

AGRICULTURE The National Agriculture Magazine TODAY

April 2017, ₹45/-



FOOD PROCESSING

ADDING VALUE TO AGRICULTURE

APRIL 2017 | VOLUME XX | ISSUE 4

President Dr. MJ Khan
Editor Anjana Nair
Assistant Editor Fariha Ahmed
Sub Editor Sanjay Kumar

Business Manager Sonam Singh
9811494142

REGIONAL BUREAUS

Tirupati	V Rajagopal
Kerala	KR Sreeni
Jamshedpur	Shireen Tabassum
Gorakhpur	Jitendra Dwivedi
Himachal Pradesh	Rakesh Ahuja
Jammu & Kashmir	MH Shah
Hyderabad	Murli Krishna
Bangalore	HS Gangadhar
Lucknow	Alok Vashishth
Punjab	SS Virdi
Bihar	Gautam Kumar

Circulation Incharge Rajkumar

LAYOUT & DESIGN

Graphic Designer A. Rehman

Publisher & Printer – Dr. MJ Khan on behalf of M/s Concept Agrotech Consultants Limited, Published from 306 Rohit house Tolstoy Road New Delhi-110001 and printed by Everest Press E-49/8, Okhla Industrial Area-II New Delhi-110020 Phone No. 011-23731129 Fax No.011- 23731130

E-mail: editor@agriculturetoday.in
business@agriculturetoday.in



**Any issues?
contact us at
the above
addresses!**

No part of this magazine can be reproduced, imitated or transmitted in any form, including electronic, mechanical, photocopying, recording or any information stage retrieval system or extracted in any way without permission from the publishers. Views expressed in the magazine need not necessarily be those of the Editor / Publisher.

www.agriculturetoday.in

Pages in the magazine: 60

Food Processing – Crucial for Development of Agriculture Sector

Agricultural commodities which are traded in heavy volumes inside and outside the country heavily influences India's economy. In 2015-16, Indian agriculture contributed to 17.4 per cent to GDP. India, over the years has emerged as a significant player in international trade of agricultural commodities. Agricultural exports showed an increase from around Rs.60 billion in 1990 - 91 to Rs.398 billion in 2005-06. Value of agri-exports to total exports of the country has been ranging between 15 to 20 per cent. India is the world's second biggest producer and exporter of rice, the second largest producer of wheat and sugar as well as the world's largest producer, importer and consumer of pulses.



Agri-imports, on the other hand form a miniscule proportion of the country's total imports ranging from 4 to 7 per cent of the total imports of the country. However, in recent years, edible oil has become the single largest agri import accounting for more than 50 per cent of the value of total agri-imports.

Beyond the corridors of the conventional trading, some amount of agricultural commodities are traded in commodity exchanges in the form of spot prices, forwards, futures and options on futures which offer income protection to the farmers. Trading in exchanges can offset considerable risk associated with falling prices, a trademark of agri commodities. Recently, the Securities and Exchange Board of India (Sebi) approved a draft amendment to Securities Contracts (Regulation) Act to allow commodity derivative exchanges to deal in 'options'. This is carried out as an effort to deepen the commodities derivatives market. Market experts believe that options contracts would complement the existing futures contracts and will make commodity derivatives more attractive to farmers, cooperatives and SMEs for price discovery and hedging purposes.

Recently, India's Minister of Food Processing Industries, Smt. Harsimrat Kaur Badal unveiled India's intent to usher in an era of Zero Tolerance towards Post Harvest Wastage, Zero Tolerance on Delays in Commissioning of Food Processing Projects, Zero Tolerance in Delays in obtaining Licenses/Statutory Clearances for Food Processing/ Food Retail Markets by Central/State/Local authority. A move that would provide the much needed support to the fledgling yet potential food processing segment of the country.

Considering the potential of this sector, investments are pouring into the food processing sector. According to the data provided by the Department of Industrial Policies and Promotion (DIPP), the food processing sector in India has received around US\$ 7.47 billion worth of Foreign Direct Investment (FDI) during the period April 2000-December 2016. The Confederation of Indian Industry (CII) estimates that the food processing sectors have the potential to attract as much as US\$ 33 billion of investment over the next 10 years and also to generate employment of nine million person-days.

However, the food processing sector needs to constantly innovate in an effort to reorient itself to the international standards. Considerable attention has to be therefore laid upon food safety and quality assurance mechanisms such as Total Quality Management (TQM) including ISO 9000, ISO 22000, Hazard Analysis and Critical Control Points (HACCP), Good Manufacturing Practices (GMP) and Good Hygienic Practices (GHP).

Anjana

Anjana Nair

CONTENTS

VOLUME XX | ISSUE 4 | APRIL 2017

Cover Feature



FOOD PROCESSING: ADDING VALUE TO AGRICULTURE COMMODITIES



58

Know Your Leader

Captain Amarinder Singh

Editorial	01
Editorial Comments	04
News Corner	08

Cover Feature	
Food Processing: Adding Value to Agriculture Commodities	20

ICFA News	38
------------------	----

Global	
CIMMYT 50	40

Food Security	
2017 will be crucial for India's Food Security Strategy	42

Report	
National Round Table on Untapped Potential of North Eastern Region	48

International	
Peru - Door for Indian products in Latin America	54

Know Your Leader	
Captain Amarinder Singh	58
Different Strokes	60

માન

Your purposeful life, like that of a Banyan Tree and conscientious sage like living, inspire us to make this world a better place.



First Year of Remembrance
Bhavarlal Hiralal Jain
1937-2016

The Future of Agriculture Marketing

Futures contract offers protection to farmers from crash in prices

Glut is indispensable during times of bumper harvests and so is the associated price dips. A farmer in his life time would have experienced this many times. Up until now, this phenomenon was considered a natural outcome without any plausible remedy at hand. However, this perception has been effectively challenged by Samriddhi Mahila Crop Production Co. Ltd, a farmer-producer organization (FPO) for women in Bundi district of Rajasthan which has converted this dire situation into a wonderful opportunity.

Futures contract which has so far remained an outsider, has slowly crept into the trading network of the farmers. Samriddhi Mahila Crop Production Co. Ltd., an FPO with 2,300 members, used the futures market to sell produce at prices that were higher than what wholesale markets offered two months later. In September 2016, it sold 100 quintals of soybean on the NCDEX (National Commodities and Derivates Exchange) futures platform at Rs3,300 per quintal. By November, when markets were flooded with soybean following a record crop, prices had fallen to Rs. 3,000 per quintal securing a profit of Rs. 30,000 for the FPO. The experience has prompted the group to take more positions: since January 2017, the FPO has sold 400 quintals of mustard on NCDEX for delivery in April, at Rs3,900 per quintal. The current mandi or spot price for mustard is Rs. 3,500 per quintal and a record harvest means prices may dip further. Apparently this is not a local phenomenon and more farmers have turned to this option as an official means to offset risks. According to NCDEX, over 25,000 small and marginal farmers from 13 FPOs have successfully hedged their crops on its trading platform in the past 10 months.

Futures contract route helps the farmers to decide on a trade for a standing crop at a future date at a price agreed before the harvest. This is a suitable instrument to offset risks associated with price dip, a common phenomenon during peak harvest seasons. Farmers become aware of the market prices for their commodity by comparing the spot prices and prices prevailing in the future market. Forward markets thus give farmers an opportunity beyond Minimum Support Price to ensure price recovery and profit realization. Farmers with regular acquaintance with forward markets can understand the price trends for a particular agricultural commodity at a commodity exchange and they can decide on the sowing pattern. Farmers thus can cultivate crops according to the market demand lending a business behavior to this age old profession. The existence of commodity exchanges has the potential to enhance farmers' bargaining power at the local mandis as they are aware of the market price, both futures and spot.

However, not all agriculture commodities are allowed to be traded in future category. Currently rules do not allow futures trading in pulses and rice over fears it may lead to speculation or stoke inflation. But many experts differ on this perspective. Participation in futures market by individual farmers would look too far-fetched considering the prevalence of high membership fees, high margin deposits, portfolio management and limited produce, which farmers would find too harsh to comply. But for groups of farmers registered as FPOs, these limitations can easily be circumvented.

Although it would be a cliché to suggest that Futures market is the future of agriculture marketing in India, there is no better way to ascertain the fact. When India as a nation is ardently pursuing the prospect of cashless transaction combined with the objective of digitization, futures trading at commodity exchanges looks more realistic than ever. So taking cue from FPOs like Samriddhi Mahila Crop Production Co. Ltd, India can think of extensively popularizing the same among farmers as it holds immense potential in doubling farmers income.

Potato Aplenty

Punjab's Potato farmers suffer heavy losses due to glut

Punjab's potato farmers are faced with a dire situation of abundant harvest and plummeting prices. A deleterious combination in itself, farmers are out of wit or wisdom to dispose off their produce as they are fetching rock bottom prices. When some resort to dumping their harvest on the ground, others are selling them at unbelievably cheaper rates.

