
CHAPTER 7 BLUEPRINT FOR HANDHOLDING FPOS WITH A REPLICABLE MODEL

7.1. Overview

Small and marginal farmers have been at the receiving end of the food value chain across many of the developing countries. India is no exception to this. Prior research has established the significant role of collectives in assuring a bargaining power in the food value chain often dominated by the large buyers. Accordingly, Government of India has experimented with different organizational forms of collective starting with cooperatives. But cooperatives have their own set of problem related in efficiency, governance, etc. So, the thrust was given on a business entity with an orientation of a collective and accordingly the farmer producer organizations (FPOs) are conceived. It is expected that FPOs would address the issue of capital, access to technology, market linkages etc and would help in enhancing farmer's income. The basic idea behind FPOs is to form a collective of farmers to ensure backward linkages like seeds, fertilizers, credit insurance, knowledge and extension services and forward linkages like collective marketing, processing, market-led agriculture production etc.

Although FPOs were conceived two decades back, the real thrust on promoting FPOs came in last five years only. With the Government's focus on doubling the income of farmers through patronising FPOs, it is probably the right time to assess the way forward for FPOs in India. In order to assess what lies ahead for FPOs and how their performances can be improved, we looked critically at determinants of performance in collectives. We have adopted a three-pronged approach to explore the antecedents of critical success factors in FPOs (Figure 1). The first approach was to examine the scholarly work on CSF for collective organizations like FPOs and Cooperative. The second approach was to conduct field studies with selected FPOs in the state of Rajasthan and Gujarat. Finally, the third approach was to offer hand-holding support to selected FPOs to understand in detail the challenges to functioning of FPOs.

Figure 1: Three-pronged Approach to Study CSF



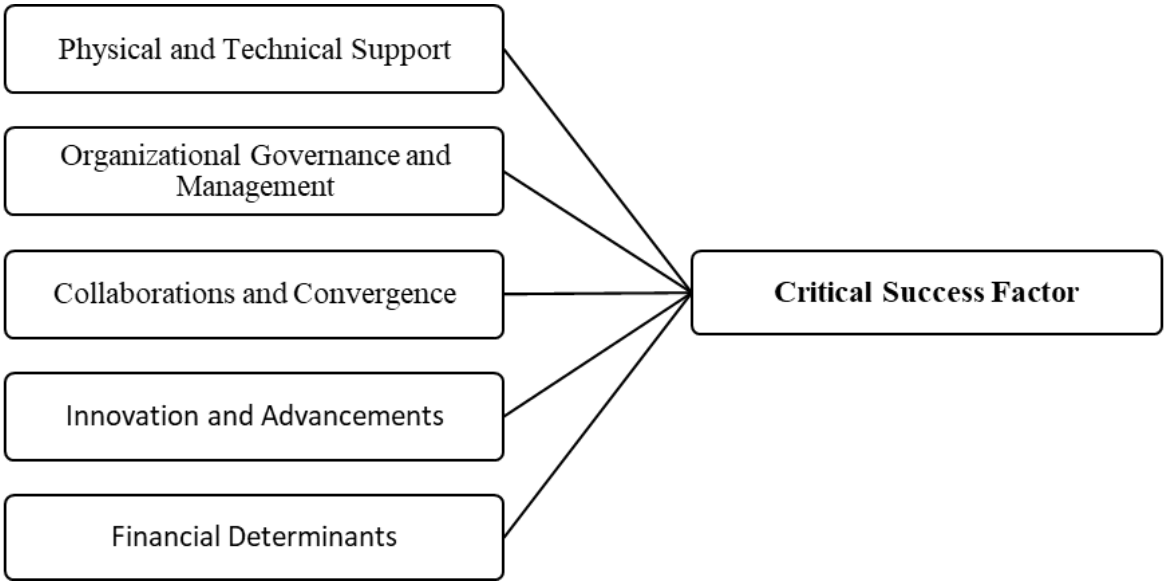
7.2. Scholarly Research

The determinants or antecedents of critical success factors (CSF) in organizations is a well researched area. Scholars have used theories like Resource Dependence, Internal congruence model, contingency model, and strategic constituency model to examine the factors attributed to organizational success. There are several internal (management related) and external (environment related) factors that triggers desirable performance in organizations. In order to develop an understanding of what causes good performance in member-based organizations, we explored the current stream of research. We did a keyword search in google scholar and identified the relevant papers. We looked for manuscripts published in peer-reviewed journal from 1980 to 2020. Our search led to identification of 34 paper related to member-based organization's performance. Most of these papers are empirical in nature and focused on performance of organization as the dependent variable. We identified the variables studied through these works as antecedent of performance and accordingly classified them in five broad categories (Figure 2). The categories are as follows

1. ***Physical and Technical Support****:* The support services offered by FPOs to their member in term of infrastructure and technical know-how played a crucial role member retention and member productivity. These in turn have a positive influence on the performance of FPOs. Physical accessibility to the market, machineries for mechanizing production, transformation facilities etc are critical to enhance productivity of farmers. Similarly, information and training on latest practices for water usage, cropping patterns, usages of fertilizer etc have been found to be helpful in reducing the cost of production and thus enables the profit margins to go upward.

