



BCC&i
THE BENGAL CHAMBER

JULY 2021

AGRI EXPORT



**KEY TO
ENHANCING
FARMERS'
INCOME**

**The West Bengal
Perspective, COVID-19's Impact,
Nanotechnology, Digitisation
and Farmer Producer
Organisations**

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CONTENTS

1. BACKGROUND	2
2. THE WEST BENGAL PERSPECTIVE	3
3. SECOND EDITION OF AGRICULTURE COLLOQUIUM: THE BENGAL CHAMBER'S INITIATIVE FOR ENHANCING AGRI EXPORT	4
4. UNDERSTANDING THE IMPACT OF PANDEMIC ON AGRICULTURE & AGROCHEMICALS SECTOR	8
5. SPEARHEADING DIGITALIZATION OF AGRICULTURAL SECTOR	10
6. DECENTRALIZING LENDING THROUGH FPO	11
7. CAN BANKS BE A SOURCE OF KNOWLEDGE SHARING AND TECHNICAL KNOW-HOW?	11
8. SPREADING THE WINGS OF AGRI-EXPORT SECTOR	12

1. BACKGROUND

The sector which has successfully combated COVID-19 pandemic disruptions in economy is agriculture. The export of agriculture and allied products during 2020-21 grew by 17.34% to USD 41.25 billion. In 2017-18 and 2018-19, they hovered around USD 38 billion, thereafter declining to USD 35.16 billion in 2019-20¹. In the first two months of the current fiscal year (2021-22), there was a 43% jump. Growth was due to the opportunities that Covid-19 has offered. It was also due to various programs emanating from agriculture policy that came into effect in December 2018. It was implemented in districts and clusters across the country. Many clusters and districts that were not exporting earlier have started doing it now.

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India is seeing growth in the export of cereals, non-basmati rice, wheat, millets, maize, and other coarse grains. The largest markets for India's agricultural products are the US, China, Bangladesh, the UAE, Vietnam, Saudi Arabia, Indonesia, Nepal, Iran, and Malaysia. The highest growth has been recorded in Indonesia (102.42%), Bangladesh (95.93%), and Nepal (50.49%). Demand for Indian cereals was robust in 2020-21, with shipments sent to several countries for the first time, such as rice to countries like Timor-Leste, Puerto Rico, and Brazil. Similarly, wheat was dispatched to countries such as Yemen, Indonesia, and Bhutan, and other cereals have been exported to Sudan, Poland, and Bolivia.

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India is the world's largest agrarian economy with 14.35% contribution to GDP. It is also the world's 3rd largest producer of food. A bumper harvest of winter crops and higher production in livestock and fisheries sectors aided a 5.3% growth in agriculture GDP in the first quarter of 2018-19, up from 3% in the same period last year. Production of rice, wheat, coarse cereals and pulses registered growth rates of 15%, 1.2%, 15.6% and 17.3%, respectively, during the Rabi or winter season in the agricultural crop year of 2018-19. About 45% of the gross value added or GVA in the agriculture sector was contributed by livestock, forestry and fisheries, which registered a combined growth rate of 8.1% in the first quarter of 2018-19. Agriculture GDP grew at 3.4% in 2017-18, lower than 6.3% in the previous year.

Food processing sector is indispensable for the overall development of an economy as it provides a vital linkage and synergy between the agriculture and industry. It helps to diversify and commercialize farming; enhance income of farmers; create markets for export of agro foods as well as generate greater employment opportunities. Through the presence of such industries, a wider range of food products could be sold and distributed to the distant locations. The term 'food processing' is mainly defined as a process of value addition to the agricultural or horticultural produce by various methods like grading, sorting and packaging.

The Global Processed Food Industry is valued at USD 3.2 trillion and accounts for over ¼ th of global food sales. Despite the large size of the industry, only 6% of the processed food is traded the world over as compared to bulk agricultural commodities where 16% of produce is traded. Growth of the sector has

¹ Ministry of Agriculture & Farmers' Welfare

been the highest in developed economies, especially across Western Europe, North America, Japan and Australia. USA is the single largest consumer of processed food and accounts for 31% of global sales. The food processing sector has seen substantial growth in developing economies with increase in GDP, per capita income and the resultant changes in lifestyle.

