



GOVERNMENT OF WEST BENGAL  
NABARD AND THE BENGAL CHAMBER  
FPO CONCLAVE 2021



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## 1. INTRODUCTION

The National Bank for Agriculture and Rural Development (NABARD) and The Bengal Chamber of Commerce and Industry (BCC&I) believe that time is ripe for West Bengal to have a State Focussed and Technology Driven FPO Policy and as well as requirement of promotional Agro Based Clusters for boosting agri exports from the region. Keeping this perspective in mind, a two-day FPO Conclave was organized to provide a platform to the policy makers, thought leaders and all stakeholders to come together and share thoughts and take it forward.

The main objectives of the conclave were:

- To discuss major challenges faced by the FPOs and finding out the ways to overcome them
- To discuss the desired structural changes in policy, technology and investments to address the various challenges faced by the FPOs
- To frame strategies for integration of FPOs in value-chain and minimise the role of the agents
- To discuss the role of the States, industry and institutions towards the trade and agri-businesses, creation of value chain through FPOs
- To discuss the challenges, opportunities, and the strategies as well as the approaches that facilitate the growth of FPOs

This report contains the summary of the speeches of all the distinguished speakers who shared their vision and ideas in the two-day long conclave which leadsto major findings and finally formation of recommendations towards the objective of the conclave that is preparing future strategies for FPO development in the State.

The concerned Departments of the State Government, NABARD, Agricultural and Processed Food Products Export Development Authority( APEDA), Small Farmers' Agri-Business Consortium (SFAC), Agri Exporters Association of the State, Agriculture Insurance Company of India (AIC), National Commodity Service Organisations like NCDEX, national level agri inputs companies, corporate players in agri business, agri start-ups, representatives from FPOs throughout the State, NGOs working in agricultural field, thought leaders and policy makers actively participated in the conclave.

The report showcases the major aspects of all the deliberations of the distinguished speakers divided into various sessions and finally the recommendations which are the outcomes of the conclave.

## 2. INAUGURAL SESSION ON DAY 1: FPOS- CATALYSING FARMERS INCOME

The honourable speakers of this session were:

- Dr G.R Chintala, Chairman, NABARD
- Shri Rajesh Sinha, IAS, Secretary, Dept of Agricultural Marketing, Government of West Bengal
- Dr A.R Khan, Chief General Manager, NABARD
- Mr Jayanta Chakraborty, Chairperson, Agriculture & Rural Development Committee, The Bengal Chamber & Senior General Manager, Indofil Industries Ltd.

### 2.1 BENGAL NEEDS A STATE FOCUSED FPO POLICY: JAYANTA CHAKRABORTY, CHAIRMAN, AGRICULTURE AND RURAL DEVELOPMENT COMMITTEE, THE BCC&I

The conclave started with aWelcome Address by Mr Jayanta Chakraborty, Chairperson, Agriculture & Rural Development Committee, The Bengal Chamber & Senior General Manager, Indofil Industries Ltd. In his address, he pointed out that the formation of FPOs is crucial because that is the most significant means to increase income of individual farmer. He

*It is a time for West Bengal to have a State focussed FPO Policy and development of District-based Clusters for proper agricultural marketing.*

mentioned that the promotion and strengthening of FPOs has been one of the key strategies of the Government of India to achieve inclusive growth. The different means by which these FPOs can get access to credits have also attained a central stage in the policies of the Central Government. Keeping all of these in mind, the Indian Government has launched a new central scheme titled- 'Formation and Promotion of Ten Thousand Farmers Producers Organisations' with a clear strategy to promote 10,000 new FPOs across the country, with a budgetary provision of Rs 6865 crores. The main purpose towards the formation of FPO is power aggregation.

## **2.2 FPOS NEEDED TO BE DRIVEN LIKE COMMERCIAL ORGANIZATIONS: DR CHINTALA, CHAIRMAN, NABARD**

The Key Note Address of the conclave was delivered by Dr. G. R Chintala, Chairman, NABARD. His deliberation was focussed on better returns of FPOs and specific reasons for which the income of the Indian farmers remained more or less stagnant even after a significant rise in the agricultural output and productivity. Though market, terms of trade etc are major challenges before Indian agriculture but Dr. Chintala said that the most important current challenges are:

- Marginalisation of Farmers
- Land Fragmentation
- Weather changes

He mentioned that in the last 50 years, per capita land holdings have come down from 8-9 acres to just 1.5-2 acres. Approximately, 85% of farmers in India are marginal farmers, but in West Bengal, the figure is around 95%. Thus, the main question is how to develop the income conditions of these farmers and make their activities, a viable activity throughout the state.

Dr Chintala revealed that in the last 8-9 years, around 5000 FPOs had been created by NABARD and around 4000 FPOs were created by the Departments of different State Governments and others. Today, there are around 11000 FPOs in the country. Based on the available information from 5000 FPOs under NABARD, an analysis was done for a period of 6 years. The main intention was to study the benefits of FPOs on the farmers. The results were good. It was found that the farmers received around 40-60 % additional benefits due to FPOs. The main benefits were due to the trader's commission getting transferred to the farmers, lower input price and higher procurement price. Again, out of these 5000 FPOs under NABARD, around 2500 FPOs are already into grade A and grade B, that is, investment grade. They are also getting money from the banking system and NABARD subsidiaries like NAB KISAN and others.

*It was found that the farmers received around 40-60 % additional benefits due to FPOs. The main benefits were due to the trader's commission getting transferred to the farmers, lower input price and higher procurement price.*

Referring to some FPO success stories, Dr Chintala said that there are many FPOs which are getting a turnover of Rs. 5-20 crores. This is because they are producing finished products and selling the processed products to big retailers directly. They are processing the husk which is used as cattle feed, and selling it to the members at a lower price. This is also benefitting the members of the FPOs. As a result of this, milk production has also increased and extra income is being earned by the members. Farmers from West Bengal should also look at these success stories and follow these FPOs. Dr Chintala has also mentioned some challenges in such patterns which according to him are:

- Membership- The number of members should at-least be 700-800, otherwise the gains from the output would be difficult to realise.
- Share capital- Members should contribute to the share capital otherwise the day to day functioning of the FPOs may be difficult.

- Democratic Governance- The ordinary farmers should be involved in the decision-making process. All the farmers must have equitable share according to their produce.
- Able CEO- The CEOs of the FPOs must be professionals and be competent enough to manage the activities of the FPO and at the same time search for credit, market and export opportunities which can enhance the income of the farmers. This would help them to drive the FPOs like a commercial organisation.

Dr Chintala said that in the process of making India a 5 trillion-dollar economy, the 140 million farmers in India play a very important role. For this, the farmers need to scale up the operations with a new kind of technology. The marginal farmers can hire machineries, warehouses etc if they lack funds of buying those. At the end of his address, Dr Chintala advised the FPOs need to get organised in a much better way and to go for a process of value addition, so that the entire money can flow back to the farmers. This will surely motivate the farmers and indirectly increase their productivity in a significant manner.

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### **2.3 HANDHOLDING AND TRAINING REQUIRED TO BOOST FPOS: RAJESH SINHA, SECRETARY, AGRICULTURAL MARKETING DEPT**

Mr Rajesh Sinha, IAS, Secretary, Department of Agricultural Marketing, Government of West Bengal spoke on 'Transition Strategies- Agriculture to Agri-business.' He said that about 6-7 stages of intermediation are involved in the process of selling agri-products from the farmers to the final consumers. The profit margin of agricultural products is not high and the existence of these intermediaries further reduces the profit margins of the farmers. The middlemen are making money either at the cost of the farmers or at the cost of the consumer. Thus, there exists large scale disguised unemployment in this sector. Mr. Sinha suggested that the removal or minimizing the involvement of the intermediaries from the agri supply chain is a crucial task and formation of FPOs can play a major role in addressing the issue. Currently, there are around 317 FPOs created by NABARD in West Bengal and around 120 FPOs created by the State. There are some FPOs which are earning around Rs. 1 lakh per day, but not all of those FPOs are doing well. The main reasons are lack of motivation and lack of training. The non-performing FPOs are to be identified and should be provided training and handholding. The FPOs cannot develop commercial skills overnight. They require a proper nurturing for about 5-6 years. The Government of West Bengal, along with some FPO promoting organisations is already into this task.

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While mentioning about FPO experiment in the State to control price hike, Mr. Sinha referred to onion crisis situation in the State in 2015-16. The crisis led to a sharp rise in the prices of onions. In order to



reduce the prices, 'Sufal Bangla' was launched by the Government of West Bengal, under which the Government itself acted as retailer. 'Sufal Bangla' started with just 16 outlets selling only onions and potatoes in 2015-16 and at present there are around 334 outlets of 'Sufal Bangla' in West Bengal where all types of fruits and vegetables are sold. The turnover is almost about Rs.70 to 80 crores. Interestingly, all the outlets are completely managed by FPOs and FPCs. Mr. Sinha revealed that the State has its own rice mills and now coming up with similar pulses and honey processing units where they need participation

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## **2.4 FORMATION OF FPOS - KEY TO ADDRESS MAJOR CHALLENGES OF AGRICULTURE: DR A. R KHAN, CGM NABARD**

Dr A.R Khan, Chief General Manager, NABARD focussed his deliberation on the necessity of forming more and more FPOs in West Bengal. He explained how FPOs can form successful cooperatives like Amul. According to him, the only difference in cooperatives and FPOs is in their organisational and legal structures. He stated that FPOs can address current challenges like

- Consequences of climate change
- Rise in food demand, both in terms of quality and quantity
- Diminishing land sizes, making it difficult for the farmers to use modern equipment and tools.

He informed the audience that the problems can be addressed if the farmers get united and this is the main motive of organising FPOs. According to Dr Khan, FPOs being unsuccessful does not mean that the farmers are unsuccessful or the product they are producing is unprofitable. Unsuccessful FPOs imply that there have been certain loopholes in different aspects. Due to this, a minimum support of 3-5 years needs to be provided to the FPOs. The capable and active members of the FPOs must be properly identified and should be given a desirable position in the management. The foundations of FPOs must be strong enough and must be properly designed. This can be proved from the case of West Bengal. Data shows that FPOs which had followed a proper strategy has been successful in raising the income of their members by a rate of around 30-40%. In any FPO, collective planning is very much necessary. Thus, the design of the FPOs must be strong.