2. ***Organizational Governance and Management Support:*** The current research suggests that regular meetings of board members, executives with professional expertise, nature of decision-making, degree of heterogeneity among members etc within the FPOs have an influence on performance. Besides this some non-tangible aspects like leadership style and commitment of member's also has a positive influence on success of collectives.
3. ***Collaboration and Convergence:*** Research reveals the critical role played by the fit between FPOs and its environment. The fit is represented through matching expectations between FPOs and stakeholders like government and other promoting agencies. The proactive and timely support from market linkages in terms of export services, procurement services, demand estimation etc. often help FPOs to fetch a better price for their produce and thus ensure profitability.
4. ***Innovation and Advancement:*** The ability to adapt better agricultural practices seems to directly influence the probability of success for the FPOs. The existing research highlighted the role of practices related to sustainable farming, market information systems, fertilizer usages and other sorts of value added activities etc in enhancing performance of FPOs.
5. ***Financial Determinants:*** Some of the obvious financial determinants like profitability, equity and productivity are accounted for critical success factors for FPOs and collectives.

Figure – 2 Critical Success Factors : findings from research



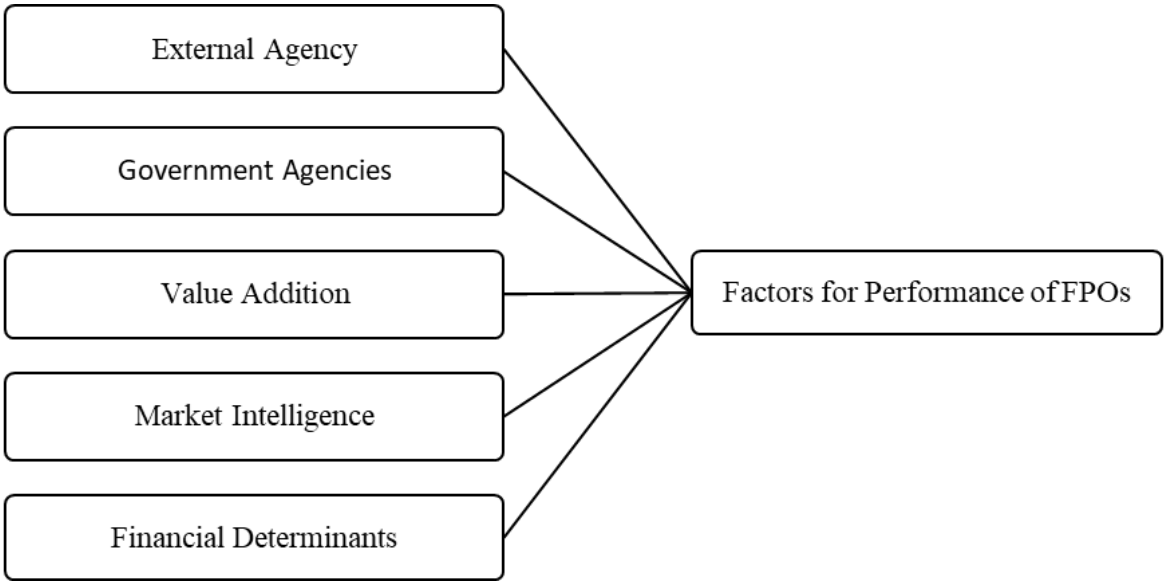
7.3. Field Studies

After examining the scholarly work on collectives and FPOs, we undertook field studies to develop contextual insights on the functioning of FPOs. We conducted detailed case studies of seven FPOs from the state of Gujarat (four FPOs) and Rajasthan (three FPOs). The field studies revealed farmers perspective on the functioning of FPOs. These perspectives were immensely useful in generating insights beyond the variables identified during the review of scholarly work. Apart from developing nuanced understanding of the categories identified as a result of literature review, the field study helped us to point out certain enabler who can play a pivotal role in enhancing the performance of FPOs. We describe the enablers below –

1. ***Producer Organizations Promoting Institutions (POPI) as External Agency:*** Being the initiator, facilitator, and advisor to an FPO, the POPI plays a crucial role in determining the performance. POPI is central to developing the *orientation* of the FPO. By virtue of being a market oriented collective, FPOs are required to have a dual orientation – producer centric and market centric. POPI is vital in developing a balance between these orientations or the lack of it within the FPO. POPI has a role to play in strengthening all the antecedent categories identified through literature review.
2. ***Government Agencies*:** we found that regular and adequate support of government agencies like NABARD are vital for FPOs to succeed. The farmers have been hugely benefited through the capacity building programs of such agencies. Many of the FPOs found various government schemes related organic farming, water conservation, micro-irrigation, and solar pumps to be useful to improve farm operations.
3. ***Value Addition:*** Value addition as an enabler influences the profitability, procurement, product differentiation and market linkage. FPOs involved in value addition can procure large quantities of produce from their farmers and still able to find a market, thus encouraging member participation. Product differentiation strategies could be better applied with value addition.
4. ***Market Intelligence:*** We found that a sound understanding market in term of demand and supply would influence the performance of FPOs in a positive way. Most of the FPOs studied does not have adequate capacity to conduct market research and as a result largely driven by speculation about the market. A strong market research would enable to FPOs to diversify and establish links with large buyers via appropriate negotiation.