1.1 AGRICULTURE EXPORT POLICY (AEP)

The Agriculture Export Policy was announced by Government of India in 2018 with a focus on agriculture export-oriented production, export promotion, better farmer realization and synchronization with the policies and programs of Government of India. The AEP lays emphasis on farmer-centric approach. During the course of implementation of AEP, considerable progress has been made in giving Farmers Producers Organizations (FPOs) and farmers a stake in the export of their produce. Direct linkage of FPOs with the export market has not only improved farmers' incomes but has also resulted in better farming practices due to requirements of catering to the international markets.

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2. THE WEST BENGAL PERSPECTIVE

In agriculture, West Bengal is one of the three front running states in India. It is a predominantly agrarian state with agriculture contributing 21% to the State's GSDP (Gross State Domestic Product) in 2019-20. It is one of the major producers of food in India having a strong agri-horticultural resource base for a thriving food processing industry.

West Bengal is a major producer of fruits (such as Mango, Pineapple, Litchi, Mandarin Orange, and Guava) and vegetables (such as tomato, cabbage, cauliflower, brinjal, cucurbits and okra). Major spices produced are ginger, chili, turmeric, garlic and coriander. The state also has a large and vibrant livestock population significantly contributing towards the production of milk, eggs, fish and meat. As of 2017-18, the state has a total production of 17,776 thousand tons of food grains, the total production of fruit stands at 3,517 thousand tons. The state is the second largest producer of vegetables in India with a total production of 22,825.45 thousand tons. West Bengal ranks first in production of brinjal and cabbage; ranks second in production of potato. It is the 2nd largest producer of fish and meat, second largest producer of tea and the largest producer of jute in the country.

We note that although Bengal has such a diverse and rich cultivation base along with the developing infrastructure for creating processing units and clusters which is a step forward in the food chain, infrastructure development for the same and awareness amongst farmers are yet quite low. Centrally Sponsored schemes for agro-processing are not being explored much in West Bengal.

2.1 CHALLENGE AREAS FOR BENGAL

Despite major growth in production, Bengal is lacking behind in marketing agri-produces. Compared to many other Indian states, West Bengal is far behind in agri-export. 16 Indian states and 1 union territory have already formulated their own state export policies. West Bengal is yet to finalize the state specific export policy. In order to provide direct export market linkage to farmers and to encourage export-oriented production, Agriculture Export Policy would be on cluster-based approach for promoting agriculture exports. As part of the Agriculture Export Policy, 47 unique product-district clusters have been notified for export promotion. The states have further identified around 100 more product-district clusters. But Bengal is yet to develop its own clusters.

Despite major growth in production, Bengal is lacking behind in marketing agri-produces. Compared to many other Indian states, West Bengal is far behind in agri-export.

3. SECOND EDITION OF AGRICULTURE COLLOQUIUM: THE BENGAL CHAMBER'S INITIATIVE FOR ENHANCING AGRI EXPORT



The Agriculture and Rural Development Committee of The Bengal Chamber of Commerce and Industry takes yearlong initiatives to boost agri-business in the state. The Second Edition of Agriculture Colloquium which was organized on 16th and 17th July, 2021 was one such initiative. A session of the Colloquium, 'Agri Export Opportunity from Eastern Part of India' was dedicated to agri export. The inaugural session was graced by Shri Sovandeb Chattopadhyay, Minister-In-Charge, Department of Agriculture, Government of West Bengal, Dr A R Khan, Chief General Manager, NABARD, Mr. V. R Kaundinya, Director General, Federation of Seed Industry of India (FSII) & Board Member - AXIS Bank, Dr Ashok Dalwai, CEO, National Rain-fed Area Authority, Government of India.

3.1 INCOME OF BENGAL FARMERS ENHANCES: AGRICULTURE MINISTER

The session began on a promising note. Shri Sovandeb Chattopadhyay said that the income of the farmers of West Bengal has tripled over the past 10 years. He credited Government schemes like 'Krishakbandhu' where the farming community receives Rs 5000-Rs 10,000 for cultivating for one or more acres of land in two installments for the cultivation of both Kharif and Rabi crops. Moreover, if a farmer dies before reaching the age of 60, his family will be receiving rupees 2 lakhs. All the farmers over the age of 60 years receive Rs 1000 per month. In case of natural calamity such as flood a farmer is eligible for calamity assistance like seeds, fertilizers, etc.