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He concluded his address by stating that the yardstick for determining whether a FPO is successful or not, must not be its turnover, but the fact whether there has been an increment in the income of the member farmers has to be taken into consideration in this regard.

## **2.5 THE INAUGURAL SESSION WAS FOLLOWED BY A VERY ENGAGING AND INTERACTIVE QUESTION AND ANSWER SESSION. THE STAKEHOLDERS PRESENT IN THE AUDIENCE RAISED THEIR QUERIES WHICH WERE ANSWERED BY THE DISTINGUISHED SPEAKERS**

Q1. **Ankush Saha**, General Secretary, West Bengal Fruits and Vegetables Association- On an average, around 6000 metric tonnes of products are exported by air every year. In 2020, the figure fell to around 2800 metric. In 2021, the same is close to zero. This has occurred mainly due to the high prices of transportation via air and high tariffs imposed by European countries. We are in intense dilemma and the farmers are facing a lot of problems due to these situations.

**Ans.Mr. Rajesh Sinha** - Most of the exports are done via passenger aeroplanes. Due to covid, as most of the airplane services are non-functional, this has hampered the exports in the last two years. Again, to improve exports, a State level task force has already been created under Chief Secretary of the State and the work which had to be stopped for the last 1.5 years would resume shortly and then a meeting would be organised with all the stakeholders.

**Q2.Tamal Sarkar**, Joint Secretary, West Bengal Exporters' Association- Since 2014, we have not been able to lift the ban on exports of certain items like lady finger, brinjal and sugar. When we approached APEDA, they are saying that the labs for testing in the State have not yet been developed. We have been doing meetings continuously but we haven't received any results.

**Ans.Mr Rajesh Sinha** - Regarding the export related issues; we would surely have a joint meeting later. With regard to the labs, we are going to start a State of art lab in Rajarhat. So I think that the problem of labs would be sorted.

**Q3.Sumita Sur Roy**, Rural Development Association, PRADAN (Professional Assistance for Development Action) NGO - We have been working in the process of farmers aggregation. My question is to Mr Khan is that you said that you provide support systems to the FPOs. I just wanted to know, what kind of support system you provide.

**Ans.Dr A R Khan** - NABARD provides grant support to the FPOs through different NGOs, Government Organisations, KVKs and different sort of civil society organisation for a period of 3-5 years. For eg, registration, mobilisation, training, capacity building, all these are being supported by the mode of grants. In addition to that, we are also facilitating the credit availability from the banks, seed money etc. We are also converging with the different types of schemes of the Governments for providing support in capacity building.

**Q4.Tapan Kr Byne**, Organic Farmer, Hashkhali Block, Nadia- I am mainly into organic farming and I also have a dairy. From the cow dung in my dairy, I am producing vermicompost. I want to take this initiative to an industry level. I need information regarding how I can get finances from different sources. At the same time, I along with some other farmers have integrated ourselves in an organised way and we are working together. How can we form an FPO?

**Ans.Mr Rajesh Sinha** - For the first time in India, an organic market in Rajarhat will be opened within 6 months. For forming an FPO, you can contact the district officers of NABARD. You may also contact our officer, Gautam Mukherjee or other agri-marketing officers. We will arrange it for you. If you want to get some funds for organic farming, we have Krishi Yojana scheme, from where you can get some funds. You may contact the Agricultural Department for this.

**Q5.Ritam Sinha**, NER Agro Industries Ltd- Due to the loss of exports, our markets are being captured by Bangladesh. Once the market gets captured, it is very difficult for us to revive those markets. Again due to the duties imposed by some of the countries, the prices of our products have skyrocketed. It would have been helpful if Government takes some steps.

**Ans.Mr Rajesh Sinha** - For International issues, Centre needs to take a call. For local issues please give us in writing, we will surely discuss the things and try to find a solution to these.

**Q6.Mustafa**- Sundarbans Tea Organisation- We have 1000 farmers producing coffee in Darjeeling. But we are facing problems in processing coffee. We also need some market connect and resource support so that more farmers can join with us. The other question is, in Sundarbans, we have goat farming and associated cropping. We are facing difficulties in market connects

**Ans.Dr A R Khan** - NABARD is always there to support the farmers. We don't fund individual groups because private banks are already doing so. If any soft assistance is needed, we are ready to provide it.

With regard to the Sundarbans question, I have personally visited Sundarbans last month. There is a scope of goat farming in Sundarbans and we are working on it.

The concept of FPO is not related to a single commodity. It links all types of commodities. Nowadays, the greatest problem arises because farmers buy the inputs at the retail rate but sell their outputs at the wholesale rate. This system needs to be reversed and can be done by collective action. The formula to this is the creation of FPOs. Cleaning, grading, sorting, primary processing will surely lead to value addition and this will lead to the increase in the profits of the FPOs

Again, the FPOs must not be only export dependent. This will lead to dependency on foreign countries. The FPOs must also focus on the domestic market too because India is the World largest market after China.

**Q7.BijonPusti**, POPI, Purba Mednipur - due to the complexities in the processes of getting fertilizers license, paddy programmes, we are facing a lot of harassment. It would be better if this problem is solved.

**Ans.Jayanta Chakraborty**- For this issue, we have already given a representation to the Joint Director, Agriculture Plan Protection Quality Control. If needed, we would approach him again. We will try to create a separate window for FPCs so that the procedure gets simplified.

**Q7.Amrit Bery, Agro Producer Company Ltd**, Purba Mednipur- We cultivate betel leaves in our area. We supply farmers the required inputs like fertilizers, shade net etc. Now they are facing problems in getting a market. How can this problem be solved?

**Ans.Jayanta Chakraborty** - In India, the problem is not of production but of distribution. When a single farmer is producing betel leaves, his/her bargaining power is also less. But with the creation of FPOs, the problems of absence of market would automatically reduce. Nowadays big retailers like Reliance Fresh and others are procuring products from the FPOs. If the quality of paan is good, properly graded and at the same time, large quantities can be found at a single place, retailers would surely buy from you. Some temporary fluctuations may be present, but trust me, FPOs are the future.

**Q9.Tushi,PRADAN**, Jhargram- It would be very helpful if a representative from agri-marketing department is available at the block level

**Ans.Dr A R Khan** - The Government has initiated forming of 10000 FPO. Under this scheme there is a provision that at the cluster level, CBBO, that is, Cluster Based Business Organisation will be formed which will coordinate the different institutions and address the problems of the FPOs.

**Q10.Subhankar Biswas**, Bagdah, North 24 parganas- We cultivate dragon fruit in 20 acres of land. The cost of production is huge. For cultivating in 1 bigha land, the cost is around 20 lakhs. When the output is large, we are not getting enough prices for our fruit. A lot of by-products can be produced with this dragon fruit. So,it would be very helpful for us if we can create such opportunities.

**Ans.Jayanta Chakraborty** - West Bengal is new to this cultivation. So,the market is not yet organised. As time passes by, we will surely think about providing training about its scientific cultivation and its associated benefits can also be analysed in short time.

### **3. PANEL DISCUSSION ON 'FPO GOVERNANCE, MANAGEMENT AND STATUTORY REQUIREMENTS, SUSTAINABLE BUSINESS MODELS & SUCCESS STORIES'**

The honourable guests for this panel discussion were:

- Chairman- Prof Sukhpal Singh, Centre for Management in Agriculture (CMA), IIM Ahmedabad
- Rapporteur- Mr. Nirmalya Mandal, Director- Ecociate Business Consultants Pvt Ltd
- Panelist 1- Mr. Vilas Vishnu Shinde, Chairman & MD, Sahyadri Farms
- Panelist 2 -Mr. Bijan Pusti, POPI
- Panelist 3 - Mr. Rajib Mohanty, Senior Consultant, MART
- Panelist 4 -Mr. Debasish De, PRADAN



### **3.1 INNOVATION – A KEY FOR FPO SUCCESS: PROF SUKHPAL SINGH, CENTRE FOR MANAGEMENT IN AGRICULTURE (CMA), IIM AHMEDABAD**

Prof Sukhpal Singh shared his experiences of working with more than 35 FPCs across five different States of India. He said that FPOs are no longer unfamiliar entities as they are very much part of the agribusiness. According to him, States like West Bengal and Tamil Nadu are working very closely with their entities and providing very active support. There are also some other States which are proactively looking after the development of these entities. There are also many corporate foundations and private sector players who are looking at promoting and working with such entities. There are variations in the character of the FPOs in terms of their business models, service networks, needs etc. These characteristics depend on who is promoting the FPOs/FPCs and the quality of help that they are receiving. He emphasised on the needs of innovations- new ways of governance and managing the entities. Innovations not only include product innovations and technological innovations but also process innovations, organisational innovations related to how businesses can be organised, marketing innovations and also institutional innovations and how new networks are created etc. These innovations would give competitive advantage in both domestic and foreign markets. We need to find newer ways of product differentiation, cost cutting, quality improvement etc. The way by which the Sufal Bangla stores are being managed by the FPCs is a great form of innovation that has already started giving benefits to the FPOs. He appreciated the initiative of West Bengal Government in its successful experiment by setting up 'Sufal Bangla'.

*Success and sustainability of FPOs depend on innovation. It's not only product innovation but also includes innovations in the areas of management, organization, marketing, cost cutting etc.*

### **3.2 SAHAYADRI – A SUCCESSFUL FPO MODEL**

Mr Vilas Vishnu Shinde, Chairman & MD, Sahyadri Farms started his deliberation by sharing the experience of the journey of Sahyadri, a horticulture farm organisation which started on an individual scale with the production of grapes. Before setting up the organisation, in the initial stage, Mr Shinde tried to create his own value chain. While working on this, Mr Shinde realised that with only 2-3 acres of land, it was difficult for him to create a sustainable value chain. That was the time when he started approaching other farmers to join with him.