5. ***Financial Determinants:*** Some of the obvious financial determinants like profitability, equity and productivity are accounted for critical success factors for FPOs and collectives.

Figure – 3 Factors for Performance of FPOs



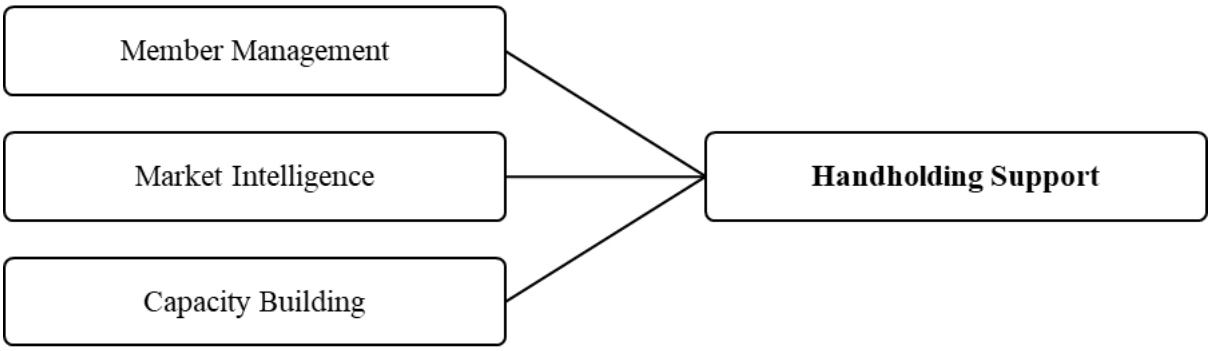
7.4. Experimenting on Handholding Support

To develop first-hand experience of performance challenges in FPO, we have provided hand-holding supports to 8 FPOs. We have used the performance rating done by Nabkisan Finance Limited and selected the FPOs from Gujarat and Rajasthan. Out of the four FPOs in Gujarat, three are rated A and one is B. In Rajasthan, all the four FPOs have received A rating for their performance. Once FPOs were finalised, we collected data on their operations and scale. As a first step towards handholding, we focused on developing a business plan for these FPOs. Based on reading and conversation with industry experts, we developed a format for business plan. The format sought information on market potential, financial viability, and governance mechanism of the FPOs. We share the format with the selected FPOs and organised one to one to interaction. The idea of these interaction was to understand the intent of the FPOs and assess their business interest. Once the formats are circulated and filled up by FPOs, IRMA organised a short Management Development Program (MDP) for these FPOs.

The three-days MDP covered topic on input management, people management and market development. 18 participants attended the MDP. As follow up of the MDP, we interacted with each of these FPOs and worked on developing their business plan. The process of developing business plan was iterative in nature. Along with development of business plan, we also communicated with the financing institutions to understand their requirement and connected the FPOs with the financing institutions. Some of the major issues identified during the hand holding process are listed below –

1. **Member Management**: Certainty of participation of members in business activities is a major challenge for the FPOs. The engagement of members fluctuates during the life cycle of FPOs, and it hampers in developing a robust business plan. Before starting a business or an agricultural intervention, FPOs would often find it difficult to predict the intensity of engagement of members. Another issue that impacts the management of member is the functioning of Board of Directors. Most of the FPOs struggle with conducting regular meeting of the Board of Directors, as a result many of these members are not aware of the functioning of business and in turn lose interest on the daily operation of the FPOs.
2. **Market Intelligence**: The FPOs are lacking in understanding of market in terms of demand for a commodity, production capacity, requirement of input facilities etc. The poor understanding of the value chain starting from cultivation to market is a major challenge hampering the performance of these FPOs. Linkage to institutional buyers for ensuring a ready market is another challenge that these FPOs are facing.
3. **Capacity Building**: Member lacks technical knowledge of modern agricultural techniques and in turn are operating at a sub-optimum level. The other challenge comes from the lack of managerial skills and business skills. The lack of managerial skills include inability to assess the performance of the organization, understanding of the cost implication for any decisions, knowing the motivational trigger for members etc. The lack of business skills would include inability to estimate market demand for commodity and identify points of intervention for adding value to the product of the FPOs.