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3.2. AGGREGATION OF FARMERS – KEY TO ENHANCING INCOME: CHIEF GENERAL MANAGER, NABARD

Dr. A.R Khan, Chief General Manager, NABARD talked about the need for boosting the exports of the agricultural sector as well as the income of the farmers, especially the small and medium landholders. He also discussed the steps NABARD has taken to protect the farmers from joblessness in-between the season of harvest. NABARD in association with Government of India initiated collectivizing farmers in 2011 and has now established 5000 Farmer Producer Organizations (FPOs). He mentioned that there are 400 FPO in West Bengal out of which 300 are promoted by NABARD. NABARD aims to collectivize them, bring them under a common platform and then build backward and forward linkages around them so that the small farmers can benefit from the value chain (domestic or export value chain).

In West Bengal there are about 400 FPOs, of which NABARD promotes 300 FPOs. Idea is to collectivize them, put them on a common platform and then build the backward-forward linkages around them.

Dr. Khan also discussed in detail the credit guarantee coverage benefits provided by MSME (Ministry of Micro Small & Medium Enterprises) like the Credit Guarantee Fund Trust for Micro & Small Enterprises scheme. The fee for this coverage will be paid by the Central Government. This will help generate private sector interest and investment in the farming sector and create a local value chain.

There are 90,000 PACS of which 35,000 of them are said to be functioning very well and can become a multi-service center, a one-stop-shop for members in the area.

Dr Khan said that NABARD is also undertaking an initiative to strengthen the Primary Agricultural Cooperative Societies (PACS). There are 90,000 PACS of which 35,000 of them are said to be functioning very well and can become a multi-service center, a one-stop-shop for members in the area. NABARD is trying to refinance State Cooperative Banks at a 3% interest rate so that PACS can have agri-infrastructure, as well as linkages, can be given to the members.

In terms of public investment in agriculture, NABARD has been assisting the State Governments under the rural infrastructure. In West Bengal more than rupees 1500 crore loan is given to the State Government to update agricultural infrastructure. As far as agri exports are concerned, funds are not the issue, the main lacuna is lack of planning.

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Dr. Khan mentioned that India has 86% small and marginal farmers, whereas in West Bengal 96% farmers are small and marginal. The incomes of the small farmers have not increased the way it should have grown considering the production capacity. He also identified the impediments categorically, which are:

- Agriculture is seasonal
- Under-employment in many areas
- Cash flow is not regular throughout the year
- Climate change impacts lead to extreme climatic situations For example, frequent cyclones in West Bengal

Dr. Khan said that another thrust area of NABARD is to promote integrated farming which can create adequate employment opportunities. Integrated farming has been tried in different sections across the state. 7 to 8 districts of West Bengal have potential to promote integrated farming. Nodal Agencies are required at local levels to steer the agenda so that small farmers get employment round the year and diversify their farm enterprises and get a better income round the year, instead of seasonal income.

Dr. Khan mentioned that agri export is one of the focus areas of NABARD. Interestingly, it has grown by 18% during pandemic situation, due to efficient production system. However, market connects and logistics are weak areas which need to be strengthened especially in case of West Bengal. It is notable that

- About 20% of India's fresh vegetables exports is from West Bengal
- About 28% of India's fruits and vegetables exports is from West Bengal

West Bengal has lot many agro climatic regions and hence provides lot of agriculture exports and diversification opportunities. Farmers are enterprising, markets are available, and however, the only need is to connect the dots.

3.3 FOOD, AGRICULTURE & NUTRITION TO BE AT FOREFRONT OF NATIONAL AGENDA: DIRECTOR GENERAL, FEDERATION OF SEED INDUSTRY OF INDIA

Mr. V. R Kaundinya, Director General, Federation of Seed Industry of India (FSII) focused on the need for a united framework of agricultural policy for both Central and State Governments. The governments at both levels must decide on how to reach certain targets and parameters of agricultural prosperity, technological innovation in agriculture by 2030. He also touched upon the need to focus on the role of private industry in agriculture.

Corporate investment cannot materialize if the Agricultural Policy differs from state to state said Mr. Kaundinya

However, corporate investment cannot materialize if the Agricultural Policy differs from state to state. He focused on:

- Food security – import of edible oils, affordability of food, distribution of food
- Importance of ensuring traceability of food, ensuring the safety of food. Farmers will be able to sell products at a higher price if they can ensure that reliable/safe ingredients are used. Fertilizers to be used for domestic and export-oriented crops.
- Responsible consumption and dietary habits. There has to be a unity of food and agricultural policy.
- Affordability of food among the poorer sections of the society.
- Ensuring optimum food safety with the use of modern science and technology, edible oils, etc. Smallholder farmers and their welfare, focus on value chains, exports, and risk mitigation.
- Encourage Crop portfolio driven agriculture,
- Diversification of farmers income, the role of nonfarm income -
- Access to capital, working capital, and insurance for small farmers (crop insurance, flood insurance, livestock insurance, etc)
- Promoting the role of Agri tech enterprises
- Funding for support for research in nutrition enhancing crops
- Encourage closed-loop (contract) cultivation and supply chain systems development through PPP models. there should be an encouragement in contract farming by each state. A common policy framework between center and state will encourage private investment.