From 2006-2010, Mr Shinde and his partners worked on enhancing the value chain for the grapes that were being produced in Nashik and started exploring the global markets. From the beginning, Mr Shinde understood that there was an urgent need for aggregating farmers together so that the farmers also have bargaining power. He realised that integrating other horticultural farmers engaged in the production of coconut, tomatoes, bananas was necessary for further expansion.

Mr Shinde also shared his experience on some critical issues which they needed to keep in mind were like shelf-life of fruits, quality needed for export etc. He suggested that farmers can be benefited by:

- Collective farming
- Integrated Value Chain Approach
- Researching and making the organisation capable of competing in the global market.

At present, Sahyadri farms has around 1200 farmers engaged in cultivation over an area of 600 acres. The production is done keeping in mind a single standard. Sahyadri farms is also working with the input companies directly. This ensures lower cost of production. Again, several testing facilities like water testing facilities are provided to the members. At present, there are 726 grape farmers in the organisations.

In terms of marketing, the organisation is working with a lot of major European retailers in countries like Germany, United Kingdom and other Scandinavian countries. At present, Sahyadri is handling around 20000 metric tonnes of grapes only for the export market and around 10000 metric tonnes of grapes for the domestic market.

*Sahyadri follows the three-tier system of Amul and the division of labour has been closely monitored.*

Sahyadri follows the three-tier system of Amul and the division of labour has been closely monitored. Individual farmers have become the shareholders of the crop-wise farmer producer companies. The crop wise farmer producer companies are shareholders of the main producer company. The main producer company takes care of the marketing activities and the service part. On the other hand, the crop wise farmer producer companies' main focus lies on the producer related aspects. With this ecosystem, around 10,500 horticultural farmers from different horticultural crops surrounding the Nashik area are part of the esteemed organisation.

*At present, the organisation handles around 2 lakh metric tonnes of foods and vegetables. Around 60% is sold out in the foreign market and around 40% is sold in the domestic market. Now Sahyadri has captured markets of around 42 countries all over the world*

At present, the organisation handles around 2 lakh metric tonnes of foods and vegetables. Around 60% is sold out in the foreign market and around 40% is sold in the domestic market. Now Sahyadri has captured markets of around 42 countries all over the world and this was possible only due to maintaining the global standards. Sahyadri is certified by several organisations and are recognised by some of the top supermarkets in the country. The market is still expanding. At the same time, due to the large scale and efficiency in the production process, there has been a sustainable rise in the income of the member farms. Recently, a major investment of around 200 crores was done to build a common facility centre. This has led to a creation of a business of around 500 crores. With this, the next aim is to increase this value to 700 crores in the years to come.

### **3.3 POPI – A MODEL OF BRINGING FPOS UNDER ONE UMBRELLA**

Mr Bijan Pusti from a POPI based in Purba Midnapur shared his experience of setting up a FPCs in the district. They started bringing FPCs under one umbrella in the year of 2013 in Purba Midnapur, which is an area filled with resources and agricultural opportunities. The FPCs were formed based on the agricultural resources of different areas. At present they have 26 FPCs working together. The organisation targeted to have around 300 members in the span of 6 months from the date of registration.

Mr Pusti emphasised on the fact that as soon as the registration process was over, all organisation should proceed with their business processes because any credit lending agencies would always look for the type and scale of business that the organisation is involved with. In order to facilitate easy monitoring, one person has been selected as an overseer in each cluster. This has been successful in reducing the gap between the management and the farmers. The business model that is being followed by the organisation consists of two tiers. Firstly, data related to the input requirements and the outputs of the farmers are intensely studied. After this, the business plan is made and all decisions related to procurement and marketing are studied under this stage. Each FPC is into the productions of 1-2 products. The business activities are cluster based where individual activities have been promoted under different clusters.

Mr Pusti shared the story of an FPC working under them, named Nabojagoron Global. This FPC deals with groundnuts. The groundnuts are firstly produced by the farmers and then procured by the FPC. After

procurement, the groundnuts are processed and graded. After everything is done, the FPC starts the marketing process.

The revenue that is earned through this process gets distributed to the farmers in the form of dividends and that adds up to the income of the farmers. Again, the people involved in the activities of processing and grading are mostly the family members of the member farmers. Thus, there is also a wage income that is being earned by the family of the member farmers. In addition to this, the organisation has also planned to provide a patronage bonus to the farmers who have significantly contributed to the profit shares of the farms.

His presentation was followed by a series of questions and answers.

**Q1.Prof Singh** - Can a landless farmer become a member of FPC?

Ans. Mr Pusti- Yes, they can.

**Q2.Tushi, PRADAN, Jhargram**- With regard to Nabajagaron Global example, how much extra income is being generated due to the value addition that is being done by the FPCs?

Ans. Subhas, Nabajagaron Global - Due to the value addition, we are receiving an extra income of around Rs. 200 per quintal. We also have future plans of groundnut oil extraction. For this project, we have already received a bank loan of around Rs. 85 lakhs and we have also received a credit of around Rs. 60 lakhs from NABKISAN. Canara bank has also come up to help.

**Q3.Barni, PRADAN, Jhargram**- We are seeing that the youth is not that interested in farming activities. Due to this, a large chunk of young farmers are migrating to towns and cities. You people have formed a great organisation. Is the youth getting motivated from the steps the organisation has taken and gaining interests in farming?

Ans.It is true that the young generation is not that interested in farming. This interest can be brought back by the use of new technologies and mechanisation of farm activities. Along with the government, all organisations working on this has to fight the battle of transforming agriculture into an industry. With regard to this, COVID- 19 has impacted in a positive way because due to the pandemic, many young people aren't going to towns and cities in search of jobs, and have connected themselves in small agricultural activities.

**Q5.Arnab, PRADAN, Kolkata** - There must be farmers who are unable to provide share capital. Do they get the benefits from the organisation? If they do, are there any specific terms and conditions?

Ans. The whole FPC system is pillared on trust. Initially we have faced problems in receiving capital from the farmers. But as time passed by, we have been successful in gaining trust from the members and now this problem of receiving share capital has contracted.

People who contribute share capital get dividends. On the other hand, members who have no contribution to share capital don't receive dividends but receive all other supports and suggestions that the others get.

### **3.4 A ROBUST BUSINESS MODEL – KEY TO SUCCESS OF FPCS: MR MOHANTY, SENIOR CONSULTANT, MART**

Mr Rajib Mohanty, Senior Consultant, MART said that India has a great potential in agriculture. It is the largest producer of pulses, sugarcane, cotton and milk in the world and the second highest producer of wheat, rice, fruits and vegetables. It is the largest producer of tractors and has the second largest arable land. Agriculture also is very important from the employment point of view because it employs around 58% of the workforce in the country. Again, agriculture contributes to around 15% of the GDP and India is among the top 5 net exporters of the world. He added that the Government has been an active investor in the agricultural field. The AGRI INFRA fund of \$14 bn has showered benefits to farmers, FPOs, PACs and Agri Tech entrepreneurs and start-ups. The government's agricultural support system has widened throughout the country. Some of these supports include:

- PM Kisan Samman Yojana- Rs 6000 per annum is provided in three equal instalments to all land holding farmer families
- KCC facility
- Increase in MSP (Minimum Support Price)
- APMC Act reforms
- Abolition of mandi tax
- Rs. 1 lakh crore investment in farm gate infra (post-harvest)
- Contract Farming Legislation
- Essential commodity Tax Reforms.

All these had positive implications like:

- Timely cultivation due to monetary support
- Better price realisation and more farm income
- Shrinkage of middleman influences
- More avenues for selling

MART's experience with FPOs has been remarkable. Some of the services that MART provides to the FPOs are:

- Formation and Strengthening
- Business Planning and Market Access
- Market Linkages
- Training: More than 100 batches of advanced training to CEOs and BoDs have been completed.

With regard to FPOs from West Bengal, MART has been the technical service providers to GIZ under UPNRM to provide handholding support to the channel partners in Coochbehar and has also trained CEOs and BoDs of 74 farmer producer organizations under NABARD.

According to Mr Mohanty, the top emerging issues in West Bengal are as follows:

- Marketing surplus need to be taken care of.
- Demystification of business plan and activities and modifications as per as the needs and requirement
- Linkages with international players
- Maintenance of standard supply quality with proper scientific methods
- Promoting E- Commerce platforms

With regard to the areas of governance and management, the main issues lie with:

- HR planning
- Planning (business planning and financial planning) and monitoring in regular basis
- Business Diversification
- Training – Both business training and technical training
- Management of business organisations and the day-to-day activities of the FPOs/FPCs
- Transparency and conflict management
- Statutory compliances under Act of Registrations

The key parameters of the business model originate with new ideas-product based and service based. He suggested that potential people should be identified from amongst the members. Developing a proper business model is crucial for setting up successful FPCs where all the member should be accommodated.

According to Mr Mohanty, some of the critical factors for the success of the FPOs are:

- Number of members
- Leadership criteria
- Sharing information to all the members
- Making major assumptions blended with right data

- Developing the implementation methodology of the business model
- Refinement process of draft business plans

According to Mr Mohanty, free agri-marketplace will unlock opportunities for new investments in the fields of:

- Digital commerce platforms
- Insurance
- Credit /Financial Institutions
- Grading
- Warehouses and cold storage
- New food processing

### **3.5 AGGREGATING WOMEN FARMERS – A MAJOR CHALLENGE: MR DEBASISH DE FROM PRADAN**

Mr Debasish De from PRADAN, a non- government, non-profit organisation with more than 400 university educated, socially motivated professionals who are trained and placed to interface with community at the grassroots spoke about the issues that they face while working at the grass-root level. At present, PRADAN is working in 9 States in India. In West Bengal, it is working in three districts- Purulia, Bankura and Jhargram, operating in around 1230 villages. At present, it has been successful to have an outreach to 1.2 lakh people (all women). Mr De categorically mentioned the challenges that they face while working in this region:

- Huge amount of rainfall which leads to high level of soil erosion, having impacts in agriculture
- Very little control on factors of production
- Limited knowledge of improved practices as this region is mostly tribal in nature
- Poor access to quality inputs and fair markets
- Though most of the agricultural works are done by women, women are not recognised to be farmers. They have limited ownerships on assets and lacks land rights
- Poor service sector and value chain infrastructure leading to high levels of exploitation

While aggregating women under the Company Act, PRADAN mainly focussed on three aspects:

- Farmer collectivization in cluster approach
- Crop selection and planning- The three criteria for crop selection are small holder farmer suitability, Agro Ecological Compatibility and Market Attractiveness.
- Market linked

The whole procedure of aggregating women farmers together was named as Agriculture Production Cluster. Approximately 70000 women farmers are working with PRADAN (WB) in these regions. From them, PRADAN has already created 5 FPCs, constituting of around 11000 women. In the last 6-7 months, around 900 metric tonnes of product has already been marketed via this initiative of PRADAN.