Figure – 4 Handholding Support



7.5. Strategy for Handholding of FPOs

Given the background above, the handholding support to FPOs must encompass all the relevant stakeholders – members, buyers, suppliers and supporting institutions. Below we present a strategy to address the challenges to bettering of performance of FPOs. The strategy presented is both specific and generic. It aims to specify a role for stakeholders to play in FPOs progressive performance. At the same time, it offers generic flexibility to establish mechanisms towards enabling the functioning of these collectives. We present the strategy as three component- each having a critical role to play in FPOs performance

7.5.1. Enabler:

The constituents of business environment where the FPOs are operating are termed as enabler. Based on our fieldwork and reading of scholarly research on collectives, we are convinced that such constituents have a critical role to play in enhancing the performance of these collectives. Below we have explored the possible role that can be played by selected enablers-

a. POPI.

Based on our engagement with FPOs, we can claim with certainty that POPI has a very crucial role to play in the success of FPOs. They have played a critical role in mobilization of farmers for the formation of FPOs. Many of them have also attempted to work on ensuring market linkages to the produce of the FPOs. Our study reveals that many of these POPIs are functioning as non-profits focusing on community development and advocacy work. They have substantial expertise in collective action and community institutions. But lacks in developing

collective enterprises. FPOs are collectives designed to engage in entrepreneurial activities. For them to succeed, FPOs must develop business acumen since inception. The business acumen should be imparted by POPI in the initial stage of formation of FPOs.

An NGO playing the role of a POPI can be very good in mobilization of farmers to form an FPO. It can train the members in value of collective actions and can also set up system of governance withing the collective. But what many of these NGOs lack is an entrepreneurial orientation. As a result, they failed to train the FPOs on business and managerial skills. Like FPOs, POPI can also be graded based on their skills of setting up a collective organization and of running a community driven enterprise. NABARD can develop an assessment scale to map the skills and orientation of the POPI. Alternatively, NABARD can assign a distinct role of POPI based on their skills. For example – POPI with skills in developing collective organizations would be entrusted with the responsibility of forming collectives and establishing mechanisms for engagement of members. For POPI with business acumen, the responsibility would be offer handholding support to the FPO in running their enterprise. It is also important to ensure that skills of POPI are enhanced from time to time through capacity building programmes.

The other issue that requires attentions is duration of engagement of POPI with FPOs. Currently POPI are engaged with FPOs for a duration of around three years. This is not substantial time for FPOs to become self-reliant in terms of governance and business. Hence, it is advisable that POPIs are engaged for a longer duration of time to ensure sustainability of FPOs. Currently, the deliverables for POPI are thinly presented and thereby lowering their accountability in the process. This is counterproductive- while POPI plays a crucial role but their accountability towards performance of FPOs are negligible. Going forward, an accountability mechanism should be developed so that POPI would remain engaged with FPO's viability and would not limit their role only to formation of the collective. Based on our understanding of nature of engagement of POPI with FPOs, we would recommend that a regular performance evaluation of POPI should be carried out.

Summary of recommendations

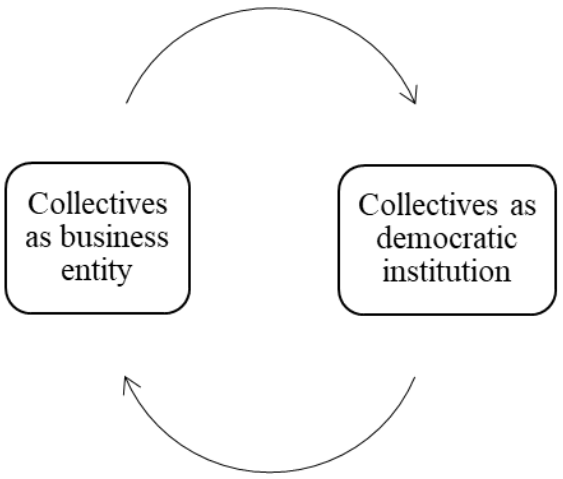
- Selection of POPI depending on their skills of supporting collective organization and of developing community driven enterprises.
- Exploring the strength of POPI and accordingly defining their role in promotion of FPOs.

- Development of an assessment mechanism or scale to map the skills of POPI and grade them accordingly
- Extending the duration of POPI's engagement with FPOs for their financial viability
- Regular review of performance of POPI
- Supporting POPI in capacity building issues relevant for the success of FPOs.

b. Support based on stage of lifecycle

The second enabler for bettering the performance of FPOs is to establish mechanisms to support the FPOs in a customised way focusing on the stage of the enterprise and nature of the business. In the initial stage of formation, FPOs requires support on developing a sound business idea. A successful enterprise attracts members to the FPO which in turn again improve the business performance. However, a bad performance in an enterprise leads to member disengagement and aggravate the dysfunctionality of the enterprise. It is important to note that a better business performance is unlikely to occur in absence of an effective governance mechanism. Hence, one of the central arguments we would like to make is that the better governance leads to better business performance which in turn feeds into better governance. So, in order to ensure that FPOs are functioning to the fullest of their potential, the enablers have to focus on both governance and business. Thus looking at the stage of development of the FPO, the POPI and NABARD should extend support either on governance or business. Merely focusing on governance issues when business is doing well or working on market linkage when governance is poor won't help the FPOs to perform.