3.4. REIMAGINING FARMING AS ENTREPRENEURSHIP: CEO, NATIONAL RAIN-FED AREA AUTHORITY

In a speech labelled 'Infrastructure Development and Capital Investment in Indian Agricultural Sector – Aiming towards Farmer Prosperity', Dr Ashok Dalwai, CEO, National Rain-fed Area Authority said that Government of India stressed the need to acknowledge agriculture as both a primary economic activity as well as an enterprise. Agriculture should be re-imagined as a source of raw materials for both foods as well as non-food sectors. Employment opportunities have to be generated throughout the year for farmers. He also discussed how although public sector investment in agriculture has gone up after 2005, due to the government providing loans to farmers at low rates of interest (7%), most of the private sector investment is lacking, limited to individual farmer contributions rather than corporate investment.

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Dr. Dalwai said that the government to focus on Incremental Capital Output Ratio (ICOR) to achieve 10% growth in agriculture. When it comes to public sector investments, the government will need to focus on non-budgetary allocations as such funds can be used more generously. He discussed government initiatives focusing on bettering agricultural infrastructure.

Over the last several years, the Ministry of Agriculture, Animal Husbandry, Water Resources, have invested in large corpus funds for promoting hard infrastructure in the agricultural sector and allied sectors like fisheries, for ongoing irrigation projects worth rupees 80,000 crores. There have been schemes like Pradhan Mantri Matsya Sampada Yojana (Rs. 20,00 crore) which has played a robust role in strengthening agricultural logistics (processing facilities, cold storages) and prevented food wastage.

Liberalization of agricultural policies particularly on related to post-harvest management is mandatory in order and enable direct investment in agriculture. As far domestic investments are concerned, government needs to make more reforms on agricultural marketing, by creating a direct trade platform, amending the APMC (State Agricultural Produce Marketing) acts, liberalizing the Contract Farming Act so that farmers can connect to the corporate world easily. Sweeping reforms have to be made in storage and transportation infrastructure as this will encourage investment in cold storage facility, food processing facility, etc.

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As far domestic investments are concerned, government needs to make more reforms on agricultural marketing.

4. UNDERSTANDING THE IMPACT OF PANDEMIC ON AGRICULTURE & AGROCHEMICALS SECTOR

Mr. Ashish Dobhal, Regional Director, India Region, UPL Limited talked extensively about the impact of the pandemic on agricultural and agri-chemical sectors. While the input was not that big a challenge during the pandemic as there was already a sufficient level of production, when it came to output – especially post-harvest and supply chains, there was some effect of a pandemic. Export of some high-value products was getting increasingly difficult. In 2021 the industry witnessed some setbacks and it was not easy for some of the high-value products to be exported. This year input costs especially seed, agrochemical expenses saw a steep rise due to increased dependence on China. Mr. Dobhal also shared how UPL is trying to digitalize its operations to make up for the lack of physical proximity to farmers, how the organization is prioritizing self-reliance, capacity building, revolutionizing agriculture by mechanizing farm activities. Mr. Dobhal also discussed how UPL is trying to bring about a new phase of research and development by collaborating with some companies like a Japanese company (Meiji Seika Pharma) for exclusive access to Flupyrimin for rice. Under this agreement, UPL obtains exclusive rights to develop, register, and commercialize formulations of Flupyrimin for foliar applications in rice. The agrochemical giant has also collaborated with US-based company TeleSense to revolutionize post-harvest grain storage and transport.

4.1 EXPLORING THE ROLE OF PESTICIDES IN FOOD PRODUCTION

Dr. Debabrata Kanungo, MD FCGP -Chairman, Scientific Panel on Food Additives & Member of Scientific Committee, Food Safety, & Standards Authority of India (FSSAI) argued that food production and pesticide are linked. Judicious usage of pesticides can lead to enhanced food production and inefficient use of pesticides can lead to residues appearing in food post-harvest and spoiling the quality. Keeping in mind of MRL (Maximum Residue Level) is important when we talk of agricultural production.