The state struggling to rescue its debt-ridden farmers, has now a new challenge to tackle. Punjab has around 5 per cent share in India's annual potato output. India was the world's second-largest potato producer at 43 million tonnes in 2015-16, but it exports only less than one per cent of the output. The situation is so dire in Punjab that the farmers are not even able to realize the production cost. The crop which was earlier being sold at Rs 500 per quintal is now being sold at Rs 200 per quintal, making it difficult for farmers to recover the input costs. The warehouses are reluctant to store the abundant produce as the last year's production is still being housed in the warehouses. Punjab is expecting a production of over 2.2 million tonnes whereas it has the capacity to store around 16 lakh tonnes in the nearly 500 cold stores. But the old crop, lying in the cold stores, needs to be cleared first.

The state also supplies potato seeds to other potato growing states in the country. Demonetization, announced during the sowing season, drew away a bulk of the buyers of potato seeds who travel to Punjab from around the country to procure some of the best potato seeds in the country.

The sinking farm sector in Punjab has started demanding government intervention. Many are expecting the government to announce minimum support price for potatoes. It looks a much better option than waiving off loans. But the elections in the state and the model code of conduct have dampened the rescue efforts from the government side. However, the Election Commission has given the go-ahead to the state government to release Rs 5 crore as the price stabilisation fund to tackle the potato glut. Meanwhile, the state's Director General of School Education had recently ordered government schools to increase the use of potatoes in the mid-day-meal offered to over 19 lakh students. Apparently, more efforts must be directed to contain the bumper crop and secure income for the farmers.

Despite, being a good producer of potatoes, India hasn't extensively explored the export opportunity. The Punjab government had asked agencies to explore the feasibility of export potential of potatoes to countries such as Russia, the UAE, Iran, Sri Lanka and others for which the state government would subsidise the freight. In December 2015, the government had removed minimum export price of potato. In July last year, the government had imposed MEP of \$360 per tonne on potato for increasing domestic supplies. The country's potato output is estimated to increase to 43.88 million tonne in 2016-17 crop year (July-June) from 43.41 mt last year.

National Agricultural Cooperative Marketing Federation of India (Nafed) was also asked to intervene in the market for stopping distress sales by farmers. Farmers have not been able to transport potato to the mandis because of low prices. In the event of the state government providing some subsidy to potato growers, transportation cost from Punjab to Azadpur mandi in Delhi could be met.

Plenty can also cause problems. The abundance of produce and lack of facilities to dispose them off has been of habitual occurrence in the Indian situation. Despite having the prior knowledge of the situation, most often the governments wait for the misfortune to strike the farmers. Glut should be treated as a calamity and there should be preparedness at the government level to wear the situation.

Redefining Agriculturists

Agriculturists get New Definition under model GST

Agriculturists have assumed a new definition in the Goods and Services Act (GST) as a prelude to its expected nation wide implementation in first of July. The new definition intends to remove ambiguities that existed in the previous connotations and is supposed to remove disputes in the wake of implementation of GST. GST, which replaces multiple central taxes including excise duty, service tax, countervailing duty and state taxes such as value-added tax, entry tax, octroi and purchase tax with a single levy, is proposed to be implemented from July 1.

As per the latest definition, an agriculturalist is a person or a Hindu undivided family undertaking cultivation of land by own labour or labour of the family or by servants paid wages in cash or kind or by hired labour under personal supervision or supervision by any family member. Similar dispensation would be given to serving member of the armed forces, widows, minors or people with physical or mental disability even when land is cultivated by servants or hired labour. The draft central and integrated GST laws, which were approved by the GST Council, have incorporated the new definition. The earlier draft contained a generic definition according to which agriculturalists are those who cultivate land personally for the purpose of agriculture and it was felt this needed a little more clarity. The earlier definition was vague and was subjected to wide ranging interpretations. This definition in its scope encompasses all those who are involved in the process of cultivation of a crop by themselves or via help from paid or unpaid help. The definition has however left out the tenants or share croppers out of its ambit. While farmers won't have to register to pay the tax, registered buyers may need to collect the levy on a 'reverse charge' basis, similar to the purchase tax principle adopted in Punjab and Haryana.

Experts believe that expansion of the definition of agriculturalist would ensure that the entire activity of agriculture would get consistent GST treatment, irrespective of the manner in which cultivation is done. And, anyone other than an agriculturalist and dealing with agri-commodities, such as a trader, could still be subject to GST if the government so chooses. Purchasers of these commodities could be subject to GST under a 'reverse charge' enabling provision in the draft GST laws.

Agriculture has also received a revised definition under the model GST. As per the model law, agriculture, with all its grammatical variations and cognate expressions, includes floriculture, horticulture, sericulture, the raising of crops, grass or garden produce and also grazing, but does not include dairy farming, poultry farming, stock breeding, the mere cutting of wood or grass, gathering of fruit, raising of man-made forest or rearing of seedlings or plants. So all the farmers engaged in the segments of dairy, poultry does not enjoy exemption from GST. Also, people who live by gathering fruits, wood etc., from the forest, an activity which is also an income source and a matter of survival for forest dwellers, comes under GST. However, it is very rare they are featured in tax net. This tax reform would primarily focus on the likes of wood based industry.

Most farm produce will likely be exempted under the new tax regime. However, cash crops are expected to attract the threshold rate. Similarly, raw agricultural commodities such as wheat and grains may be exempt from GST, But at the same might not hold true for processed commodities such as packed rice which would attract the tax, although at a lower rate.

As agriculture and agriculturists get a broader outlook in the model law, the pertinent issue of tenancy, contract farming and share cropping has been left untouched. The non-feasibility of cultivating in small farms during these times has lately opened the doors for increasing the area of operation though contract farming, tenancy and share cropping. Tax benefits can augur well for this type of farming as well.

Loan waiver – the Instant Fix

Loan waivers are not permanent solutions for credit distress among farmers

Elections are a time when political parties astound the country with grandiose promises and with that master stroke sway the electorate sentiments. Loan waivers have become a permanent fixture in the election manifestos and have played a significant part in influencing election results. The just concluded UP elections have also used this tool quite deftly and soon the state will receive its dose of loan waiver running into Crores of rupees.

Post elections, if the UP government fulfils its farmer loan waiver promise, banks are likely to take a hit of Rs 27,420 crore. Next in line are states of Maharashtra, Punjab, Tamil Nadu and probably the entire states in South who are dealing with drought. The country has set several cases of precedence in loan waivers, so that the volume of loan being waived off and frequency with which this is happening doesn't surprise anyone anymore. The last nation-wide farm loan waiver scheme was launched by the Congress-led United Progressive Alliance government a year before the general elections in 2009. Under the scheme, called the Agricultural Debt Waiver and Debt Relief Scheme, the government waived off more than Rs 52,000 crore in loans held by 3.45 crore farmers, the Comptroller and Auditor General of India (CAG) said in a report released in August 2015. In 1989, the Janata Dal government, a coalition of several parties representing socially underprivileged and lower castes and farmers, floated the first-ever agriculture loan write-off scheme.

The frequency and the ease with which the loan waivers are happening across the country points to the lack of will and the incapability to look beyond this quick fix scheme. Have we as a nation run out of all other option? Apparently no. There are a number of ways to tackle the situation. Rescheduling and restructuring of loans on a case by case basis can be an alternative to this situation. A social welfare insurance scheme can be launched that would safeguard farmers' produce with his own premiums. This would give a sense of responsibility and self respect to the farmers. Beyond this, the government should invest in technologies that promote water conservation and drought mitigation. To protect farmers against market instabilities price support, storage infrastructure and futures must be promoted by the government.

Loan waivers are short term solutions to a deep rooted problem. They cultivate a bad credit culture among farmers. Loan waivers do not distinguish between voluntary and involuntary defaulters. The loan waiver thus benefits the wilful defaulter as well. Also, the waiver does not take into account the loans farmers have taken from the informal sector. Once benefited by the loan waivers, as Arundhati Bhattacharya, Chairman of State Bank of India pointed out, it will create credit indiscipline because the people who get the waiver have expectations of future waivers as well. The farmers who have loan repaying ability would also stop paying regular installments. Poor credit discipline, in turn, makes banks reluctant to sanction fresh loans.

Besides, loan waivers put a heavy burden on the government. With farm credit increasing exponentially over the years, the quantum of loans that will need to be waived could be significantly higher. With UP government's total revenue of Rs 3,40,255.24 crore for 2016-17, the loan waiver amount of Rs 27,419.70 crore makes up around 8 per cent of the total revenue, a move that will hurt state finances ruining the prospects of development.

Loan waivers holds a negative development agenda. They rarely bring about a positive outlook for the agriculture sector nor will it do the same for the state or a country. Nurturing these tools would only worsen the rural distress and distort the rural credit culture. Loan waivers should be strictly regulated and should not be kept as an easy tool to deploy.