Figure 5: Dual role of FPOs



The second issue is that of nature of the business that the FPO is engaged in. From input business to marketing of value-added products, FPOs are engaged in variety of businesses. The support required for each of these sets of businesses are different. Hence a uniform nature of support won't be effective. For example, an FPO engaged in the input business would require substantial support in terms meeting regulatory requirements related to licensing. On the other hand, FPOs engaged in producing and marketing of value-added products would require support in terms quality control measures and project management. Such support are to be arranged at the local level – preferably at the district level so to ensure timeliness and accessibility.

Summary of Recommendations

- Support should be designed based on the stage of the FPO. Newly formed FPOs would require different support compared to a matured FPO.
- Good governance practices and better business performance reinforce each other. Hence, it is important to emphasis on these two dimensions on a periodic basis.
- Nature of the business that the FPO is engaged in would also require different set of support. Hence an uniform approach towards assisting FPOs would not be effective.

1. Management of FPOs

The management of FPOs that handling FPOs through a managerial approach is another critical step in improving the performance of these enterprises. During the three pronged approach to understand the determinants of performance for FPOs, we have repeatedly discovered that lack of business skills like market analysis, lack of manpower, absence of business acumen are the typical challenges that FPOs face on the managerial front. Some of the action points to address these issues are listed below

a. Leadership

FPOs require to be managed across two dimensions-First, it is a membership based collective hence interest of members is central to the entity. Second, it is a business entity that would require to ensure its profitability in order to survive independently. Thus, the leadership of FPOs would require to demonstrate the sensibility to ensure member's involvement by putting their interest at the forefront of the business. At the same time, the leadership should be aggressive enough to fight the competition in the market. It is extremely challenging to find leadership style among managers demonstrating the dual value of welfare for the members and

killer instinct to fight the competition. As a result, finding the right candidate to lead an FPO is challenge. Thus the recruitment of people to play the leader in FPO is crucial to the performance of FPOs. In most the cases, recruitment of the CEO is done by POPI and invariably the new recruit would be inducted according to the culture of the POPI. Thus, if the POPI has strong orientation towards collective organizations, the CEO would likely to be more committed to member's interest even at the cost of the business performance. Hence, we would recommend that the recruitment of leadership or spotting of talent should managed through liaising with management schools. Such schools can help in identify candidates with right kind of values required to handle the FPOs. The talent can also be managed through proper training. Thus our second recommendation is that special training focusing on managerial values and skills should be oragnised for the leadership team of FPOs.

Another issue related to talent management is the attracting and retaining professionals in FPOs. The remunerations offered by FPOs are not attractive enough for professional to work in remote areas. One way of handling this issue is to hire the same professional to lead more than one FPO. In that case, the remuneration offered would be attractive enough for a manager to commit his or her time to the FPO. However, this would require skilled coordination among the FPOs to avoid any conflict of interest.

b. Business Plan Development

Lack of business acumen among FPOs is a common problem witnessed across all the FPOs we interacted. Many of these collectives are doing business for the first time -hence they lack both the experience and expertise. One of the standard ways of developing business acumen across the FPOs is to develop their ability to design a robust business plan. As we were working with FPOs to develop their business plan, we learnt that the FPOs have very little predictive ability related to market movements. As a result, they found it extremely challenging to gather market intelligence and manage their operations to meet the demand. We recommend that all the FPOs must be mandatorily trained developing business plan and implementing the same. Along with business plan, the FPOs are required to develop their skills in project management techniques. Such skill building would help them to plan their operations better and gain credibility among members and other stakeholders.

c. Governance Structure

Although criticality of an effective governance structure is well known, not much has been achieved for FPOs. Many of the members in the governance of FPOs are not aware of their

role in enhancing the performance. The meeting of Governing body is often irregular and information flow is restricted. As reported earlier, good governance is the most critical recipe for a successful business in FPOs. We recommend that FPOS should be trained regularly on issues related to Governance and member participation. One time training at the formation of FPOs may not be very effective if not followed up regularly. FPOs should also assessed on their performance related to issues of governance. This assessment should be fed into their support provisions and training need assessment.

d. Federated Structure

FPOs are working independently without interacting with each other. However, in order to scale up their operation, it is important to develop interdependency among the FPOs. One of the ways to build alliance and interdependency among the FPOs is through creation of a federated structure. A close study of successful mild cooperative would tell us that their federated structure is instrumental in their success. It helped in easy flow of knowledge and technology across the member cooperatives.