Supports needed:

- Infrastructure- Out of the total land area, only 13-15 percent is irrigated. In the last 3-4 years, PRADAN with the help of the Ministry of Panchayat and Rural Development, around 90000 hectares of land treatment has been done. Along with this, small water harvesting structures have been developed in around 35% of the area in this region. Infrastructural facilities related to sorting and grading are also lacking
- Strengthening marketing channels and bringing market players
- Need for start-up funds so that the initial financial requirements can be covered. If the requirement for these funds is fulfilled, the funds for FPO set up (office rent, furniture, utility cost reserve fund for loss management)
- Initial training and capacity building supports



### 3.6 FPOS HELPS IN ATTAINING PROFITS THROUGH ECONOMIES OF SCALE: MR S.S NAIR, GENERAL MANAGER, APEDA

Mr SS Nair, General Manager, APEDA, said in his speech that the agriculture is the backbone of the Indian economy and the farmers play a major role in strengthening the same. Due to the large number of marginal farmers with fragmented land holdings, the role of FPOs becomes very crucial.

He pointed out some of the hardships that the farmers of the country face. They are:

- Small size of land holding
- Non availability and high prices of good quality seeds
- Degrading soil qualities
- High cost of inputs such as fertilizers and pesticides
- Low irrigation facilities
- Non accessibility to large scale mechanisation of agriculture
- Shortage of credit and insurance facilities
- Large number of intermediaries

All these factors reduce the productivity of the Indian farmers. We need to aggregate the farmers so that these issues can be solved jointly and the competitiveness of the Indian farmers can be improved. FPOs help in fulfilling this objective by providing an organisation of their own. FPOs also help in attaining profits through the economies of scale

*FPOs help in attaining profits through the economies of scale*

During 2020-21, the total merchandise exports from India were 256.35 billion US dollars, out of which the exports of the agricultural products were 1.24 billion US dollars, reflecting 16.09 % of the total exports of the country. With regard to the exports of the product looked after by APEDA, it constituted 48.4% of all agri- products. India's share in exports is 9<sup>th</sup> in the world, with a share of 2.1%. The major destination for India's exports are USA, China, Bangladesh, UAE, Vietnam, Saudi Arabia, Nepal etc. APEDA has more than 700 product lines but the major products in India's export list includes basmati rice, non-basmati rice, groundnuts, maize, wheat etc.

*During 2020-21, the total merchandise exports from India were 256.35 billion US dollars, out of which the exports of the agricultural products were 1.24 billion US dollars, reflecting 16.09 % of the total exports of the country.*

Keeping all these factors in mind, the Government of India has announced a completely inclusive Agri-Export Policy (AEP) in December 2018 which has been carefully crafted to address all essential elements which are required for boosting Agri-Exports. APEDA has been regularly interacting with the State Governments and have been persuading them in effective implementation of AEP. In order to enable better communication and management, Export Monitoring Committees have been formed at individual levels. A major aim of this policy was to focus on export-oriented production.

*APEDA has been regularly interacting with the State Governments and have been persuading them in effective implementation of AEP*

APEDA has been pursuing the states regularly for finalizing the State specific agri- action plan. So far, 20 states and 2 UTs have already done this, but there are some states like West Bengal, Bihar, Jharkhand and Orissa which are yet to complete this process. Mr Nair requested the officials of the concerned governments to get this done as soon as possible. Keeping in mind the aim to double agri-exports, some of the critical areas that need to be addressed for enhancing the agricultural exports are:

From the supply side:

- Lack of export-oriented production
- Logistic issues
- Development of post-harvest infrastructure

From the demand side:

- Greater market access needed for more products
- Need for aggressive blending and publicity abroad

With regard to the export-oriented agriculture potential from West Bengal, West Bengal is endowed with a favourable agri climate and the bundles of natural resources for diversified agriculture production. The State accounts for nearly 10% of the total horticulture crops production and the second largest producer of potatoes, accounting for about 24.31 % of the total potato output in the country. The state's potato production stood at around 13.78 million metric tons in 2018-19. Brinjal, cabbage, cauliflower, banana, mango are some of the other potential crops from West Bengal. Out of India's total food grain production, WB had a share of 6.3% in the year 2019-20 and it is also the largest producer of rice in India with the production of 15.18 million metric tonnes in 2019-20.

There are some exports facilitating initiatives that have been taken by APEDA. These include:

- Organising virtual buyer seller meets
- Organising virtual trade fairs
- Creating export promoting forums for specific identified products
- Promotion and providing market access for organic products
- Formulating country specific agri-export strategy
- Providing logistic intervention supports when needed
- Providing financial assistances in small scale

The global pandemic has led to a change of the consumption pattern of the importing nations. The shift is from food sustenance to healthfoods. Due to this, there has been a substantial rise in the export of products such as ginger, turmeric and other health foods.

APEDA has tried to include FPOs, FPCs, Cooperatives, exporters and individual farmers in their activities. More preferences are given to land-locked and economically backward states. With the efforts of APEDA, the exports of non-traditional rice and millets have shown acceptance all over the world. The exports of organic products have also shown a constant 50% growth over previous years.

### **3.7 TRANSFORMING AGRICULTURE TO AGRIBUSINESS – SAMUNNATI SETS AN EXAMPLE**

Mr Anil Kumar SG, Founder & CEO, Samunnati- An Agri Value Chain Enabler spoke on the topic "Agriculture to Agribusiness." Mr Anil has worked as a banker for around 30 years right from 1991 when he started his career in one of the rural branches of Canara Bank. He has seen agriculture and the rural landscape from close quarters and has understood the significance of market integrated approach for agricultural development of any country. He identified the major issues that faced by a farmer when he/she starts thinking of transforming agriculture into agri-business. These specific issues are:

- Access to finance on time?
- Access to customised finance related to the crop produced
- Access to markets where for buying inputs and selling products
- Access to advisory services related to how production
- Access to safety-nets like guarantee and insurance services

He mentioned that Samunnati provides customised financial solutions in the form of working capital, term loans, loans for asset creation. The time period ranges from one day to five years. The quantum of loans ranges from less than Rs 5000 to an individual farmer, to as high as Rs 25 crores to agri enterprises.

He informed the audience that on 15<sup>th</sup> August 2021, Sammunati has launched an online version of instant loan facility called SAM-IPL. 100 loans have already been provided under this scheme.

After providing these services for some time, Sammunati realised that finance arrangements is necessary but not a sufficient condition. Specially in case of agriculture, it was necessary to play the role of a partner in the journey of the farmers and act as an internal player in creating the value chain. This led to the start of Sammunati Agri-Solutions- A market Linkages Company.

Sammunati also plays the role of an advisory body and has been privileged to work with some of the agri business entities including companies, schools, colleges, nodal agencies for agro services. Sammunati also has a specific initiative named Sammaram where they work with all the start-ups and agritech companies. A virtual digital directory of agri product services and solution providers called Agri-Elevate was also launched by Sammunati, where region-wise information, relating to different types of agri-producers is available. Sammunati also tries to find out ways of preliminary grading and sorting process of the produce so that value addition can be made at the farm gate level.

The nature of Sammunati's engagement with the FPOs is by AMLA (Aggregation, Market Linkages and Advisory Services) approach. Among the many FPOs, Sammunati also has a group of about 100 FPOs called FPONext. FPO Next covers about 100 FPOs from about 14 states, covering around 70 districts. The main motive of the program is to work with them in a comprehensive manner and make them lighthouse FPOs so that other FPOs can inspire and grow by following them.

### **3.8 PROBLEM IN CREDIT FACILITY IS THE BIGGEST HURDLE BEFORE THE FPOs: MS NEELKAMAL DARBARI, IAS, MD, SMALL FARMER AGRIBUSINESS CONSORTIUM (SFAC)**

Ms Neelkamal Darbari, IAS, MD, Small Farmer Agribusiness Consortium (SFAC) delivered her speech as the Guest of Honour of the Conclave. She said that there are no alternatives but to create collectives so that the bargaining powers and their strengths can be increased. The main questions are:

- How to penetrate the technology spectrum?
- How to ensure easy and low-cost finance availability?
- How the farmers get direct access to the market?

She added that in the last 7-8 years, the FPO movement has gained importance and attention at all-India level. SFAC alone has created around 900 FPOs and NABARD has also been able to promote around 2500 FPOs till date. At present, there are around 7000 FPOs working in the country and the number is increasing day by day. As a result of the 10000 FPO scheme by the Central Government, dedicated funding is now available, which was not the case earlier. The Government has allocated a fund of around Rs. 6000 crores for the promotion of FPOs. SFAC continues to be the nodal agency for the programme.

Ms Darbari focussed on two major problems related to FPO credit facilities and market linkages. The basic problem that the FPOs face is related to availability of credit facility. In the last 5-6 years, less than Rs. 500 crores of credit has been mobilised towards the FPOs from all sources taken together. The coverage of the number of FPOs was also insignificant. Another challenge is direct access to market. For most of the FPOs, the local mandi is the only market available to sell their products. Ms Darbari shared a case study of some onion producers from Rajasthan. The onion producers wait on the roadside with trolleys full of onions. They sell these onions to truckers crossing that way at prices of Rs. 4-5 per kg. Due to the low remunerations that are attained from the resources owned by the farmers, the farmers are getting de-motivated and are migrating to towns and cities for earning a living other than agriculture.