Murugappa Group's Coromandel in Talks to Buy Nagarjuna Fertilizers

▶ The Murugappa Group's Coromandel International, India's biggest private-sector Phosphatic fertiliser company, is in talks to buy key urea producer Nagarjuna Fertilizers and Chemicals in one of the largest such buyouts in the sector. A successful deal, likely between Rs 3,000 crore and Rs 3,600 crore, will make Coromandel International the largest integrated player in India's fertiliser sector, with substantial strengths in both complex fertilisers and urea. The buyout of Hyderabad-based Nagarjuna (NFCL) will also allow Coromandel, part of Chennai's Rs 29,500-crore Murugappa Group, extract production and marketing synergies from the existing manufacturing units located on the eastern seaboard. India is the world's second largest consumer of fertilisers after China, and locally produces about 80% of its urea needs and

about half of its Phosphatic fertiliser requirements.

Coromandel International has manufacturing facilities at Kakinada and Visakhapatnam in Andhra Pradesh and at Ennore in Tamil Nadu. The KS Raju-headed NFCL, with its urea production facility located at Kakinada in Andhra Pradesh, posted a net loss of Rs 114 crore on sales of Rs 3,656 crore during the last fiscal to March 2016. A senior NFCL executive, said the negotiations were going on for a while. NFCL, which underwent a composite and complex scheme of arrangement and amalgamation between Kakinada Fertilizers, Ikisan, Nagarjuna Fertilisers and Chemicals, and Nagarjuna Oil Refinery, saw its equity shares being frozen after the Sebi opposed the exemptions sought by the company for listing shares of certain entities without going in for a public issue. However, the trading in shares commenced from June last year after Sebi agreed to relax certain conditions. The NFCL executive, who is quoted above, said: "The promoters had agreed to several commitments as a part of the composite scheme of arrangement and amalgamation, which includes reviving the financials of Nagarjuna Oil Refinery, apart from bringing in strategic investors."

Start-up AgroStar raises \$10 mn from Accel India, others

▶ Agri-tech start-up AgroStar has raised \$10 million in series B round of funding led by Accel India, the company said in a statement. Existing investors IDG Ventures and Aavishkaar also participated in the round. The company had raised \$4 million



in a round led by IDG Ventures in August 2015. Founded by Shardul Sheth and Sitanshu Sheth in 2012, the company plans to use the funds for team expansion, product development and to expand to pan-India markets. Owned and operated by ULink AgriTech Pvt. Ltd, Pune-based agriculture-focused company, AgroStar sells agricultural inputs and products to farmers. The service is accessible to farmers through a missed call service or an Android mobile application, removing intermediary layers in agricultural purchases. The order placed on AgroStar is delivered directly to the farmer through state transport systems or courier services. It sells seeds, nutrients, crop protection and hardware products through partnerships with multiple national and multinational brands.

Campco in pact with IISR for pepper certification

▶ The Mangaluru-based Central Arecanut and Cocoa Marketing and Processing Cooperative (Campco) Ltd, which is planning to market pepper in the retail segment, has inked an agreement with an ICAR (Indian Council of Agricultural Research) agency for quality certification. Suresh Bhandary, MD of Campco, said that the cooperative started procurement of pepper from grower members in December and wants



to market it in the packs of 100 gm, 200 gm and 500 gm to customers. In this regard, Campco has signed a memorandum of understanding (MoU) with the Kozhikode-based Indian Institute of Spices Research (IISR), an institute under ICAR. Per this agreement, Campco will use the facility available for spices processing operations at IISR in Kozhikode. The facility will be used for cleaning, grading and packing whole black pepper and white pepper using the respective infrastructure available at Kozhikode. He said IISR would provide training and technical guidance. One of the major advantages of this agreement is that Campco will get IISR's certification. The retail packs will have 'Manufactured at ICAR-IISR processing facility for spices' on them. He said the cooperative wants to enter the retail segment for marketing pepper under Campco's brand name from next financial year. Bhandary said the cooperative is procuring pepper from growers in 13 centres in Karnataka and Kerala. The number of procurement centres will rise to 56, he said.

Agro corpn ties up with ITC for potato supply

► The Punjab Agro Industries Corporation (PAIC) has tied up with ITC to supply it 3 lakh bags of processing grade potato from them. Potato will be procured for Rs 500 per quintal besides the cost of the gunny bags and loading. Revealing this, Managing Director of the Punjab Agro K. S. Pannu said. He said mainly farmers grow table varieties but in some districts like Patiala, Fatehgarh



Sahib, Ludhiana and Bathinda, processing grade potato was also grown. The ITC would accept tubers containing sugar up to 12 per cent and

not beyond this limit. Likewise, Mahindra and Mahindra would procure 40, 000 bags of potato. PAIC has already 20,000 bags of potato for the ITC.

Gujarat fertiliser major aims big with 'Neem Revolution'

► The fertilisers behemoth Gujarat Narmada Valley Fertilizers & Chemicals Ltd (GNFC) is embarking on a 'Neem Revolution' by creating job opportunities for rural women on one hand and venturing into a lucrative FMCG segment on the other. After successful rollout of its Neem soap and Neem hair oil, besides other



neem derivatives, GNFC is now planning to launch Neem handwash and Neem mosquito repellent named 'Neem Nite' for consumer market. Started about two years ago, GNFC's Neem project is set to make it big in the FMCG space in coming years. Aimed at generating additional income for rural women in Gujarat, GNFC's Neem project also looks to boost neem oil production to meet the requirement of mandatory neem coating of urea. In 2015, the Centre announced mandatory neem

coating of 100 per cent urea to prevent its misuse in other industrial applications. GNFC collects neem seeds from about 4,000 villages of Gujarat by involving women and paying them between Rs. 6-12 a kg. "When GNFC was not in the market, brokers and middlemen paid Rs. 1-1.5 or Rs. 2 per kg. We created a network of 2,200 collection centres across 4,000 villages of Gujarat through self-help groups (SHGs) and roped in women in making soaps, for packaging and collection of seeds," Rajiv Kumar Gupta, Managing Director, GNFC, said.

Nath Bio-Genes uses technology to alter genetic codes for prosperity of the farm sector

► For ages, the country's tomato farmers had a peculiar problem. The thin peel of their produce meant lower shelf life and huge losses during transportation. Aurangabad-based Nath Bio-Genes (India), one of the pioneers in agri-biotech research in India, came up with a solution. It altered the genetic code of certain tomato varieties to thicken their skin. Its 'Abhiman - 1222' tomatoes are now widely accepted for their size, shape and sturdiness; some say they



are as good as a tennis ball. Similarly, the bajra crop in various parts of the country was facing Downey Mildew pest attacks during the blossoming stage. A few years ago, Nath Bio came out with a hybrid variety - Eknath -301 Gold - which has better protection bristles against bird damage; this made it difficult for pests to suck the juice of bajra. Such innovations have stood the company in good stead. In 2015/16, Nath Bio earned a revenue of

Rs162.1 crore, with three-year average growth of 6.7 per cent. The three-year average net profit growth during the period was 22.4 per cent; the 2015/16 profit was Rs14.2 crore. Net worth grew at an average of 28.8 per cent a year during the period to Rs121.3 crore. This growth has come in spite of the crisis in Indian agriculture for the past few years, especially the severe drought in Maharashtra's Marathwada region, the home turf of Nath Bio. "We sell about 85 hybrid varieties and offer seeds in accordance with crop cycles across the country. That has helped us achieve balanced growth," says Managing Director Satish Kagliwal. Nath Bio is among the dozen-odd seed companies in India doing cutting-edge genetic research. The hybrid seed market in the country is valued at \$1.5 billion. It is growing at more than 10 per cent every year.

New GST Definition to Farm Agri Tax

➤ India has incorporated a new definition of 'agriculturalist' in the goods and services tax law to enable select farm items to be brought under the tax net nationwide. While farmers won't have to register to pay the tax, registered buyers may need to collect the levy on a 'reverse charge' basis, similar to the purchase tax principle adopted in Punjab and Haryana. Most farm produce will likely be exempted from the new tax and some cash crops are expected to attract the threshold rate. As per the latest definition, an agriculturalist is a person or a Hindu undivided family undertaking cultivation of land by own labour or labour of the family or by servants paid wages in cash or kind or by hired labour under personal supervision or supervision by any family member. The draft central and integrated GST laws, which were approved by the GST Council, have incorporated the new definition. The Bills are expected to be introduced in the budget session of Parliament.

Panel on model contract farming

➤ The NITI Aayog has formed a committee to prepare a model contract farming law to enable better price realisation and reduction of post-harvest losses for farmers by connecting them to the food processing industry. "The committee on model contract farming law will submit its report in 3 months," a senior government official said.