What is MRL – The highest level of pesticide residue that is legally tolerated in or on food, must be low and safe for consumers and MRI interlinked with toxicologically acceptable

4.2 ROLE OF IPM AND ICM IN SUSTAINABLE AGRICULTURE

Mr. Anil Kakkar, VP, Sumitomo Chemical India Ltd focused on IPM I (Integrated Pest Management) as important practice in raising crops and have cultural, mechanical, biological methods. He argued that pests and weeds should be managed rather than controlled for promotion. ICM – Integrated crop management Central govt, state govt, scientists, and the Pvt industry should work with farmers. The

major challenge is to control fall armyworm infestation on crops such as maize, cotton, etc locust control, etc.

Youth and women can play role in agriculture. Digitally enabled farm services can be an attractive proposition, start-up culture should be focused on at villages, and the focus should be given to rural youth.

Role of Government:

- Lead role on the need of agrichemical, seed treatment
- Educate farmers on the proper use of agrichemicals at every stage of crop growth,
- Provide usage guidance on the use of chemicals
- Safety guide awareness to farmers
- Facilitate Mechanization of the farm operation

4.3 ROLE OF POLICY INTERVENTION IN GENERATING SELF-RELIANCE & FOOD SECURITY

Mr. NK Rajavelu, Business Head – Crop Protection Chemicals at Coromandel International Limited addressed on the subject of policy intervention towards facilitating Atmanirbhar Bharat and food security. According to Mr. Rajavelu, the primary challenge is the lack of awareness and attempts of market adaptation of innovative molecules. The second is, either under dosage or over usage of pesticide.

Other challenges include:

- High cost of R&D (Research & Development) for agrochemicals
- Complex registration process
- Farmer dependency on off-patent generic modules
- Heavy dependency on China. In FY20 China contributed Rs4457 crore or 49% of total pesticides imported by India
- Food security gap holes due to the emergence of the pandemic, decline in purchasing power due to loss of livelihood
- Unorganized Food Supply Chains
- Inadequate buffer stocks of other food groups
- Rampant undernourishment – nearly 190 million people in India are undernourished.

4.4 THE WAY AHEAD - IDENTIFYING GROWTH DRIVERS IN THE AGRICHEMICALS INDUSTRY

MANUFACTURING

The PLI Scheme need to cover the agrichemical industry, Capacity building should be rewarded through incentive.

EXPORTS & TRADE

Simplifying export registration and compliance processes. MRL testing infrastructure needs to be developed to make low-cost testing accessible. We should also foster trade relationships with countries whose MRL norms are less stringent

HOW TO AVOID UNDUE WASTAGE OF FERTILIZERS?

After this, Dr. Ramesh Raliya discussed widely how the misuse of fertilizers contributes to pollution and how more sustainable alternatives like nano-fertilizers should be used. The current fertilizers being used often lead to wastage. Most fertilizers are nitrogen-based and contain an organic compound called urea. Plants absorb just 25-30% of urea and the rest gets wasted through water runoff. Unused urea can pollute water through eutrophication, increase the level of phosphate in water and increase acidity in soil (and crops) as well.

Fertilizer wastage can be avoided, by using it at the right time and in the right amount. Judicious use of fertilizer can be attained through regulations. He pointed out how in Britain regulators banned, the use of solid urea and farmers were instructed to use liquid nitrogen with the help of a urea generator so that its use is limited between 15th Jan to 31st March. In the USA, farmers who caused pollution are expected to pay a monetary penalty for that.

- Coating of fertilizers should be encouraged as it slows down leaking and volatilization. In India, neem oil is used for coating. Neem oil is hydrophobic so it can easily slow down urea release and lead to better usage.
- Mixing of multi nutrients, both micro and macro.
- Enabling urea to dissolve and be used as a liquid or water-soluble form.

Encourage co-fertilization with bio-organisms or bio stimulants such as nitrogen-fixing micro-organisms instead of just chemical fertilizers.

- Reducing the size of fertilizer to nanoparticles for better use and avoiding wastage. Nanoparticles are small in size 1-100 nm and have more surface area compared to volume size ratio and better physicochemical properties than conventional bulk materials.