*SFAC alone has created around 900 FPOs and NABARD has also been able to promote around 2500 FPOs till date. At present, there are around 7000 FPOs working in the country and the number is increasing day by day.*

She said that the FPOs work for facilitating resources and assets that help the farmers in earning their rightful price. She added that it doesn't make sense to buy high costs capital intensive technologies for all farmers. This led to the concept of custom hiring centres where machineries like harvesters and tractors are rented. FPOs have a role to play in the establishment of these centres too. If the FPOs engage in these activities, they can also earn additional revenues.

*The basic problem that the FPOs face is related to availability of credit facility and direct access to market. For most of the FPOs, the local mandi is the only market available to sell their products.*

### **3.9 INSURANCE PROTECTS FARMERS FROM CLIMATE UNCERTAINTIES: MR MALAY KUMAR PODDAR, CMD, AIC INDIA LTD.**

Mr Malay Kumar Poddar, CMD, AIC India Ltd. said that even after the other risks are taken care of, the residual risk needs to be transferred through insurance mechanism via the insurance companies available in the market. There are various insurance companies in the market. With addition to these, The Agricultural Insurance Company (AIC), under Government of India, was established in the year 2002. The mandate of AIC is to implement Government supported crop insurance schemes and reduce the insurance gap in the country. AIC operates in all the States. At all-India level, the Central Government Scheme - 'Pradhan Mantri Fasal Bima Yojana' is currently functional. Three years ago, the State of West Bengal has come out of this scheme and has started its own scheme- 'Bangla Shasya Bima Scheme' (BSBS). Under BSBS, satellite remote sensing is exponentially making use of AI/ML models for various agricultural applications like crop mapping and productivity analysis. The scheme has covered over 6 million farmers of West Bengal. In collaboration with the Agriculture Insurance Company of India and the National Remote Sensing Centre, ISRO, the Government of West Bengal is implementing the scheme in the State for the last three seasons since kharif 2020. Data from Sentinel 1 and Sentinel 2 satellites of the European Space Agency's Copernicus Program transmit data up to 10 meters resolution once in 5 to 12 days. Data from almost every field is continuously monitored from sowing to harvesting. The indexes created from the data helps to understand the crop conditions. Several ground experiments are also conducted throughout the crop life cycle. If serious crop loss is estimated, claims are computed and finalized within 30-45 days of harvesting. The farmers are indemnified immediately after the loss when it is required the most.

The ground experiments are done throughout the season and to support that, AIC has engaged more than 200 people who work at the block level, working with the block and district agricultural officers. AIC also has people stationed at every Gram Panchayat. This has resulted in the development of grass root connections. Publicity and awareness activities are also being initiated by AIC which has resulted in more and more farmers engaging in the insurance process.

The main advantages of the technology based BSB scheme are

- Greater Transparency
- Increase in efficiency
- Quick Settlements of claims

The technology based BSB scheme, developed with the help of National Remote Sensing Centre, has enabled AIC to cover around 85-90 % of the eligible farmers in the State. This has not been achieved in any other State except West Bengal.

West Bengal has been facing a series of cyclones and intense rainfall for the past 4-5 years. These heavy cyclones have led to huge crop losses. Mr Poddar urged the FPO representatives in the conclave to be aware of the services that AIC is providing. He added that there are a wide range of crop insurances that AIC offers. Besides insurance on horticultural crops, AIC is also planning to cover poultries and fisheries under their programs. The insurance programs have also helped in creating new employment opportunities. At present, around 4000-5000 youths are working with AIC.

### 3.9 SUFFICIENT CREDIT, HANDHOLDING ARE CRITICAL FOR FPO DEVELOPMENT: Dr A R Khan, CGM, NABARD

Dr A R Khan, CGM, NABARD concluded the session mentioning the major take-aways. The take-aways include:

- Sufficient Credit Unavailability- Fundings to the FPOs are not that sufficient. The reason behind this may be that FPOs is still new and is an emerging sector in this segment. NABARD has already founded a subsidiary for this, named Nabkisan Finance Limited. This organisation has been engaged in providing credit facilities to the FPOs and at the at the same time, other financial institutions are being provided information regarding FPOs so that they can offer credits to the FPOs. For this, one important thing needs to be kept in mind, that is due to the difference in the business models, different FPOs need different types of credit facilities. Thus, the credit facilities need to be customised.
- Handholding Support and Cluster Systems- The concept of having a cluster-based business organisation has to be developed. The main function would be to coordinate different activities, handhold the FPOs in matters related to mobilisation, aggregation, licensing issues, capacity building, logistic issues etc. The whole process is being set up by around 13 implementing agencies and NABARD is one of them.
- Use of Technologies, especially in the field of insurance

*Due to the difference in the business models, different FPOs need different types of credit facilities. Thus, the credit facilities need to be customised.*

*The concept of having a cluster-based business organisation has to be developed.*

In FPO ecosystem, there are some areas which has to be focussed on:

- More banks will start providing credit to the FPOs if they are incentivised. Under the new scheme of the govt, there is a provision of credit gurantee that has been set up with NABARD. Under this, a fund of 10000 crores has been developed inorder give support to give upto 2 crores to the FPOs that are covered under this scheme. This new provision will give an incentive to the banks to provide credits and thus the issue would be addressed.

*More banks will start providing credit to the FPOs if they are incentivised.*



- Each FPOs has to be steered by a champion, someone who has a plan in mind and is capable of reaching out to the masses. With this in mind, NABARD has started incubating and promoting large number of agri- start-ups in this segment. For this, NABARD has supported 7 institutions in the country to set up a centre for incubating the start-ups. In West Bengal, such a centre has been set up by IIT Kharagpur with the help of NABARD. NABARD is providing funding to them in such a way so that they can incubate around 25-30 start-ups annually. Every district must have at-least one such start-upso that they can help the FPOs in different segments. NABARD has also engaged itself in providing seed funding to the start-ups through NABVENTURES, a subsidiary of NABARD.

*Each FPOs has to be steered by a champion, someone who has a plan in mind and is capable of reaching out to the masses.*

Dr Khan finished his address by speaking on the vision of this conclave. He added that through this conclave we would come out with a strategic action plan to move forward for building a robust, meaningful and a commercially viable agri ecosystem for the FPOs in the state of West Bengal.

### **3.10 DEMAND FORECAST IS A PREREQUISITE FOR FARMERS TO HAVE PROPER PRICE OF THEIR PRODUCE: PRADIP KUMAR MAJUMDAR, ADVISOR TO CHIEF MINISTER, GOVERNMENT OF WEST BENGAL**

The next and the final speaker of the session was Shri Pradip Kumar Majumdar, Advisor to Chief Minister, Government of West Bengal. He started his speech by explaining about the inadequate amount of crop production in 1960s. He stated about PL 480, under which India received 160 lakh tonnes of wheat and 10 lakh tonnes of rice at the cost of a 32% depreciation of rupee value. From that situation, now Indian farmers are producing surplus food-grains. This surplus production without analysing the demands of the market has caused the prices of the food-grains to fall drastically, resulting in lower per unit revenue of the farmers.

*Production should always be based on the demand of the market. Different organisations such as the Chambers of Commerce should take responsibilities in providing insights and information to the farmers regarding the market demand.*

In West Bengal, around 2.5 crore tonnes of rice is produced every year, which is the highest in the country. But due to the lack of demand, the prices remained low. Thus, he emphasised on the fact that production should always be based on the demand of the market. He suggested that different organisations including the Chambers of Commerce should take responsibilities in providing insights and information to the farmer regarding the market demand. At the same time, aggregation of farmers is very much necessary. Due to the attempts of the Government of West Bengal, at present around 150 FPOs are operational in the state. There are many schemes that are initiated by the Government but most people cannot benefit from these schemes due to the lack of proper administration and monitoring. There are a lot of social programs that are announced on behalf of the Government but only a few of those announcements get materialised. This culture needs to be stopped.

Scientific revolution has been taken place in all sectors and agriculture is not an exception. Today, with the help of new technologies, it is possible for the farmers to customise the crops according to the needs and demand of the market. To explain this, he gave the example of Alphonso Mango which has high demand in the Arabian countries. With the help a chemical called paclobutrazol, it is now possible to harvest the mangos in the month March instead of May. Thus, the export process starts earlier and more revenues are earned by the farmers.

## 4. PANEL DISCUSSION ON INDUSTRY/MARKET CONNECT & EXPORT INFRASTRUCTURE- END TO END SOLUTION FOR FPOS

The respected speakers of the Panel Discussion were:

- Chairman- Mr Jayanta Chakraborty, chairperson- Agriculture & Rural Development Committee, The Bengal Chamber and Senior General Manager, Indofil Industries limited
- Rapporteur- Mr Samrat Mukherjee, DGM, NABARD, Kolkata
- Panelist - Shri Pankaj Bhat, AVP, FPO Business, NCDEX Institute of Commodity markets & Research
- Panelist - Mr Rishi Nathany, Head, Business Development and Marketing, Multi Commodity Exchange of India Ltd (MCX)
- Panelist - Mr R Siddhesh, Chief Risk Officer, AIC India Ltd
- Panelist - Mr Amit Triphati, CEO, GeolifeAgritech Private Ltd
- Panelist - Mr. Rajesh Singh, Head FPO Business, Bayer Corp Science

Mr Chakraborty started the panel discussion by welcoming the Rapporteur, Mr. Samrat Mukherjee and all other panellists for the session. He added that all of us were looking forward to hear it from the panellists.

Mr Mukherjee requested all the stakeholders present in the conclave, both online and offline, to note down the specific points that they think will benefit them. He also requested the speakers to deal with the important points which have extensive farmer and FPO connects. With this, he requested Mr. Pankaj Bhat, AVP, FPO Business, NCDEX Institute of Commodity markets & Research to express his views.

### 4.1 MARKET IDENTIFICATION – A CRUCIAL TASK FOR FPOS: MR. PANKAJ BHAT, AVP, FPO BUSINESS, NCDEX

Mr. Pankaj Bhat, AVP, FPO Business, NCDEX said that NCDEX (National Commodity and Derivatives Exchange Limited) has formed a fulltime team of 10-11 people who are working with FPOs and enabling them in sorting out their problems. From its experience, the main challenges faced by the FPOs are:

- Social settings based on castes, land holdings, political ramifications
- Some FPOs are completely member oriented and this leads to different problems. Patronage payments paid to the members reduce surplus and thus reducing investments.
- Sometimes, the collective actions taken by the firms are not permanent in nature
- Due to the slow decision-making processes in the FPOs, the cost of operations is sometimes large.