Govt revives import duty on pulses

➤ With Kharif farm gate prices of pulses, especially tur or arhar and urad, falling below the minimum support price (MSP) in mandis across key producing states, the government has decided to impose an import duty on pulses which was abolished more than a decade back. Sources told FE that to bridge the gap between demand and supply of pulses, the government had been pursuing a zero percent duty on imports since 2006. However, this year

(2016-17), in anticipation of a bumper crop, the government has decided to restrict import in a bid to protect domestic farmers. The farm gate prices of pulses like arhar and urad has been around Rs 5,050 per quintal. This is for the first time that the government agencies have procured arhar and urad from the farmers because of the gap between demand and supply and the retail prices are usually much higher than the MSP. According to

second advance estimate released recently by agriculture ministry, the pulse production during 2016-17 crop year (July-June) is expected to increase by more than 35% compared to previous year's output. Rabi or winter pulses such as channa have been sown in 15.97 million hectares, which is 11.15% more than last year (2015-16) and 8.14% more than last five year's average.

Spend 30% of agriculture-fund on women farmers: Centre to states



➤ The Centre has directed states to spend 30% of funds allocated towards farm schemes for empowering women farmers, whose share is significant in the country's agri workforce, Agriculture Minister Radha Mohan Singh said. He, however, expressed concern over negligible number of women cooperatives in India and emphasised on the need to strengthen by providing financial help to them. The government has decided to celebrate October 15 as 'Female Farmers Day' to recognise their contribution. "About 60% of the country's population is dependent on agriculture. Out of which, women are 30%. We have asked the states to partner women in all our schemes and programmes," Singh said at the national workshop on 'Strengthening Women Cooperatives' organised by NCDC here. Women play an important role in sowing and harvesting process as also in allied farm activities. Therefore, the states have been directed to spend at least 30% of the allocation to empower women farmers, he said. Singh also emphasised that there is a need to set up more women cooperatives in the country as at present they are only 20,014 out of the total 8 lakh in India.

Fertilizer companies asked to get ready for nationwide DBT rollout

➤ The government has asked all fertilizer companies to deploy nearly 200,000 point of sale (PoS) devices covering all fertilizer retail stores in the country by 31 May for a nationwide rollout of the direct transfer of benefits (DBT) scheme for the commodity. The move is aimed at checking diversion of the resources meant for the needy. Expanding the DBT scheme to include fertilizer follows the smooth functioning of the scheme in the case of cooking gas subsidy, under which over Rs 49,100 crore has been transferred to over 165 million customers' bank accounts since 15 November 2014. Including fertilizer in DBT will raise the amount of major subsidies administered through DBT to 34% of the Rs2.4 trillion subsidy allocation for 2017-18. This includes Rs70,000crore for fertilizer and Rs13,247 crore for cooking gas and kerosene. The DBT scheme for fertilizer is designed to make sure that farmers do not have to cough up a higher market price at the time of buying, but every purchase at the retail level will be digitally validated and the subsidy will be transferred to the company within a maximum period of a week, an official from the ministry of chemicals and fertilizers said. This system is a departure from the current way of transferring subsidy to companies based on their audited sales figures, which has often led to delays. Under the current system, the subsidy dues for the last quarter is often settled in the next financial year. The proposed nationwide rollout is expected to prevent diversion of subsidised urea for industrial purposes or to neighbouring nations for sale at market prices.



Sugar import at zero duty on the cards

➤ India readies plan to import about one million tonnes of sugar after March 11 as the industry has cut production estimate for the second time in past 42 days amidst apprehension of a shortage and price rise in May and June when demand peaks. The government may allow import of sugar at zero duty for a quantity between 5 lakh tonnes and 10 lakh tonnes after the results of assembly polls are declared, sources said. At present, sugar import attracts 40 per cent customs duty. The government will allow duty-free import of only raw sugar so that mills having refining facilities and standalone refiners will be able to use their idle capacities, sources said. The duty on refined sugar may remain at 40 per cent.

Agri ministry likely to maintain status quo on Bt cotton seed MSP

➤ The agriculture ministry is likely to retain the current maximum sale price (MSP) for genetically modified Bt cotton seeds prices for the next kharif season. Last year, MSP of genetically modified Bt cotton seeds was reduced to Rs800 per 450 gm packet from Rs 830-1,000 in the previous year. However, the sharpest cut was on royalty or trait fees which was reduced by 74%, from Rs 163 per packet to Rs 49. After last year's cut in the fees to Mahyco Monsanto Biotech (MMBL), a joint venture between the US-based biotech major Monsanto and Maharashtra-based Mahyco, the trait value has been just 6% of the pan-India ceiling price of Rs800 per packet for the seed.



MP expecting record wheat produces this year

► Madhya Pradesh is expecting to emerge as the second largest wheat producing state in India with a target of a record 20 million tonnes this year. Madhya Pradesh is known for its high-protein Sharbati wheat variety and others like Durum, which are in demand for making pasta. The state discontinued offering Rs 150 per kg bonus in 2014 following a central government order. Though the opposition Congress contests claims of the government on wheat procurement, the yield is increasing since 2007-2008. In 2007, Madhya Pradesh's wheat yield was 1,643 kg per hectare. "It is now expected to reach 3,271 kg per hectare," said ML Mina, director, state farmers welfare and agriculture development. "Farmers have provided more acreage to wheat. Sharbati, Durum and Lok-I fetch good returns. We will be the second largest wheat producing state since weather conditions are favourable this year," he added. Punjab and Uttar Pradesh are the top two wheat producing states at present. Madhya Pradesh has witnessed drought, frost, unseasonal rain and hailstorm during the past several seasons, yet farmers have managed to maintain productivity. "Farm mechanisation plays a key role. Despite odd weather, farmers are continuing with wheat," he said. Sehore, Ujjain, Shajapur, Shujalpur, Guna, Ashoknagar, Chhatarpur, Rewa, Morena, Bhopal, Raisen and Hoshangabad are the main wheat growing areas in Madhya Pradesh.

In Punjab, potato glut goes a-begging

► Stuck with a glut of potato produce and plummeting prices, farmers in Doaba region of Punjab have taken to streets to dump potatoes on roads, deepening the farm crisis faced by the state which is already struggling to rescue its debt-ridden farmers. Punjab has around 5 per cent share in India's annual potato output which is mainly grown in Doaba region consisting of Jalandhar, Nawanshahar, Kapurthala and Hoshiarpur. The state also supplies potato seeds to other potato growing states in the country, but the surplus production this year has caused a glut, leading to rock bottom prices and subsequent losses. Recuperating from demonetization woes, farmers highlight that the crop which was earlier being sold at Rs 500 per quintal is now being sold at Rs 200 per quintal, making it difficult for farmers to recover the input costs.

Kerala to introduce organic veggie brand

► Kerala, which annually buys over Rs 2,000-crore vegetables from neighbouring states like Tamil Nadu and Karnataka, will soon launch its own brand of organic vegetables in the market to promote pesticide-free greens. State minister for agriculture V S Sunil Kumar told the Assembly that initiatives were underway to sell the organic vegetables, grown in selected clusters across the state, under the "Kerala brand". "The agriculture department will sell organic vegetables, produced in 446 selected clusters, under the name Kerala Organic brand," he said during the question hour of the house. Asked of other plans to promote agriculture, the minister said 'rice agro-parks' would be set up in Palakkad, Alappuzha and Ernakulam districts soon. A string of such small-scale agro-parks would be set up in other parts of the state also in the later phase making use of the facilities of district agro-farms and other available land, Sunil Kumar said.



Meghalaya's horticulture mission expenditure a poor 27%

► In a sorry state of affairs, the expenditure of Meghalaya against total funds available under the Horticulture Mission for North East and Himalayan States (HMNEH) stands at only 27 per cent. As per the official documents available with The Shillong Times, Meghalaya was allocated Rs 2833.3 lakh in the financial year 2016-17. However, the unspent balance amount stands at Rs 1222.68 lakh. As per the documents, the Central share released is Rs 1275 lakh and the total fund available is Rs 1675 lakh, while the expenditure of the state government was only Rs 452.38 lakh. The documents also reveal that there was financial achievement of 24 per cent for nurseries in the state while the physical achievement percentage is nil. In terms of post harvest management, the State has a financial achievement of 7.5 per cent while the physical percentage stands at 7.7 per cent.

In market infrastructure, Meghalaya stands nowhere as the physical as well as financial achievement of the state is zero. In addition, Meghalaya has a capacity of 8200 metric tonnes for cold storage while the requirement is for 18704 metric tonnes. The figures of Meghalaya and other states were also discussed in the 3rd review meeting with Horticulture Mission for North East and Himalayan States and National Horticulture Mission earlier this year at the Ministry of Agriculture and Farmers Welfare.

Deadly wheat blast disease hits Bengal

➤ The “wheat blast” disease, which first struck Brazil in 1985 and some other Latin American countries destroying three million hectares of cultivation, has now invaded India, affecting wheat crop in two bordering districts of West Bengal -Murshidabad and Nadia. “Around 800 hectares in eight blocks of the two districts of Murshidabad and Nadia have been affected by the Wheat Blast disease,” state agriculture minister Purnendu Basu confirmed. Another official in the department said that around 1,000 hectares had been affected by the disease, which was first noticed at the Jalangi block of Murshidabad district in the last week of February. From Jalangi, it has spread to the blocks of Domkal, Raninagar-I, Nawda and Hariharpara so far and affected wheat production in more than 509 hectares of land in Murshidabad district, the official said. “In Nadia, the disease has affected wheat production in more than 500 hectares in blocks of Tehatta-II and II, Karimpur I and II and Chapra,” he said.