Summary of Recommendations

- Management schools should play a role in recruitment of leadership at FPOs
- Special training focusing on welfare values and business skills should be conducted for leadership of FPOs
- More than one FPOs should be handled by each professional acting as CEO
- Training in Business plan and project management skills must be made mandatory for the functionaries of FPOs.
- Training on Governance issues should be conducted regularly for FPOs and FPOs performance on governance issues should be tracked
- To enhance the accessibility to new technology and services, and to scale-up, FPOs should be organised under a federated structure similar to the milk cooperatives.

2. Formation of Resource Support Centre

There should be a Resource Support Centre (RSC) at zonal level. The RSC's role would be to offer variety of services to the FPOs depending upon their stage of maturity and nature of the business. The RSC should engage in facilitation, dissemination, and capacity building. Example of facilitation would include functions like helping FPOs in meeting the requirement of compliances including documentations. Dissemination would include sharing information

related to various welfare schemes of government and other agencies and educate farmers on modern technology used in agriculture. The RSC should also design interventions for capacity building of FPOs. They should make assessment for the need of capacity building and update the NABARD on the same.

CHAPTER 8 POLICY DOCUMENT FOR SCALING UP AND SUSTAINABILITY OF FPOS

8.1. Introduction

The growing importance of FPOs in promotions sustainable agriculture and collective enterprises in rural areas is beyond any denial. Government of India has further endorsed the criticality of FPOs by proposing to form 10,000 new FPOs in next five years starting from 2019-20. The purpose of promoting the FPOs is to provide small and marginal farmers better collective strength for better access to quality input, technology, credit and marketing access through economies of scale for better realization of income. It is envisaged that the promotion of FPOs would have direct positive contribution towards rural economy and would create job opportunities for rural youth. The formation and promotion of FPOs are to be done through Implementing agencies identified by Government. Taking into account, the years of experience of working with farmers, NABARD has come forward to support and promote FPOs across the country. While NABARD has been actively promoting Farmer Interest Groups (FIGs) for last couple of decades, FPOs is the way of scaling up the work. In order support the work of FPOs, NABARD has committed funds from their "Producers' Organization Development and Upliftment Corpus (PRODUCE)" Fund. This document is produced based on a study conducted with support from NABARD and it highlights probably policy implication for bettering the performance of FPOs.

In order to understand the performance of FPOs, a field study was conducted covering 8 FPOS in the state of Gujarat and Rajasthan. Data were collected through Focus Group Discussion and interviews with farmers and officials of POPI and FPOs. Capacity development workshops at IRMA were organized and these FPOs were invited to the campus for a more detailed discussion on issues posing challenge to their efficient operations. These FPOs were further assisted on developing business plan for their respective business. The two-year long engagement with FPOs has been a learning experience for the study team at IRAM. This documents some of the gap spotted by the study ream in policy formulated for promotions of FPOs and present recommendations for policy makers for a sustainable FPO movement.

8.2. Salient Findings from the FPO study

The FPOs were selected by following the grading system development by Nabkisan Finance Ltd. We considered two factors while selecting the FPOs – the grade earned based on their performance and the supporting POPI. Guided by these criteria we selected 4 FPOs in Gujarat (3-A grade, 1- B grade) and 4 FPOs in Rajasthan (4- A grade) (See Table: 1). The product basket of the FPOs included- vegetables, mango, paddy, bajra, moong daal, etc.The study team developed interview protocol and conducted interviews during the field visits. The data were collected on five thematic areas that has an influence of the success of collective organizations. These areas are – physical and technical support given to FPOs, Status of organizational governance and management, Collaboration and convergence with external agencies, innovation and advancement in adoption of technology, and financial determinants. The fieldwork in addition to engagement in terms of capacity building of FPOs has helped the study team to learn about the benefits derived by the FPOs through their association with NABARD and POPIs.

Table 1: List of FPOs visited

FPO.no	**Name**
Gujarat	
FPO 1	AdivasiUtthan Farmers Producer Company Ltd
FPO 2	Vanganga Tribal Farmers Producer Company Ltd
FPO 3	Krishicare Tribal farmers Producer Company limited
FPO 4	Vananchal Tribal farmers Producer Company limited
Rajasthan	
FPO 5	Krishakmitra Agriculture Marketing and Export Producer Company Limited
FPO 6	Pushkar Rural Agricultural Youth and Employment Producer Company
FPO 7	Srikamal Diary and Horticultural Eport Producer Company Limited
FPO8	Bio Agricultural Produce and Processor Producer Company Limited

Farmers in both Gujarat and Rajasthan has reported that they have been benefitted through their association with the FPOs. FPOs has offered support in input supply and procuring assured prices for their produce.