BENEFITS OF NANOTECHNOLOGY TO MANUFACTURE PLANT FERTILIZER

- Facilitates target delivery – this leads to reduced wastage.
- Controlled release to avoid leakages and emissions.
- Helps to maintain nutrients plant available form so that plant can receive nourishment for its entire life cycle through one-time application
- Require less by mass volume.

Nano-fertilizers have been tested on over 11000 farm fields, 94 crops, and 26 plus agricultural research institutes, with strict compliance as per OECD and DBT guidelines to keep safe from toxicity.

5. SPEARHEADING DIGITALIZATION OF AGRICULTURAL SECTOR

SBI has taken a lead on the digital side. It has launched the You Only Need One (YONO) app in 2017, which is a conglomeration of all activities like opening a bank account, fund transfers, cashless payments, etc. The farmer doesn't have to come to the bank but can do all banking activities or avail services of SBI's subsidiary through a smartphone. 40 lakh gold loans have been sanctioned for farmers through YONO. SBI's E- Mudra platform offers an end-to-end digital solution where loans can be given up to 50,000 through the Shishu Route. During the pandemic, SBI extended 10% emergency line credit to 20 lakh borrowers. Currently, SBI has 72,00 parallel banking outlets run by BC partners and CSP has a deposit base of 35,000 crores.

6. DECENTRALIZING LENDING THROUGH FPO

Mr. Sanjeev Nautiyal, Deputy Managing Director, Financial Inclusion & Micro Markets, State Bank of India

Govt said that the loan lending to the individual via FPO (Farmer producer Organization) and other collectives, is less time-consuming and more efficient than loans granted on a one-to-one basis. When it comes to schemes like agri-infra funds and animal husbandry schemes, SBI ensures that the FPOs FPCs can borrow with ease and lend them to individual farmers based on their requirements. FPO will look after the infrastructure, processing needs of the farmers it will be the nodal or the aggregating point, a platform for the farmer to acquire know-how, technology, storage, and process facilities.

7. CAN BANKS BE A SOURCE OF KNOWLEDGE SHARING AND TECHNICAL KNOW-HOW?

Mr. Nautiyal explained how SBI's collaboration with several SHG (Self Help Groups) are geared toward rural women entrepreneurs, have helped in spreading technical know-how in the farming community. SBI have maintained a separate portfolio of 17,000 crores for SHG, as well as 152 rural self-employment training institute to skill people along with 341 financial literacy centers that trained 30 lakh customers.

HOW TO EXTEND THE BENEFITS OF WAREHOUSE FINANCE ACROSS SMALL AND MEDIUM FARMERS?

Mr. Raul Rebello, Executive Vice President & Head: Rural Lending & Financial Inclusion at Axis Bank explained how Axis Bank has revolutionized its commodity finance scheme through tie-ups with various warehouses. Based on a commodity quality analysis conducted by a collateral manager, the loans are dispersed. Most of the commodity funding is done for cereals and pulses. In terms of small farmers when it comes to providing them with loans Axis Bank refers to their KCC customer base. , After careful observation of how a crop is harvested the bank use linkages to check if a farmer is interested in pledge finance according to season. In Calcutta, Axis Bank engages in a lot of potato pledge funding. Axis Bank is also actively engaged in contract farming. This involves bringing farmers closer with the corporates and making them see the value of not just productivity but profitability as well. This is done by making the farmers aware of consumer demands and grow crops as per that demand. Axis Bank has active dealer distribution points located close to where the farmers operate. They approach agricultural corporates and use their distribution connections to on-board farmers as business correspondence partners.

In the last session of the conclave, a panel discussion on Agri-Export Opportunities from the Eastern part of India was organized. Participants included:

- Mr. Samrat Mukherjee, DGM, NABARD
- Dr. AzharPathan, Head Banana exports Mahindra Agri Solutions Pvt Ltd
- Prof. Debabrata Basu, Professor at Bidhan Chandra KrishiViswavidyalaya

This discussion highlighted product-wise opportunities, post-harvest management, and NABARD's plan to help farmers through various pilot projects.

8. SPREADING THE WINGS OF AGRI-EXPORT SECTOR

The session started with Professor Debabrata Basu providing a somber statistic that even though West Bengal is one of the top producers of vegetable production but only about 20% of agricultural produce – fruits, vegetables, and seed are exported.

Speaking on the subject of improving West Bengal's prospects as an agri-exporter, Dr. Azhar Pathan explained although India has a lot of potentials to become a leading exporter of bananas (particularly the G-9 variation) throughout the world, barely 1% of the bananas gets exported outside of India.