Bengal opens farm trade

➤ The Mamata Banerjee government today amended the agriculture produce marketing act to allow the entry of major private players in the trade so that better prices were ensured for commodities produced by farmers. But senior bureaucrats said the measure would work if the state’s opposition to policies like contract farming was reconsidered. In the amendment passed in the Assembly, the government has made it clear that any company could trade in agriculture produces by securing a single licence, which can be obtained from Calcutta. As of now, the West Bengal Agricultural Produce Marketing (Regulation) Act, 1972, prevents a company from doing business freely as it needs to obtain licences separately for more than 300 regulated markets in the state. “The amendment will make the trade in the agriculture produce sector easy for any agency. A bigger market will be opened for farmers,” said agricultural marketing minister Tapan Dasgupta. But senior officials feel opening the market for major private players would not help farmers realise proper price “Opening the market for major players is a good move but some other steps like allowing contract farming is required to make things happen for farmers,” said a senior Nabanna official, who added that major private players needed agriculture produces of certain quality and variety for their business.



Drought hits coconut output in the South

➤ Even as the drought in Karnataka and Tamil Nadu is seen impacting coconut production, in Kerala, rapid urbanisation is bringing down the area under cultivation and also contributing to the decline in output along with the monsoon deficit. This has resulted in a firming trend in raw coconut prices in recent months. Water stress triggered by the poor monsoon in the key growing areas of Southern Karnataka and the Pollachi region of Tamil Nadu has impacted coconut production, with growers putting the output loss as high as 30-40 per cent. A senior official at the Coconut Development Board said the drought in various parts of South India will be a major contributing factor influencing productivity in the 2017-18 season. There are possibilities of palm losses with both the South-West and North-East monsoons being below normal last year. It could take some time to assess production losses as the concurrent estimation for productivity in 2016-17 in major coconut growing States is in progress. The preliminary indication will be available only by the end of this month, he added.

Hailstorm flattens mustard, wheat crops in Rewari, Haryana



➤ Standing crops of mustard and wheat over thousands of acres suffered a considerable loss in several villages of the district due to recent spell of rain coupled with strong winds and hailstorm. The affected farmers have demanded a special ‘girdawari’ stating that they would be devastated if compensation was not provided to bail them out of the crisis. Punsika, Rajiyaka, Goliyaka, Bhandor, Gumina, Dhani Bhandor, Karnavaas, Paavti, Pranpura and Kathuvaas are the villages hit by hailstorm that caused damage to mustard and wheat crops “Standing crops of mustard (on over 450 acres) and wheat (over 200 acres) in our village suffered 80 per cent and 60 per cent damage, respectively, due to hailstorm. The loss has created a crisis of livelihood for several poor farmers, who have now no other option but to look to the government for help,” said Bhupinder Singh, sarpanch, Punsika village.

30% of area sown under rabi crops gets PM insurance cover

➤ More than 19 million hectares have come under the ambitious Pradhan Mantri Fasal Bima Yojana (PMFBY) during the current rabi season, covering around 30 per cent of the total sown area of 64.5 million hectares. According to preliminary estimates by insurance companies and state agencies till Friday, the total sum insured for the winter crops has jumped almost 50 per cent to Rs 68,230 crore, compared to the earlier season. Around 16.4 million farmers have been brought under the ambit of the Prime Minister's crop insurance and weather-based crop insurance schemes as against 17.5 million farmers in the previous rabi season. "The number of farmers who have been covered under the PMFBY this rabi season is expected

to move up sharply after details from centres come in and final numbers are compiled," a senior official said. He said together with the kharif season, around 53 million farmers have been covered under the PMFBY in the first two seasons of 2016-17. Till the last rabi season, the Centre used to run three different crop insurance schemes, namely National Agriculture Insurance Scheme (NAIS), modified



National Agriculture Insurance Scheme (MNAIS), and Weather-Based Crop Insurance Scheme. From the 2016 kharif season, these schemes were discontinued, and the PMFBY was launched. The Weather-Based Crop Insurance Scheme was also retained to give an option to the states. Finance Minister Arun Jaitley, in his 2017-18 Budget speech, had announced that the government planned to increase coverage under the scheme from 30 per cent of the cropped area in 2016-17 to 40 per cent in 2017-18 and to 50 per cent in 2018-19. He allocated a sum of Rs 9,000 crore for the scheme as against the budget estimate of Rs 5,500 in 2016-17. The revised allocation for 2016-17 was raised to Rs 13,240 crore to settle pending arrear claims.

Agri Ministry needs more funds for interest subvention: Parliament panel

➤ Additional budgetary support needs to be given to the Agriculture Ministry to meet its requirements under the interest subvention scheme, as there is likely to be a shortfall of up to Rs 26,000 crore due to the huge backlog of dues, the Standing Committee on Agriculture has said in its report. The committee, headed by HukmDeo Narayan Yadav, has also proposed that the entire RashtriyaKrishiVikasYojana (RKVY) scheme be reviewed and the constraints in its implementation be addressed in consultation with the States. Giving its observations on the interest subvention scheme, under which the government subsidises a part of the interest charged by banks on farm loans, the Committee noted that the budgetary allocation of Rs 15,000 crore was far below the requirement.

Aadhaar made mandatory for crop insurance schemes

➤ In line with its current directives issued for various schemes, the Centre has informed that production of Aadhaar would be mandatory for all those who avail crop insurance under the Pradhan Mantri Fasal Bima Yojana or the revised weather-based insurance scheme. However, the government clarified that if any grower or those who want to avail themselves of insurance under the PMFBY or otherwise, do not have Aadhaar number, they can still enroll after producing proof of applying for Aadhaar and alternative identification documents. The government has also directed the union and state agriculture ministries to open Aadhaar-enrollment centres at various convenient locations to enable smooth and quick enrollment. The state and Centre have also been directed to ensure proper information is given of such enrollment centres. The Centre had clarified that no benefit would be stopped for want of Aadhaar number and citizens can avail all the benefits of government schemes on producing alternate means of identification till the time they get their Aadhaar number.



Waiting for new govt, farmers going slow on repaying loan

Whether Punjab's major political parties will fulfil their electoral promise of farm loan waiver or not is yet to be seen, but the populist promise is already proving dear to the rural cooperative banks and societies — lifeline of rural credit system — as repayment of crop loans has hit rock bottom during the current crop season. Before beginning of every crop season, over 3,500 cooperative societies provide around Rs 7,000-crore loans to farmers at the subsidised rate. After recovering the loan at the end of every season, societies resanction the same. The recovery of crop loan by cooperative banks and societies has always remained above 80 per cent in Punjab. Since 2010-11, the recovery has never dipped below 88 per cent. However, during the current crop season the societies (till February 28) could recover just 50.49 per cent of the loans they had advanced for the rabi season. Worse, till January 31 — which is normally fixed as the deadline to repay such crop loans — societies could recover just 41.26 per cent of the loans. On the other hand, by January 31 last year, the collection was 85.01 per cent which had crossed the 50 per cent mark by November 20, 2015. Worried over the farmers' cold response this season, Punjab State Cooperative Bank Ltd, which provides money to all rural cooperative societies, recently extended the repayment deadline from January 31 to March 31. "Earlier, we were of the view that recovery has fallen due to demonetisation. However, the inflow of currency in circulation has increased in two months. But repayment is not in proportion with the availability of cash. Our queries reveal that farmers are waiting for the new government to assume power and waive loans. Instead of repaying, they are willing to turn defaulters," said an officer of the cooperative department. "We have achieved the 50 per cent recovery mark only after persuading a large number of farmers. Irrespective of the party that forms the government, it can't waive such loans within a couple of days. However, farmers would also suffer as once declared defaulters, they will not be able to avail of the subsidized component of crop loan."

SBI to allow one-time settlement for tractor, farm equipment loans

State Bank of India (SBI) informed that it would allow one-time settlements for tractor and farm equipment loans that make up about Rs6,000 crore of doubtful and loss cases on its books. SBI is willing to take an up to 40% haircut on such farm loans, said Rajnish Kumar, managing director (national banking) at State Bank of India. "From time to time, we open up the OTS (onetime settlement) scheme for certain segments of our customers to boost our recovery rate. That is what the aim is here," Kumar said. The offer would be applicable for loans up to Rs25 lakh, Kumar said, adding that customers can approach the lender up to 31 March for the settlement. He said SBI will also allow these borrowers to settle their crop loans but individual crop loan borrowers are not part of the scheme. The decision to focus on loan recovery has been taken in view of the large amount of gross



non-performing assets (NPAs) that India's largest lender has accumulated on its books over the last few quarters. Gross NPAs as on 31 December were reported at Rs1.08 trillion, up from Rs72,792crore a year earlier. In the July-September quarter, SBI reported gross bad loans worth Rs 1.05 trillion. However, the bank has seen a reduction in the generation of fresh bad loans in the last two quarters. SBI's upgrades and recovery during the October-December quarter stood at Rs20,620crore, nearly double of the Rs10,370 crore reported a year earlier. In the July-September period, the bank reported recoveries and upgradation of loans worth Rs15,550crore. "Other customers can also approach the bank for settlement of their loans, though that will be taken up through the usual route outside of this special scheme," Kumar said.