According to Mr Bhat, farmers have more connections to the traders other than FPOs. This is the reason that often, the farmer sells the products to the traders, without the FPOs getting knowledge of it. This problem can be solved only by creating strong linkages with the farmer member. For this, Mr Bhat suggests that the FPOs must make a concrete plan regarding the full operation and give information regarding the plan to the member farmers at least three months prior to the procurement process. This will enable the farmers to have a clear idea about which products to produce and when to produce. Thus, the FPOs must be engaged with the farmers throughout the year. Initially, the FPOs must try to buy all the output of its member farmers. If the products are non-homogeneous, differential price mechanism must be followed. Next, he mentioned the main markets that are available to the FPOs for marketing linkages, some of which are:

*Farmers have more connections to the traders other than FPOs. This is the reason that often, the farmer sells the products to the traders, without the FPOs knowledge. This problem can be solved only by creating strong linkages with the farmer members.*

- Mandis
- Local Aggregators
- Local Processing Units
- Warehouses and Storage points
- MSP Procurement
- Electronic Markets

There are many risks that a farmer faces while operating. Some of the risks are production risks, price risks, institutional risk and personal risk. Not all risks can be transferred, but the farmers can transfer the price risk by selling its products at a greater price than normal. Now the problem arises because it is difficult for the FPOs to transfer this risk on others. This is the area where NCDEX can play an important role for the FPOs.

Under this system, there are two types of contracts:

- Future Contract- Future markets offers buy and sell contracts in future. Through this, FPOs get assured prices for the products, even if the prices of the products fall at the time of selling. Thus, these contracts provide a hedge against a change in price of commodity.
- Options Contract- Buyers of Options get the right, but not the obligation to exercise a contract at a pre-fixed price on a given date by paying a premium. It protects from the downslides but has unlimited up-slides.

Mr Bhat added that at present NCDEX offers future contracts for 21 agricultural commodities and option contracts for 7 agricultural commodities. Currently 240 institutional members are registered with the exchange. With regard to the initiatives taken, NCDEX has conducted 500 programs related to FPOs and have got around 22302 farmers covered in their training programs. It has also covered around 2000 awareness programs for the FPOs around India. Around 375 FPOs have their account with NCDEX and through these, around 9,02,779 farmers across India have already been represented.

After the end of his presentation, two FPOs among the audience showed interest in connecting with NCDEX. On this, Mr Mukherjee requested NCDEX to hold some awareness programs so that the terms of trade can be figured out easily.

#### **4.2 ENGAGING WITH COMMODITY EXCHANGES BRINGS MULTIFARIOUS BENEFITS TO FPOS: MR RISHI NATHANY, HEAD, BUSINESS DEVELOPMENT & MARKETING, MCX**

Mr Rishi Nathany, Head, Business Development & Marketing, Multi Commodity Exchange of India (MCX) said that there are two ways in which FPOs can benefit from exchange platforms. They are:

- Getting Price signals
- Insured to price fluctuations

With certain terms and conditions, SEBI has provided different financial benefits to FPOs engaging in exchanges, some of which are:

- 100 % reimbursement on warehouse charges
- 100 % reimbursement on baggage and packaging costs
- 100 % reimbursement on mandi tax etc
- 50% reimbursement on transportation costs

In order to benefit the small farmers, MCX has also reduced the lot size.

Mr Nathany concluded by assuring that MCX are always ready to do awareness programs and help the FPOs in whatever way they can so that they can benefit from the commodity exchange eco system.

## **4.2 BENGAL LEADS IN AGRICULTURE INSURANCE: MR. R SIDDHESH, CHIEF RISK OFFICER, AIC INDIA LTD**

Mr. R Siddhesh, Chief Risk Officer, AIC India Ltd. said the progressive farmers are behind the success of the FPOs. Moving towards the role of insurance he said that buying insurance may not change the lifestyle of a farmer, but not buying insurance may have severe consequences. Thus, insurance is a very important risk protecting mechanism that the farmers need to understand. He appreciated the role of the Government of West Bengal for Sashya Bangla, where with the help of technology, claims are settled quickly which has been never done before.

AIC is trying to widen their products so that every activity of the farmers can be protected. AIC has also started the scheme of price insurance under which, if the prices of the products fall below a certain level, the farmers get protection from the insurance company. Warehousing insurance is also a product that the company is planning to start shortly.

It was followed by a Question-Answer Session.

Q1. Mr Samrat Mukherjee, DGM, NABARD - Members of FPOs do a lot of allied activities like fisheries, poultry etc. How can farmers be incentivised to get themselves insured for this kind of products?

Ans. Mr Siddhesh, Chief Risk Officer, AIC India Ltd- The best possible way to incentivise the farmers from the Government's end is by providing subsidies. For horticulture, AIC is already in talks with the Government of West Bengal. Apart from that, when we get large representations, the products automatically get cheaper because of the reduction in the administrative cost. Understanding the product before buying is very important. This is how the progressive farmers can play an important role in getting the other member farmers insured.

Q2. Mr Debasish De- Till now, there are many vegetables that have not been covered under the SashyaBima Scheme. It would be very helpful if such a scheme can be launched.

Ans. Mr Siddhesh- For horticulture, AIC is already in talks with the Government of West Bengal. Shortly we will launch a technology-based product related to this. The product would be quite similar to that of Sashya Bima Scheme, where claims would be settled in a period of 30-45 days.

## **4.3 FORMATION OF FPOs WILL BECOME AN INTEGRAL PART OF INDIAN AGRICULTURE: CHIEF RISK OFFICER, AIC INDIA LTD**

Mr Amit Tripathi, CEO, Geolife Agritech Private Limited has been trying his level best to create an alternative agriculture format with bio products and stimulants. According to Mr Tripathi, FPOs may be the torch bearers for the farming society in India. In order to function in an efficient manner as a commercial unit, the people engaged in the management and governance of the FPOs must be skilled. This is where Geolife has a scope. As an agriculture-based organisation, Geolife arranges different types of seminars related to crop cultivation, analytical skills; information related to marketing and helps the FPOs in taking a step forward towards efficient management.

Looking at the problems that the FPOs are facing, there is an immense need of the agricultural machineries and organisations to reach out to the FPOs and understand their needs and try to provide solutions regarding the issues.

According to Mr Tripathi, success of the FPOs is very important for a country like India. For this, the managerial body of the FPOs must have proper exposures. They need to build close connections with eminent agricultural bodies, agricultural companies, agricultural ministry executives etc. If this happens, the concept of FPOs would surely gain heights in the future to come.

Q3.Mr Samrat Mukherjee, DGM, NABARD- Any specific thing that Geolife is doing?

Ans.Mr Tripathi - Geolife is connecting the FPOs in different districts of India and we are training them with context to thought process from yield per acre to health per acre. We are also connecting them with the appropriate market so that they can sell their product at higher prices.

To this, Mr Mukherjee explained the need of unique selling propositions so that the consumers get attracted to the products of the FPOs.

#### **4.4 FPO FORMATION – A STEP FORWARD TO AGRI BUSINESS: MR RAJESH SINGH, HEAD, FPO BUSINESS, BAYER CORP SCIENCE (BCS)**

Mr Rajesh Singh, Head, FPO Business, Bayer Corp Science (BCS), said that FPO is the best setup to mitigate new challenges for the farming industry as a whole, Bayer Corp Science (BCS) started its FPO engagement programme some two years back.

In the programme, different FPOs are connected with the state level coordinators and improving their capacity. The first step of the engagement programme is potential mapping. This includes understanding the current farming revenue generation by the member farmer and the level of value of their business, how much turnover they are doing through value capture of the backward and the forward sides.After that, BCS suggest the FPOs on the target setting.

In order to simplify the day-to-day operations of the FPOs, the main steps that BCS takes are:

- Effective communication with shareholder farmer
- Better coordination system with partners
- crop health monitoring
- Providing market intelligence
- knowledge transfer
- Advisory services and improving the overall efficiency improvement

For financing the FPOs, BCS has connected with Sammunati and some other financial banks. BCS has also planned to organise some training programs for FPO management. This will help the FPOs to educate member farmers and practice the best practices for increasing their farm productivity.

At present, there are around 25 on-ground BCS executives working exclusively with the FPOs. BCS plans to increase this number to around 100 from the next year itself. BCS has also identified 128 items with which, FPOs can trade without license

For West Bengal, BCS has identified around 75 FPOs. All these FPOs have been divided into 11 clusters, each cluster having a dedicated person for coordination. BCS, along with Mahindra has planned to start a transplanting project in West Bengal.

With this, Mr Chakraborty gave his closing remarks regarding the session. He appreciated the lively discussion and thanked all the esteemed panelists of the session for their auspicious presence in the conclave.

#### **5. PANEL DISCUSSION ON “FINANCING NEEDS OF FPOS- INNOVATIVE FUNDING APPROACHES AND RISK MANAGEMENT”**

The honourable speakers of the session were:

- Session Moderator - Mr Jayanta Chakraborty, chairperson- Agriculture & Rural Development Committee, The Bengal Chamber and Senior General Manager, Indofil Industries limited
- Panellist - Mr K S Mahesh, CFO, Nabkisan Finance Limited
- Panellist-Mr K C Badatya, JD, BIRD, Kolkata
- Panellist - Ms Daisy Saha, Farm Sector Technical Officer, State Bank of India
- Panellist - Mr Ganesh N, Senior Vice President, Business and FPO, Sammunati



## 5.1 LACK OF CREDIT HISTORY – A HURDLE FOR FINANCING FPOS: MR. K S MAHESH, CFO, NABKISAN FINANCE LIMITED

Mr K S Mahesh, CFO, Nabkisan Finance Limited said that West Bengal has a large number of well rated FPOs but not really exploited by the financial institutions. In the initial years, most of the FPOs tend to on-lending mode. Though lending helps in the trust building of the FPOs, Nabkishan does not support this on-lending business for FPOs mainly due to two reasons:

- On-lending does not increase the turnover
- The risk related to repayment is quite high

By moving through several stages of development, a FPO finally arises to a stage where they procure, store, value-add to an extent and finally sell their products to the traders. Depending on the capability of the board of directors and the management, an average FPO requires around 3-5 years for reaching this stage. During this stage, the FPOs must be cautious from two fronts. They are:

- Vision of the FPOs: FPOs must have a proper vision regarding where they want to be next. All their actions must be guided by their vision
- Building things for sustainability: Funding is the most important issue regarding this.