The country has the potential to be a major exporter of bananas to many countries in the Middle East, South East Asia China as well as Russia due to its strategic location. The country is also blessed with large landscapes which can translate into round-the-year production and consistent supplies. He summarized India's banana export potential through a SWOT analysis:

STRENGTHS

- Highest banana production globally
- Diversity of agro-climatic zones can lead to production through all seasons and round the year availability of the fruit
- Lower use of chemical-based fertilizers in banana production.
- Can harvest 3 crops in 2 years.
- Domestic demand for various festivals

WEAKNESS

- The majority of the farmers are small with individual landholdings
- One time plantation/market glut
- Higher level of post-harvest losses
- Lack of proper infrastructure/facility like pack houses, pre-cooling units, cold storage, etc
- Farmer's reluctance to adopt new technology
- Shortage of skilled manpower
- Fruit price volatility
- Stiff competition from the Philippines and Ecuador when it comes to production quality
- Plants are vulnerable to Fusarium wilt disease.
- Similar plantation schedule which leads to demand-supply mismatches and irregularities in supply to the customers

SOLUTION

- To solve the issue of lack of skilled manpower, the govt should provide financial assistance to FPOs or farmers groups to maintain fruit care and health.
- To mitigate the problem of similar plantation schedules and make supply even throughout the harvest season, the staggered plantation will be the best alternative. Staggered plantation can translate into a more flexible maturity time across farms and the companies will be able to get supply for 8 months – April-November.
- Government should focus on developing export clusters and regional crop expert teams.
- The government should market intelligence and promotional tactics to enhance banana sales.
- Train farmers quarterly for plant and fruit care
- Avoid field packing and follow international standards to maintain quality

- To enter the EU, South Korea, and Japanese markets, the FPOs should work on traceability and GAP certification.
- Use advanced technology to reduce pre and post-harvest losses
- Encourage investment in processing units
- Demand production as per the requirement of markets
- Help the farmers to be aware of farm input cost and selling price per kg.
- Work as a member of FPO to gain better access to market linkage and other facilities.

NABARD'S INITIATIVES TO REVOLUTIONIZE AGRICULTURAL EXPORTS

According to Mr. Samrat Mukherjee the DGM of NABARD, If India can export at least 30% of its production then only the farmers can increase their income.

- In 2011 NABARD started promoting FPO through support from Producers Organization Development Fund (PODF) and PRODUCE fund. Through such funds, NABARD has developed more than 4500 FPOs throughout India. In WB NABARD regulates more than 300 plus FPOs. Formation of Cluster-level committees connecting exporters to the FPOs, and sorting out the issues of transportation/ logistics/ pack houses etc. needs to be a key strategy. In this regard, a study on identification of export oriented infrastructure for agri products for every State is required. Differentiated strategies required for (i) Farmers already involved in exports at various stages (ii) New / potential farmers who can be a part of agri exports. The Agriculture Infrastructure Financing facility can be utilized by entrepreneurs / FPCs for creating the required infrastructure.
- To make agricultural infrastructure more export-oriented and facilitate a high volume of exports, NABARD has tried to identify stakeholders like transport facilities, trade bodies, capacity building institutions like KVKs and involved them as part of the ecosystem. NABARD has collaborated with APEDA (Agricultural and Processed Food Products Export Development Authority) to work with agricultural universities and KVKs for capacity building. Those FPO's who wants exports can obtain export registration certification through APEDA. State agencies can also conduct capacity-building workshops on a cluster basis.
- After the capacity building is done there should be a process to obtain organic certification. Laboratory testing for packaging solutions needs to be ensured. GI (geographic indication) tag of produces, regular meetings between FPOs, start-ups, and buyers and sellers need to be conducted so that they understand each other's requirements and help to maintain export quality standards. There are value chains that have to be identified and can be developed into agricultural export hubs.
- Another important aspect to focus on is the SPS Sanitary and phytosanitary measures and TBT (Technical trade barriers).
- NABARD in collaboration with APEDA and Maharashtra state govt and chamber of commerce and set up an agricultural export commercial cell. If a similar thing can be set up in WB, then facilities like export, processing, knowledge center for entrepreneurs, can be provided seamlessly.

At the end of the conclave, Mr. Jayanta Chakraborty summarized all the sessions and announced unconditional support of BCCI for FPO's.