Bank NPAs may rise due to UP farm loan waiver

Some lenders could see a rise in bad loans owing to loan waiver schemes likely to be announced across states, Kotak Institutional Equities said in a report, adding that it was not able to take any conclusive decisions on the outcomes of such loan waivers as performance across states has not been uniform. It said that Uttar Pradesh and Punjab are critical states given that the banks have around 10% of loans in those states, mostly in the agriculture sector with high share of overdue between three and 10 per cent across banks. Public sector banks, have higher exposures in this segment as compared to private banks.

India temporarily suspends import of agri-commodities from Vietnam

➤ India has temporarily suspended the entry of coffee beans, bamboo, black pepper, cinnamon, cassia and dragon fruit from Vietnam with effect from March 7 due to “repeated interception of quarantine pests”. The decision comes close on the heels of Vietnam announcing that it would suspend import of peanuts, cassia seed, cocoa beans, haricot beans and tamarind from India after 60 days, starting March 1. In a letter issued this week by the Agriculture Ministry to the Vietnamese Ministry of Agriculture and Rural Development, the Indian government said that “in view of the repeated interception of quarantine pests, the NPPO India is constrained to suspend the entry” of the commodities. NPPO, Vietnam has been requested not to issue phyto-sanitary certificates for these six commodities for export to India. While there is no direct connection between the two suspension orders, it is common for a country to become less tolerant towards its trading partner if its interests are continuously hurt. Vietnam had earlier suspended imports of peanuts from India in April 2015. The ban was lifted in January 2016 after a Vietnamese delegation visited India and inspected fumigation facilities, export procedures and export certification systems. According to Vietnam’s statement on the recent ban on five products, the decision was taken following the discovery of live insects in about 3,000 tonnes of peanuts, 24 tonnes of cassia alata seeds bought from India last year and earlier this year.



India invites Japanese firms to ‘plug and play’ in food processing sector

➤ On a ‘food diplomacy’ visit to Tokyo, Food Processing Minister Harsimrat Kaur Badal said Indian marine products, fruits & vegetables, as well as non-GM foods, were key “strength” areas in which Japanese companies could explore investment possibilities. “One of our strengths is that we offer non-genetically modified (GM) food in India. And the Japanese companies are on the same page with India, as they are very particular about food safety,” Badal said. The Minister is in Tokyo for “food diplomacy” and promoting India as one of the “most favourable” destinations in the food processing sector. She is seeking Japanese participation in ‘World Food India’, which will be held in New Delhi in November. The Minister, who has already visited the UK, Italy and France for the purpose, said she would shortly visit Canada and the US. “Japan is a saturated market. Its food processing sector does 60 per cent of its business outside Japan. But only 11 per cent of this is with India. There are only 12 Japanese companies operating in India,” she said, adding that India’s infrastructure offers foreign companies the opportunity to “plug and play” in the market. In her meetings, organised by the Confederation of Indian Industry, Badal met representatives of the Japan Food Industry Association, CGC Group, a nationwide co-operative chain consisting of middle to small size supermarkets, Marubeni, Ise Foods, Ajinomoto Inc., restaurant chain Royal Hosts, Mitsui Foods, and seafood firm Kohyo Co, Tokai Denpun, among others. Among the Indian private firms that sent representatives were Chandigarh-based Pagro Foods, which is into frozen vegetables and already has tie-ups in Japan.



Oilmeal exports double to 2.63 lakh tonne in February

➤ Oilmeal exports jumped more than two-fold to 2.63 lakh tonnes during February on the back of sharp increase in soyameal shipments, according to industry data. The exports rose 18 percent in the first eleven months of this fiscal to 16.73 lakh tonnes as against 14.23 lakh tonnes in the corresponding period of the previous year, the Solvent Extractors’ Association of India (SEA) said. “The export of oilmeals during February 2017 has more than doubled and reported at 2,63,509 tonnes compared to 1,22,527 tonnes in February 2016,” SEA said in a statement. Soyameal exports rose sharply to 2.07 lakh tonnes during last month from nearly 30,000 tonnes in the same month last year, the data showed. During April-February period of this fiscal, the country exported 5.1 lakh tonnes of oilmeals, while Vietnam imported 2.96 lakh tonnes, France 2.08 lakh tonnes, Japan 1.57 lakh tonnes and Bangladesh 2.3 lakh tonnes. The export of soyameal was maximum at 8.09 lakh tonnes out of the total shipments so far during this financial year.

Ban on Vietnam coffee imports will hit India's re-exports

➤ India's move to ban farm product imports from Vietnam on phytosanitary issues will hurt the exports of value-added instant coffees from the country, exporters said. Instant coffee makers in India such as Tata Coffee, CCL Products and Nestle India, among others, depend on Vietnam for cheaper robusta imports and re-export the same after value-addition here. Vietnam is a major producer of the robusta variety. The low-priced imported robustas are converted into soluble coffees such as instant and freeze-dried coffee and re-exported



mainly to Russia and other European countries. Instant coffees, in terms of green bean equivalent, accounts for about a third of India's coffee exports. "The ban on imports can potentially derail India's instant coffee

industry and hurt the exports of soluble coffees," said Ramesh Rajah, President of the Coffee Exporters Association. The coffee industry has been caught off guard by the Union Agriculture Ministry's move to ban six farm products, including coffee and pepper, on concerns over phytosanitary issues, with effect from March 7. India's move comes close on the heels of Vietnam announcing its intent to suspend imports of Indian peanuts, cassia seeds, cocoa beans, harricot beans and tamarind over phytosanitary issues.



Grape exports to Europe slip on Chilean influx

➤ Indian grape exporters have slowed down European consignments for a few days, thanks to the heavy influx of Chilean grapes into the market. The European market is the mainstay of Indian exporters. According to top officials of the All India Grape Exporters Association, Chile has not had a considerable presence. However this time, with Chile having an early season, the European market has become overcrowded, leading to a crash in rates, said Gaggandada Khapre, president of All India Grape Exporters Association. According to Khapre, while India has crossed the 50,000-tonne export mark to Europe, hiccups developed when Chile began sending the produce to Europe. Rates have fallen and, as a result, exporters are getting cheaper rates of barely ₹40-45 per kg. This has led to a price fall even in domestic markets, he said. Khapre, however, believes that this is a temporary phase and exports are likely to pick up after March 20. The Chilean season lasts only till March end and Indian shipments will continue till April, he said.

Germany wants greater collaboration with India in farm technology

➤ Germany has a lot to offer India in terms of technology in agriculture, as well as skill creation, but "proper and predictable" policy interventions are required for transferring technology. "German companies have invested large amounts in India. In the last few years there have been a number of agreements in areas such as food safety standards, risk management and seed development. With a reliable regulatory framework there could be closer cooperation," said Arnd Nenstiel, Chairman, German Agribusiness Alliance, at a seminar on financing of agriculture. The German Agribusiness Alliance is an initiative of leading German trade associations and companies from the agriculture and food sectors that work with the German government to promote cooperation with transforming, emerging and developing economies. Speaking at the seminar, German Ambassador to India Martin Ney said that financing for modernisation and value addition was key to development of agriculture. "Change is possible if farmers can profit from what is being offered in terms of technology and skills," Ney said, adding that his country was working on intensifying collaboration with India. The German Agribusiness Alliance, FICCI, and Yes Bank have come up with a joint publication, 'Farm mechanisation in India — the custom hiring perspective' to highlight the challenges and potential of custom hiring here. According to the report, the concept of custom hiring has potential provided there is integration of all operations such as provision of agriculture inputs, including seeds, fertilisers and equipment, through partnerships with various partners in the ecosystem. One of the objectives of the government's submission on agricultural mechanisation is to promote custom hiring centres to offset the adverse economies of scale arising due to small landholdings and high cost of individual ownership, said VN Kale, Additional Commissioner, Department of Agriculture.