"The main intricacy as a farmer is the difficulty to balance between input cost and selling price. Input supply is provided by the FPO as per the needs of farmers. As input is provided in a lower price and only precise amount required for the farm area, there is reduction in input cost."- Farmer member, FPO 3

Many of the farmer members interviewed believe that the members of the Board of Governance have been supporting the members in the hour of need. The members are educated and initiative are trustworthy. BoD organizes meeting at village level and lead those meetings. BoD also focused on bringing social change in the society

"…during wadi project members were mandated to stop drinking to be a part of the group. Similarly in the FPO also, prior importance is always placed on social responsibility and benefits". – Farmer member, FPO 4

POPI is viewed by farmers as a social transformer who helped them to change their lives and livelihood. POPI helps in new farming practices, market linkage, social welfare and management of the FPO.

"POPI assists in every area of the FPO. Directors acts as per the POPI's instructions. If POPI is not there who will tell them what to do?"– Farmer Member, FPO 5

Many of the FPOs visited during the study have initiated sustainable farming practices and POPI is handholding them for the same. Some of farmer members are extremely to have joined the FPO, because they felt that they are change makers as they are in a venture of saving the soil and people from hazardous chemicals. These FPOs have initiated sustainable farming practices such as organic and residue free cultivation.

"We started new farming initiatives like organic farming and residue free farming only because of the FPO. Otherwise we didn't have any idea about these initiatives. Now we are saving the soil and humans. – Farmer member, FPO 1

Health issues among farmers because of the contemporary farming practices were the highlight point during the discussion by farmers of every FPO. All the farmers across the FPOs responded positively to sustainable farming practices. They wish to switch from contemporary farming practices. Some of the farmers practicing organic farmers have also shared the health benefits that they have received due to their farming practices.

"Health issues among farmers were common. Using chemical pesticides and fertilizers are extremely difficult. FPO motivated to go for organic farming that is improving the soil and farmer health"- Farmer member, FPO 4

8.3. Promotion of FPOs – Scopes for improvement

The prolonged engagement of the study team with selected FPOs helped to understand various operational challenges faced by these collectives while running their business. Many of these

challenges are well recognised in the current policy framework; while there are issues still to be addressed. For example- the current policy acknowledges the contribution that can be made by professional management of FPOs and but not much provision has been articulated on how to attract and retain professional managers to work for FPOs. Based on our engagement with FPOs during the course of study, below we list down some areas where process and policy modification is warranted.

1. **Management by CEO**

Currently the management of FPOs are supported by POPI. On many instances, the POPI offer the manpower support to FPOs to handle managerial aspects of the business. There is serious need for FPOs to recruit and retain competent manpower with strong business acumen. However, the challenge is that the FPOs are operating at a small scale and the terms of associations offered to a professional managers may not be lucrative enough get attracted for such profiles. Not many FPOs/POPIs are making an active effort to attract talent with requisite skills. There is a need to rethink on expanding the scope of the profile for CEOs by attaching more than FPOs to each CEOs. Probably the other critical challenge – nature of the business varies based on the commodity. So the CEO and leadership must be trained adequately on the value chain of different commodities.

2. **Business Support**

Under the current arrangement, POPIs are guiding FPOs in managing their business and connecting to the market. The problem is – many of the POPIs are themselves not skilled in handling businesses and traditionally acted as a non-profit organization promoting community institutions. There were not much has been done to conduct feasibility studies before starting the business in many of these FPOs. As a result, FPOS suffered bottleneck in scaling up the business. Also, the characteristics of the business varies based on the nature of the commodity, geographic location, landholding patterns of farmers etc. Hence, the processes supporting the businesses needs to be more inclusive and context oriented.

3. **Structuring the FPOs**

The FPOs are operating at small scale with diverse capacity and requirements. There are FPOs with different product and services functioning within the same geographical unit as District

or Block. But there is no mechanism for FPOs to coordinate with each other. As a result, there is information asymmetry leading to costly transactions. During our study of dairy cooperative, we found that that the village level dairy units are federated at the district level and from the district they are further aggregated at the state level. These federated structure resolves many of these issues related to information dissemination, technology adoption and economies of scale. Such a federated structure would also help FPOs to leverage the economies of scale and would make them more efficient in offering services to members.

4. Member Engagement

Mobilising members and retaining them during the formation of FPOs is a major challenge. The number of members involved with the FPOs keeps on fluctuating and as a result, FPOs would often find it difficult to predict operational requirements for their projects. As the FPOs are mostly into the commodity business, the frequency of transaction between members and FPO functionaries are seasonal and often low. This leads to further detachment of members from their collectives. There is a strong need to work on member engagement strategy for FPOs. In case of dairy, the member engagement is very high because of the nature of the commodity. The members would come to the collection centre every morning to supply their milk. Such frequent transaction creates a sense of ownership and loyalty among the members towards the collective. In FPOs, since the frequency of transaction is less, such ownership is often missing. One of the ways of increasing members' commitment to the collective is through offering support services to the community. The support services may be coordination with government department to offer public provisions, working with local NGOs and officials to address issues of social concern etc.