There are two core sources of funding- Equity and Aid. All the FPOs must try to increase their equity and turnover. After 3-4 years, an average FPO in India requires funds of around Rs. 1 crore for operations. With a ratio of 4:1, which is the requirement for getting loans, an average FPO for getting a loan of Rs. 1 crore must have at least 25-30 lakhs in the form of equity.

The key aspects that the credit providing institutions look at while providing credits are:

- Equity available with the FPO
- Turnover of the FPO
- Growth process of the FPO

Mr Mukesh advised the FPOs, not to engage in building infrastructure at the initial period of their operations. This would lock their funds and the potential working capital from doing business is lost. The FPOs must not divert their resources to infrastructural investments which is not connected with their normal functioning. Infrastructural Investments must be done only if it is already included in the initial planning of the FPOs. He also advised the FPOs for having a clear contingency plan in their business plan as regard to what if the business fails. The FPOs must also look at the margins. If the margins are low, the available capital must be rotated several times so that the aggregate margin increases. Back in 1992 when SHGs started gaining importance, there were not many institutions involved in funding the SHGs. On the contrary, today almost all financial institutions provide huge funds to the SHGs and as a result, there are now more than a crore SHGs in the country. According to Mr Mukesh, today is the 1992 moment of SHGs for FPO. Both the central and the state Governments are coming up with new schemes to support the FPOs. He predicts that in the coming 5 years, all the major financial institutions would be flooded with FPO clients.

He stated that FPOs and SHGs must not be mixed together. SHGs are development enhancing entities and on the other hand, FPOs are completely business organisations. There are some basic problems which the financial institutions face while providing funds to the FPOs. Some of these are:

- Lack of credit history: Most of the FPOs doesn't have a credit history. This prevents them from getting subsequent loans. In order to solve this problem, Nabkishan has played an important role. 95 percent of the total FPO funding provided by Nabkisan has been provided to the FPOs who are first timers in getting credit. In this process, the FPOs are ready in with a credit experience certificate. This is helping the FPOs to get subsequent loans.

- The business planning of FPOs - The business plans of most of the FPOs lack professionalism and are very loosely built. Many of the business plans lack contingency planning. The whole process of building the plan must be well thought of.
- Low capital base and financial strength
- Low credit scores due to past loans defaults
- Inefficient management and governance
- Insufficient active membership
- Handholding support
- Administrative and legal complications

Mr Mukesh concluded by stating that with regard to funding, Nabkishan is very much flexible. Some of the basic eligibility criteria for getting loans under Nabkishan are:

- The FPOs must be in existence for at least six months with one audited balance sheet.
- The FPOs must have a minimum share capital of 2 lakh rupees.
- The FPOs must not have a default history.
- The regular legal document like GST no, PAN no etc must be in place.
- The business plan, at least for the duration of the loan must be ready.

## **5.2 USE OF SOCIAL CAPITAL BY FPOS IS AN IMPORTANT CRITERIA FOR ACCESSING CREDIT: K C BADATYA, JT DIRECTOR, BANKING INSTITUTE FOR RURAL DEVELOPMENT, BIRD**

K C Badatya, Jt. Director, Banking Institute for Rural Development, BIRD said that there are certain factors that govern FPO operations like:

- Social capital- How the FPOs move social capital is the most important question in this regard. This lies actually at the end when they require credit, how they will utilise, how they will spend, how they will prepare the development plan etc. Automatically the business plan will go on and then the FPOs will start spending on different kind of infrastructural projects. The group dynamics in the form of social capital has to be built in the FPOs. Otherwise, FPOs would have a weaker structure and it will have long term impacts.
- Governance structure- FPOs and FPCs are corporate entities having all sorts of corporate culture inbuilt into it. This widens the roles of the FPO management. The board must conduct regular meeting of the stakeholders and understand the problems and deal with the suggestions. The business plan must be made properly so that all the operations and the activities of the FPOs are included.
- Credit facilities and financial structure- If the governance structure and the business plan is efficiently at its place, credit will automatically follow. The size of the FPO is also important because more the size, more is the amount of equity capital available to the firm. He shared his experience on a study in Maharashtra where he visited 15-20 FPOs and he found out that only 2 FPOs have received credit, that too from NBFCs. Thus, this problem of arranging for funds does exist and has to be solved. Mr Badatya also advised the FPOs to be aware of the credit scores of the board of directors and the other members, and ensure that there are no defaulters in the system.
- Executing the business plans- It is often the case that the business plans made are not being executed. This must not be the case.

Mr Badatya explained the need of a corporate push for developing the FPOs. The officials dealing with the operations of the FPOs must be well informed and try their level best to solve the problems. It would be very helpful for the FPOs if there exists a single window scheme as far as the licenses are concerned. After all, FPOs work at the grassroots, helping the farmers. So, in spite of being a corporate entity, there

exists some social obligations in the functioning of the FPO. Thus, proper balance must be maintained between the two. The tool for rating the FPOs must be built in such a way that all the parameters are taken into consideration.

### **5.3 STRINGENT CRITERIA FOR ACCESSING CREDIT IS A MAJOR CHALLENGE FOR FPOs: DR DAISY SAHA, FARM SECTOR TECHNICAL OFFICER, STATE BANK OF INDIA**

Dr Daisy Saha, Farm Sector Technical Officer, State Bank of India, she explained the benefit of FPOs from the point of view of economies of scale. In order to do that, she gave an example of some flower growers who came for loan to SBI. When the officials from SBI went for inspection, they figured out certain problem regarding the operations of the FPOs. The first problem was lacking coordination among the FPO members. Out of all the members, a significantly low number are aware of the reasons why the FPO was formed. So the main concern here is awareness.

The main areas where credit is needed by the FPOs are:

- Procurement process
- Storage facilities
- Processing Units
- Marketing

If there are any credit requests on behalf of the FPOs in investment credit like storage, processing and marketing, then the issues can be operated from project-to-project basis. From her personal experience, she said that SBI has been receiving loan requests mainly for trading activities, for which CC (Cash Credit) limit is needed. She suggested that if CC limit can be fixed based on the number of members or the amount of equity of the FPOs, the administrative process would be faster. So, making a policy on CC limit can benefit more and more FPOs in the future.

*A single policy is needed on Cash Credit (CC) Limit based on the number of members of FPOs. This would benefit the FPOs across the nation.*

The next issue which she raised is that SBI is not getting SFAC guarantee regarding the funding to the FPOs. This is the reason they are only financing the FCCs at the moment and not FPOs. Even for FCCs, there is a list of criteria which has to be fulfilled by the FCCs. Some of these are:

- Membership should be more than 500
- The FCCs should make at least 1 rupee profit in the last two years.
- Equity must be more than Rs. 5 lakhs

The conditions as regard to the number of membership and equity aren't fulfilled by all. Due to this, many potential FCCs are deprived of credit facilities.

While concluding her address, she expressed that since FCCs are already getting the required finance from different sources, SBI would like to focus mainly on the financial needs of the FPOs.

### 5.3 AGRICULTURE FINANCE NEEDS TO BE THROUGH THE VALUE CHAIN CONCEPT: SHRI GANESH N, SENIOR VICE PRESIDENT, BUSINESS AND FPO, SAMMUNATI

Shri Ganesh N, Senior Vice President, Business and FPO, Sammunati stated that Sammunati is an Agri value chain enabler that offers innovative and customised financial and non-financial solutions. Sammunati works both with the demand and the supply issues of the agriculture value chain. The demand end of the value chain comprises of the traders, processors, manufacturers and the consumers of agri commodities. On the other hand, the supply end comprises of the farmers and aggregators of the farmers. Sammunati firmly believes that the approach to agriculture finance needs to be through the value chain concept. Value chain is defined as the sequence of all value-added activities from production to consumption, and from processing to commercialisation. Each segment of the chain has got both backward and forward linkages. If we look at the entire agricultural chain, the demand side has strong links. The weak links at this point of point are related to the supply side.

*Sammunati firmly believes that the approach to agriculture finance needs to be through the value chain concept*

The main aim of using the value chain concept is the following:

- Increase the efficiency.
- Reduce wastages.
- Ensuring food safety.
- Ensuring freshness.
- Decreasing consumer prices.
- Increase the income of the farmers through demand-oriented production.
- Reduce the use of intermediaries in the chain.
- Strengthening the value-added activities by use of new techniques and inputs.

Value chain financing recognises the power of multiple players and strengths of the different buyers and sellers. The credit decisions depend on all the people in the value chain and not only the specific players. In this model, the buyers matter the most and sellers being strong or new hardy matters. In this way, the model is a little bit different from other models.

Next, Mr Ganesh mentioned a few challenges that the FPO faces. Some of them are-

- Member engagement
- Governance
- Access to finance
- Productivity of the farmers
- Market linkages

Sammunati has identified the main areas where of the FPCs need financial supports. Some of them are:

- Access to inputs: Because of low equity, the FCCs is unable to purchase the right quality of inputs, in right quantities, at the right time, at right prices. So, they cannot provide the right inputs to their members. So, the social capital is very difficult to form.
- Working capital gap: The FPO/FCCs buy the product from the farmers and sell them to the buyers. So there arise a gap in between the process of paying money to the farmers and receiving from the sellers. This is another area where the credit requirements arise.
- Infrastructure: The FPOs also need financial support for making infrastructural investments. Though large amounts of investments are not required at the beginning, small investments like processing units, grading machines are necessary for value addition.