Rising urban consumption revives ragi crop production

Just like the humble quinoa, which has risen to global prominence as a 'super food', ragi or finger millet was once a subsistence crop—a poor man's staple. For the last four years or so, all that has changed. "Demand for ragi has come back as people are going back to the past, to explore ancient remedies and an older way of life," said Prashant Parameswaran, managing director of Bengaluru-based Kottaram Agro Foods Pvt. Ltd. His firm runs Soufull, a brand of ragi-based breakfast cereals that include chocolate-filled cereals, millet muesli, ragi flakes and a masala ragi-oats meal. Soufull, introduced in 2012 in Bengaluru, is now sold in Mumbai, Delhi-NCR, Pune, Hyderabad, Kolkata and Kerala. "Even in smaller towns, ragi is coming back in traditional foods like ragi roti, ragiputtu and others." In breakfast cereals, Soufull competes with Kellogg's India which also sells a ragi version of its popular chocolate cereal Chocos. Slowly, other major consumer goods players have caught on to the emergence of ragi as an alternative food. Britannia Industries Ltd's brand Nutrichoice sells ragi cookies marketed to consumers with diabetes while MTR Foods Pvt. Ltd sells ready-to-eat ragidosa and ragiravaidli mixes. Last month, Mint reported that powdered drink maker Rasna was launching a kids' snack, Vitos, made of ragi. The return to ragi is part of a growing health-food movement around the world. For the Indian farmer, this is good news.



PAU Develops BT Cotton Variety

Punjab Agricultural University (PAU) in Ludhiana has developed first genetically-modified (Bt) cotton seeds that can be reused resulting in saving of input cost to farmers. The new cotton variety is among few others identified by Indian Council of Agricultural Research (ICAR) for cultivation in North region. "The notification for these varieties could be out as early as next month after ICAR's scheduled meeting," Vice chancellor, PAU, Dr. Baldev Singh Dhillon said. The three BT cotton varieties include PAU Bt 1, F1861 and RS 2013. PAU Bt 1 and F 1861 were developed by PAU.



After Kharif, India set to reap record Rabi crop: NCAER



A good monsoon in 2016 helped in achieving record Kharif crops output, and India is set to replicate the performance in Rabi or winter sown crops too, said a study by economic think-tank NCAER. As per the NCAER's report on the short-term agricultural outlook for the 2017 Rabi season, Gross Value Added (GVA) in agriculture and allied sector registered a significant 3.3 per cent year-on-year growth in the second quarter of 2016-17 as compared to 1.8 per cent growth in the previous quarter. Overall, a robust growth of 4.1 per cent is estimated for the agriculture sector in 2016-17 as against the previous year's drought-impacted growth rate of 1.2 per cent. In comparison, the latest official estimates suggest 4.4 per cent growth for 2016-17 and 0.8 per cent for 2015-16. "The agriculture sector is projected to grow by 4.1 per cent in 2016-17, which is more than double the drought-impacted growth rate of 1.2 per cent in 2015-16. "After a record or near-record production of most Kharif crops in 2016-17, India is heading for a record or near-record production of Rabi crops," said NCAER's Senior Research Counsellor, Rajesh Chadha. The findings of the NCAER report are based on a comprehensive assessment of various factors including farm input prices and availability, monsoon rainfall, national and international market demand conditions and government policies impacting this year's Rabi and Kharif crop production.

Indian researcher discovers new molecule to boost wheat yields by 50%

➤ A new molecule that can make wheat crop resistant to climatic stress and boost yield by 50 per cent has been discovered by an Indian researcher. The discovery assumes importance as average wheat yield is lower at around three tonnes per hectare in India, the world's second largest grower after China. India's average yield is 39 per cent lower than China. The molecule is water soluble and can be sprayed on the wheat plant or injected to the root of the plant. This can also be used on other crops like rice, maize and potato. The new molecule has been discovered by researcher Ram Sagar Misra from Shiv Nadar University with the help of two other researchers Benjamin Davis and Matthew Paul from the Oxford University and the UK-based Rothamsted Research, respectively, after a decade of research work. "The molecule have been patented in the US, the UK and the EU by the University of Oxford. We are now in talks with three agro-chemical companies including one Israeli firm for commercialisation," Misra said in an interview. The molecule is non-toxic to the plant and does not get into the wheat grain. This new approach developed through the biotechnology-enabled process is known as "chemical intervention in plant signalling approach", he said. Misra also said that this new method does not rely on genetic modifications (GM) to create super-yields or combat climate change and therefore offers a viable alternative to GM technology. The new approach uses Trehalose-6-phosphate (T6P), a central sugar signal in plants, which regulates sucrose use and allocation, underpinning crop growth and development to signal the plant to produce more starch in wheat, he added.



Cotton variety which needs only 100 days to mature developed



➤ A SCIENTIST from the Central Institute for Cotton Research (CICR) here has developed what is reported to be the shortest-duration cotton variety in the world. Requiring only 100-120 days for maturity, the new variety could emerge as the solution to the problems of dryland cotton farmers in regions like Vidarbha and Telangana. "This is by far the most exciting development I have experienced in my career spanning over 25 years as a cotton scientist... When this variety becomes available to farmers after two years — after we complete field trials — India will have moved from the longest-duration cotton variety to the shortest-duration one," said CICR Director KeshvKranthi.

Explaining the importance of the variety, he said: "One of the main reasons for repeated failure of dryland cotton crop is its long duration. In India, the period generally extends for 170-240 days, while it is about 150 days in countries like Australia and China. So, the duration here extends well beyond the monsoon months. These plants then go without water during the crucial time of flowering and fruiting, suffering weak uptake of nutrients due to lack of water."



FOOD PROCESSING

ADDING VALUE TO AGRICULTURE COMMODITIES

Agriculture has remained the back bone of Indian economy. Nevertheless, the sector has undergone wide ranging changes and assumed several roles in recent decades making it more global in its outlook. Export of agricultural commodities has become a dependable source of income for the exchequer. Value addition and the food processing segment has garnered enough support in the form of foreign direct investment and conducive government policies. India, however needs to focus more on Good Agricultural Practices and Safety standards, to bask in the goodwill of its potential in these segments.

Agriculture is not merely an engine of food security now. The simple vocation with deep roots in the rural community has donned the cape of an agribusiness. The agricultural products have assumed the identities of agricultural commodities which are traded in heavy volumes inside and outside the country. The dips and slips in the international market have also contributed to the uncertainty of the food prices and market dynamics. The international trade which depends on free trade agreements and other pacts agreed upon between the trading partners has brought the countries closer and led to improved bilateral relations among them. Global trade in food and agricultural commodities has grown almost three-fold in value terms over the past decade and rates of growth are projected to continue to rise, with some regions increasing net exports and others increasing net imports.

Agricultural Commodity Trading

India is a significant agricultural producer. Being the top producer of many agricultural commodities, India's agricultural trade in these commodities runs into Crores of Indian rupees.

This year the agricultural production is estimated to hit record levels. Following back to back droughts, the country received good monsoon this year and as a result is expecting a bumper harvest, with all the possibility of establishing a new record. As per the First Advance Estimates for 2016-17 released by the Department of Agriculture and Farmers' Welfare, total production of Kharif Foodgrains is estimated at 135.03 million tonnes which is a new record. This year production has been reported to be higher by 11.02 million tonnes as compared to last year's Kharif foodgrains production of 124.01 million tonnes. In fact, Kharif foodgrains production is also higher by 7.65 million tonnes than the last five years' (2010-11 to 2014-15) average production of 127.38 million tonnes.

Total production of Kharif rice is estimated at 93.88 million tonnes which is a new record. This year rice production is higher by 1.1 million tonnes than previous record production of 92.78

The estimated production of major crops during Kharif 2016-17

CROPS	ESTIMATES IN MILLION TONNES
Rice	93.88
Coarse Cereals	32.45
Maize	19.30
Pulses	8.70
Tur	4.29
Urad	2.01
Oilseeds	23.36
• Soyabean	14.22
• Groundnut	6.50
• Castorseed	1.73
Cotton	32.12 million bales (of 170 kg each)
Sugarcane	305.25

The country received good monsoon this year and as a result is expecting a bumper harvest, with all the possibility of establishing a new record





million tonnes achieved during 2011-12. Production of Kharif rice is also higher by 4.16 million tonnes and 2.57 million tonnes over the average production of the last five years and the last year's Kharif rice production respectively.

Total production of coarse cereals in the country is estimated at 32.45 million tonnes as compared to 27.17 million tonnes during 2015-16 (4th Advance Estimates). Production of Maize is estimated at record level of 19.30 million tonnes. This year production of Kharif maize is higher by 4.05 million tonnes than that the last year's production.

The depressed pulse production is expected to receive a major boost this year as a significant increase in the area coverage and productivity of tur and urad have been reported. Total production of Kharif pulses is estimated at record level of 8.70 million tonnes which is higher by 3.16 million tonnes than the last year's production of 5.54 million tonnes. The production of kharif pulses is also higher by 2.54 million tonnes than their last five years' average production. Also, total production of kharif oilseeds in the country is estimated at 23.36 million tonnes which is significantly higher than the production of 16.59 million tonnes during 2015-16. This year

production of Kharif oilseed is also higher by 2.33 million tonnes than the average production of last five years.

Production of Sugarcane is estimated at 305.25 million tonnes which is lower by 46.92 million tonnes than the last year's production of 352.16 million tonnes. Despite lower area coverage, higher productivity of Cotton has resulted in higher production of 32.12 million bales (of 170 kg each) as compared



to 30.15 million bales during 2015-16. Production of Jute & Mesta estimated at 10.41 million bales (of 180 kg each) is marginally lower than their production of 10.47 million bales during the last year.