5. Sustainability and self-reliance of FPOs

How long the support of POPI to be continued with an FPO? What would be exit strategy for POPI? What would be interest of POPI in designing an exit strategy? These are some of the questions that required serious deliberations to build a vision of sustainability in FPOs. Sustainability in terms of a stable revenue model is not enough, there has to be matured system and processes within the FPO to ensure its democratic characteristics. Our field work reveals that FPOs generally don't have long term sustainability planning and as a result it failed to

retain members. There is a strong need for the FPOs to engage in a vision-building exercise that would help in figuring a roadmap for the future

6. **Financial Support**

The FPOs required financial support for various purposes and often the timely support is not available. We found while interacting the FPOs that for an FPO operating at a small scale, getting support from the financial institutions is a challenge. As a result, many of these FPOs don't get the required push despite having the potential to make it big

7. **Performance of POPI**

How can one be sure of POPI's performance? How does one can assess the strength of POPI as a facilitator? POPI's role as an institutional intermediary is very important in ensuring performance of FPOs. However, not much has been done in assessing the performance of POPI as a mentor to these FPOs. For POPI to be an effective mentor, it must have business acumen and community mobilization skills. Considering that many of the POPIs are non-profits working primarily with community institutions, there is a strong need to build their capacity in the area of business development. Also, in order to assess the performance of POPIs, an index can be developed

8.4. Policy Recommendations for FPO's promotion

The success of FPOs is determined by members, environment and process. The process is crucial and complex. If the policy provisions can made the process effective, than members can adapt to the environment to make the FPOs an effective venture. The process of a venture like FPO formation constitute of multiple stages like –

1. Opportunity identification and idea ownership
2. Stakeholder Mobilization
3. Opportunity Exploitation
4. Stakeholder Refection

Apart from these stages, the success of the collective venture is also influenced by role played by network – both formal and tailor-made. In this section, we would highlight some of the policy recommendations at each stage of the FPO formation.

1. **Opportunity identification and idea ownership**

The business opportunities for FPOs are generally decided by looking at the agricultural practices of the regions. For example- in any district, if many of the farmers are engaged in cotton cultivation, the FPO would be formed with the purpose of processing and marketing cotton. This is often done without developing an understanding of the value chain and feasibility of the business idea. A formal analysis backed by local knowledge is critical before starting any social venture. Also, a universal approach in promotion of all kinds of commodity is unlikely to be effective. There is a need to have more customised support services for different FPOs depending on the commodity that they are dealing with. There is a need to experiment with different model of support to FPOs focusing on their strength and weaknesses.

Current model of support does not differentiate among FPOs based on the commodity they are dealing with. This creates challenges because different commodities have varied ways of connecting to market. The support required for value addition would also vary depending on the commodity. Hence, there is a need to develop customised model of supporting the FPOs depending upon the commodity they are dealing with.

There is a need to develop a sense of ownership among the members. Currently the members view FPOs is an entity run by NGOs and not as their own collective. The ownership can be developed if the functionaries of the FPOs start actively sharing information. Formal meetings should be designed and conducted on a regular basis to engage the members. These collectives need to be trained on community engagement strategies. POPIs may have expertise in working with communities, but such expertise does not get transferred automatically to FPOs. Hence, there is need to devise focused capacity building modules FPOs to engage with communities.

2. Stakeholder Mobilization – role of tailor-made network

Once the idea of an FPO gets formalized, there is a need for the entity to gather human, physical, financial, and technological resources. The role of network is crucial for the FPOs to succeed. While there exist, a formal network designed by the government, the need is to develop a tailor-made network. The tailor-made network would be formed based on the nature of resource dependency that the FPO would have. Followings are some of the recommendations to develop tailor made network for the FPOs

- Develop a network alliance with management schools in the region. The management schools are equipped to impart capacity building training to the FPOs on business skills.

The business strategy and business plan development can be also assisted by these schools.

- Actively promote the idea of internship among students at management school. The internship is an effective way of encouraging young minds to engage with collectives. The students equipped with management skills would be a great asset to FPOs in developing managerial skills if guided well. Some events like business plan competitions, debate etc can be organised among students on topics related to FPOs in order to make the idea mainstream.
- Setting up of incubators for supporting FPOs. There should incubators set up by capable institutions dedicated to supporting FPOs only. These incubators would offer handholding support the FPOs for the longer duration of time and established alliances with other players in the value chain so that the FPOs can sustain in the long run. Detailed terms of reference (ToR) for the incubators may be prepared to understand their specific role in promotion of FPOs

3. Opportunity Exploitation

Once the business idea takes step and ownership of the idea gets formalized, the next step is to formalize the collective. FPOs are to be registered to make it legally valid. The members should be properly trained on the process of registration and paperwork required for the same. This would help them to understand the efforts required for creating a legal identity for the collective.

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