Keeping all these areas in mind, Sammunati has designed three basic structures of lending:

- SAM-IPL (Instant Preapproved Loan)- This doesn't include a lengthy verification process. Under this, financial support up to Rs 5 lakhs are provided
- Loans from Rs 5-25 lakhs- Some requirements include increasing profits and turnover.
- Loans more than 25 lakhs.

## **6.PANEL DISCUSSION ON “LEVERAGING TECHNOLOGY FOR ENHANCING PRODUCTIVITY, VALUE CHAIN EFFICIENCY AND SCALABILITY- NURTURING AGRI-TECH START-UPS”**

The speakers of the panel discussion were:

- Session Moderator - Shri Kamalesh Kumar, GM, NABARD, Kolkata
- Panellist - Prof Dr H N Mishra, IIT Kharagpur
- Panellist - Dr Debarshi Dey, Professor, Gurunanak Institute of Technology, JIS Group
- Presentation from Award winning students from JIS University

### **6.1 INNOVATION IS THE KEY TO SUCCESS: SHRI KMALESH KUMAR, GM, NABARD**

Shri Kamalesh Kumar, GM, NABARD said that there is a positive correlation between the disintegration of joint families and falling farm land sizes. He highlighted some key issues like:

- The national average for land holding is 1.08 hectares and for West Bengal it is lesser, around 0.77 hectares. To offside this, the productivity of agriculture has to be increased.
- West Bengal has around 2.75 % of the geographical area in the country but around 7.5% of the national population resides in this State. Thus, the density is almost three times. This gives rise to challenges like distributing food, providing employment etc.
- West Bengal has a very decent literacy rate of above 76%, which is much higher than the national average. Many educated people keep on migrating from the villages of West Bengal to the towns and the cities of West Bengal and other states. This reduces the number of people engaged in Agriculture and this further creates challenges. So, the main question is how we bring back the educated youths to the villages.

All these social problems can be solved with the help of FPOs. But the problem is, FPOs itself has its own range of problems. Some of them are-

- How can FPOs bring people together?
- How can we engage people to do an activity that is collectively helpful?
- How can the equity share be made uniform so that all the shareholders have an equal say in the FPO's functioning?

Right from its inception, NABARD has been mandated for Agricultural rural development. FPO is also a push that NABARD is taking forward across India.

To access the FPOs and also to support innovations and start-ups in agriculture, NABARD has funded around 7 incubation centres in the country. They are:

- Professor Jaishankar Telengana State Agriculture University, Hyderabad
- Sardarkrushinagar Dantiwada Agricultural University, Gujarat
- Tamil Nadu Agriculture University, Madurai, Tamil Nadu
- Chaudhary Charan Singh Haryana Agricultural University, Haryana
- Agri-Business Incubation centre, IIT Kharagpur, West Bengal
- National Academy of Agricultural Research Management, Hyderabad
- Rajmata Vijayeraje Scindia Krishi Vishwa Vidyalaya, Gwalior, Madhya Pradesh



Tamil Nadu Agriculture University is one of the first Agriculture Business Incubation Centers that NABARD has supported. In the last 2-3 years, The Madhurai Agri Business Forum has assisted on 86 start-ups, 243 FPOs and 32 idea stage start-ups. The company has facilitated registration of 11 patents, 46 trademarks, 38 plant varieties, 4 GIs and alike.

Today is the time of innovation. Innovations in terms of processes, cost reduction, aggregation etc. NABARD is optimistic that with these incubation centres, more educated youths would be attracted towards agriculture and join hands in solving the agricultural problems that the country is currently facing.

## 6.2 A GOOD BUSINESS PLAN SHOULD REFLECT THE VISION OF THE FPO: PROF H.N MISHRA, IIT KHARAGPUR

Prof H.N Mishra, IIT Kharagpur, started his presentation by mentioning the various units through which the agricultural products reach to the final consumers. They are:

- Crop producers
- Feed producers
- Primary food producers
- Food manufacturers
- Secondary food manufacturers
- Wholesalers
- Retailers, food service operators and caterers

The main categories are:

- Durable crops like cereals
- Perishable foods like fruits and vegetables
- Commercial crops like tea, coffee
- Unexplored/underutilized crops like millets
- Health value crops like spices and condiments

All these sectors face different issues and challenges, some of which are:

- Infestation by insects, pests
- Lack of storage facilities
- Climatic hazards
- Unstable harvesting
- Toxicity of residual agrichemicals used for pest management
- Soil erosion due to over exploitation
- Improper post-harvest practices

Some ways to overcome these challenges are:

- Innovative farm management system
- Design and development of cost effective and farmer friendly agricultural tools and implements
- Creation of affordable storage, processing, packaging and quality testing infrastructure
- Linking small and marginal farmers with the market through agriculture value chains
- Training and knowledge empowerment of farmers, entrepreneurship and start-up promotion.

Prof Mishra also mentioned some of the New- Age technologies and segments that have come up in agriculture. Some of them are:

- Precision/ satellite agriculture
- Block-chain Technology
- Artificial Intelligence
- ICT/IOT in Agriculture
- Tech enabled organic farming
- Data Analytics for Agriculture
- Technologies in food processing- bio preservation, Electromagnetic Wave Heating, Electric and Magnetic fields and non-thermal technologies

Some trending ways of innovative foods include:

- Gluten free products
- Micronutrient fortification
- Low glycaemic index foods
- Lactose intolerant people
- Various shapes and textured RTE products
- Addition of Flavours in traditional products like snacks, flakes, chikki etc

Recent smart packaging monitors different aspects like:

- Qualitative properties of F&V in real time
- Freshness
- Microbial growth
- Chemical changes

Relating to smart storages, deployment of wireless sensor networks in CAS, warehouses and cold stores improve the quality of the storage facilities.

Prof Mishra emphasised on what a start-up needs. Some of these are:

- Capital
- Sector knowledge
- Location
- Infrastructures and resources
- Legislations and regulatory needs
- Recognition by customers and consumers

According to him, the various steps towards start-ups are:

- Identification of the problem
- Study the sector and the industry
- Explore solutions and existing competition
- Market research
- Get the ideas reviewed and improved
- Acquire seed grants for initial development if necessary
- Develop prototype product
- Decide upon revenue model and pricing strategy
- Piloting solutions and improve
- Planning of marketing communication strategy
- Raising funds and upscaling business

Prof Mishra explained the need of a good business plan (communicating vision to the outside world) and emphasised on the qualities of a good business plan. To mention a few, they are:

- Well-thought out and can be visualised
- Articulated the strengths and vision of the business
- Clearly outlines the risks associated
- Presents clear evidence of the viability of the venture
- Should compel action and get the investors excited

He also mentions some of the licenses that are required like:

- Food license
- Trade license
- Company registration
- GST registrations
- Establishment Registration
- Fire department NOC

Next, Prof Mishra briefed about some of the marketing strategies for small business:

- Targeting the market and deciding the incentives that needs to be provided
- Creating a brand identity
- Having social media presence
- Promotions via discounts and offers

He also mentioned gave some insights regarding the start-up trends in the agricultural production sector, some of which are:

- Cold chain
- Animal insurance
- Predictable production
- Price forecast systems
- Farming as a service

With regard to the food processing sectors, the major start-up trends are:

- Private labels
- Personalised nutrition
- Smart packaging solutions
- Multi grain flour
- Nutrition rich baked items
- E-grocery
- Food kits
- Semi-prepared food

With this, he moved onto the Agri Business Incubation Centre (ABIC), which is being hosted by The Agricultural and Food Engineering Department of IIT Kharagpur and funded by NABARD. The centre is mandated to incubate innovative business ideas in agriculture and food processing domain for creating 'Agripreneures.' It develops, demonstrates and transfers low-cost technologies for sustainable development of agricultural and rural communities.

The main aim is to identify potential FPOs in every block of eastern region of the country and transform them into successful ventures in agriculture and food processing domain by technological interventions and incubation support.

The focus sectors under ABIC include:

- Farm mechanization
- AI/Machine Learning/ IoT in agriculture
- Agricultural bio-technology
- Precision farming
- Soil and water conservation engineering
- Food packaging and storage
- Renewable energy
- Agri supply chain management
- Agri-waste to wealth
- Animal husbandry
- Apiary
- Fisheries

Till date, 94 applications have already been received and 55 of them have been shortlisted. 26 of them have been shortlisted as the first cohort of ABIC IIT Kharagpur.

Till date, the centre also has also conducted various programs and meetings. Some of them are:

- 'Krishi udyam' where students who have opened agribusiness ventures shared their experiences with various segments of people like unemployed youths, progressive farmers, agribusiness students etc
- Training programs for farmers and entrepreneurs (TFE), under which more than 5000 participants had registered and 1500 were shortlisted for training.
- 'Krishi Unnayan', which was an interactive meeting of FPO directors and professional experts. Here topics related to role of technology, entrepreneurship opportunities for FPOs, business strategies and management techniques for FPOs were discussed.
- Specialised training program for FPOs, under which topics related to processing, supply chain networks were discussed.

## 7. RECOMMENDATIONS

West Bengal Needs a State focused FPO Policy for addressing the following issues:

- Enhancing income conditions of farmers and make their activities viable
- Membership of FPOs - The number of members should at-least be 700-800, otherwise the gains from the output would be difficult to realise.
- Share capital of FPOs - Members should contribute to the share capital otherwise the day to day functioning of the FPOs may be difficult.
- Democratic Governance- The ordinary farmers should be involved in the decision-making process. All the farmers must have equitable share according to their produce.

- Able CEO- The CEOs of the FPOs must be professionals and be competent enough to manage the activities of the FPO and at the same time search for new markets and opportunities. This would help them to drive the FPOs like a commercial organisation.
- Removal or minimizing the involvement of the intermediaries from the agri supply chain is possible through formation of efficient and active FPOs.
- Development of infrastructure for agri export
- Agri demand forecast
- Skilling of FPO members
- A minimum support of 3-5 years needs to be provided to the FPOs.
- Promotion of collective farming and integrated value chain approach
- Formation of district-based cluster for producing finished ready to market products
- Technology innovation in agriculture
- Start-ups in agriculture
- Innovation