In 2015-16, Indian agriculture contributed to 17.4 per cent to GDP as compared to 18.3 percent in 2013-14. Considering the droughts that marred India's trading prospects, the year that went by saw decline in agri exports. The trade of India

in major agricultural commodities decreased from Rs. 2,62,778 Crores in 2013-14 to Rs. 2,13,555 crores in financial year 2015-16 with a decline of nearly 18%. During 2015-16 marine products, basmati & non-basmati rice, buffalo meat, spices and cotton were top commodities of India's agriculture exports. The share of agricultural exports in total exports of the country decreased from 13.79 % in 2013-14 to 12.46% in 2015-16.

India, over the years has emerged as a significant player in international trade of agricultural commodities. Agricultural exports showed an increase from around



Rs.60 billion in 1990 - 91 to Rs.398 billion in 2005-06. The major agri commodities that were exported include cereals (mostly rice - Basmati and non-Basmati), spices, cashew, oilcake/meals, tobacco, tea, coffee and marine products. Value of agri-exports to total exports of the country has been ranging between 15 to 20 per cent. India is the world's second biggest producer and exporter of rice, the second largest producer of wheat and sugar as well as the world's largest producer, importer and consumer of pulses. The country is next only to China in importing cooking oils.

However, the country has been experiencing a dip in farm exports for the past two years. According to a report of the Agricultural and

Processed Food Products Export Development Authority (APEDA), exports of some major commodities in agricultural and food products from India dipped in 2014-15 as compared to last year. Also, the export of products handled by APEDA declined 6.13 per cent to \$3.9 billion during April-June of 2016-17 compared to \$4.16 billion in the year-ago period. India, which was the seventh largest agriculture exporter in 2014, dropped two places to ninth position while Thailand and Australia improved their rankings. Argentina remained in 10th position, according to WTO data.

Agri-imports, on the other hand form a miniscule proportion of the country's total imports. During the period 1996-97 to 1999-2000, agri-imports have been in the range of 4 to 7 per cent of the total imports of the country. However, in recent years, edible oil has become the single largest agri import accounting for more than 50 per cent of the value of total agri-imports. In 1999 -2000, it accounted for as high as 70 per cent of total agri-imports. Another item, which has been accounting for around 10 per cent of total agri imports is raw cashew nut. Each of the other agricultural and allied products imported into the country - cereals, pulses, spices, sugar,

milk and milk products, chicken meat etc. - account for very small proportion of total agri import, except in some climatically abnormal years warranting relatively larger import of a particular commodity - cereals (mostly wheat) in 1997-98, pulses in 1996-97 and 1997-98. India's agricultural imports increased from Rs. 85,727 crores in 2013-14 to Rs 1,39,933 crore in 2015-16 registering a growth of nearly 63%. Increase in value of agricultural imports during this period was primarily on account of imports of vegetable oils, pulses, cashew nuts, spices and sugar. Share of agricultural imports in the total imports increased from 3.16% in 2013-14 to 5.63% in 2015-16.

Apart from the conventional trading, some amount of trading takes place through agriculture commodity exchanges. A commodities exchange is an exchange where various commodities and derivatives products are traded. Most commodity markets across the world trade in agricultural products and other raw materials (like

India's agricultural imports increased from Rs. 85,727 crores in 2013-14 to Rs 1,39,933 crore in 2015-16 registering a growth of nearly 63%. Increase in value of agricultural imports during this period was primarily on account of imports of vegetable oils, pulses, cashew nuts, spices and sugar





wheat, barley, sugar, maize, cotton, cocoa, coffee, milk products, oil, metals, etc.) and contracts based on them. These contracts can include spot prices, forwards, futures and options on futures. Other sophisticated products may include interest rates, environmental instruments, swaps, or ocean freight contracts.

Commodities exchanges usually trade futures contracts on commodities such as trading contracts to receive an agri commodity in a certain month. A farmer raising that agri commodity can sell a future contract on that, which will not be harvested for several months, and guarantee the price he will be paid when he delivers. This protects the farmer from price drops

India's top 15 agricultural export commodities

Quantity: '000 tonnes Value in Rs. Crores

S. No.	Commodity	2013-14		2014-15		2015-16	
		Qty	Value	Qty	Value	Qty	Value
1	Marine Products	1001	30627	1073	33685	976	31183
2	Buffalo Meat	1366	26458	1476	29283	1314	26682
3	Rice - Basmati	3754	29292	3702	27599	4045	22714
4	Spices	897	15146	923	14842	821	16374
5	Rice (Other Than Basmati)	7148	17795	8226	20336	6374	15086
6	Cotton Raw Includ. Waste	1948	22338	1143	11643	1346	12816
7	Sugar	2478	7179	1954	5327	3826	9772
8	Coffee	254	4799	221	4973	256	5123
9	Cashew	121	5095	135	5566	103	5025
10	Fresh Vegetables	2292	5384	2019	4612	1872	4763
11	Tea	250	4873	215	4166	247	4719
12	Castor Oil	545	4364	547	4710	587	4616
13	Tobacco Unmanufactured	237	4783	220	4163	215	4371
14	Groundnut	510	3188	708	4675	537	4039
15	Fresh Fruits	525	3646	484	3148	573	3918

Source: DGCI, Kolkata

and the buyer from price rises. Speculators and investors also buy and sell the futures contracts in an attempt to make a profit and provide liquidity to the system. National Spot Exchange Limited, Indian Commodity Exchange Limited, Multi Commodity Exchange, National Commodity and Derivatives Exchange, National Multi-Commodity Exchange of India Ltd, Chamber of Commerce, Hapur, Ace Derivatives & Commodity Exchange Ltd., Universal Commodity Exchange are some of the exchanges in India that deal with agricultural commodities. At the end of June 2016, the aggregate turnover in agricultural commodities at all the three national exchanges—MCX, NCDEX and NMCE—stood at Rs77,696

crore, while that of the non-agricultural commodities was at Rs 5.73 trillion. Trading in exchanges can offset considerable risk associated with falling prices, a trademark of agri commodities. Recently, the Securities and Exchange Board of India (Sebi) approved a draft amendment to Securities Contracts (Regulation) Act to allow commodity derivative exchanges to deal in 'options'. This is carried out as an effort to deepen the commodities derivatives market. Market experts believe that options contracts would complement the existing futures contracts and will make commodity derivatives more attractive to farmers, cooperatives and SMEs for price discovery and hedging purposes.

Food Processing- Adding Value

Recently, India's Minister of Food Processing Industries, Smt. Harsimrat Kaur Badal unveiled India's intent to usher in an era of Zero Tolerance towards Post Harvest Wastage, Zero Tolerance on Delays in Commissioning of Food Processing Projects, Zero Tolerance in Delays in obtaining Licenses/ Statutory Clearances for Food Processing/ Food Retail Markets by Central/State/Local authority. She also informed that the government is at the verge of introducing National Food Processing Policy which shall focus on building India's NATIONAL FOOD GRID and NATIONAL COLD CHAIN GRID and create Retail Markets in every nook and corner of the country. This positions the country to welcome a new revolution that is meant to enhance and support India's agriculture scene.

The Indian food industry is poised for huge growth, increasing its contribution to world food trade every year. In India, the food sector has emerged as a high-growth and high-profit sector due to its immense potential for value addition, particularly within the

food processing industry. The food industry, which is currently valued at US\$ 39.71 billion, is expected to grow at a Compounded Annual Growth Rate (CAGR) of 11 per cent to US\$ 65.4 billion by 2018. Food and grocery account for around 31 per cent of India's consumption basket. The Indian food processing industry accounts for 32 per cent of the country's total food market, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth. It contributes around 14 per cent of manufacturing Gross Domestic Product (GDP), 13 per cent of India's exports and six per cent of total industrial investment. Indian food service industry is expected to reach US\$ 78 billion by 2018. The Indian gourmet food market is currently valued at US\$ 1.3 billion and is growing at a Compound

Annual Growth Rate (CAGR) of 20 per cent. India's organic food market is expected to increase by three times by 2020.

Considering the potential of this sector, investments are pouring into the food processing sector. According to the data provided by the Department of Industrial Policies and Promotion (DIPP), the food processing sector in India has received around US\$ 7.47 billion worth of Foreign Direct Investment (FDI) during the period April 2000-December 2016. The Confederation of Indian Industry (CII) estimates that the food processing sectors have the potential to attract as much as US\$ 33 billion of investment over the next 10 years and also to generate employment of nine million person-days. US-based food company Cargill Inc, aims to double its branded consumer business in





Australia-based coffee chain, plans to invest Rs 67 crore (US\$ 10 million) for setting up around 20 new outlets in Mumbai, besides entering Delhi and Bangalore by 2017. KKR & Co LP, the US-based private equity firm, plans to invest about Rs 520 crore (US\$ 77.38 million) in dairy company Kwalitiy Ltd, which will be used to strengthen its milk procurement infrastructure and increase processing capacity. Henry Ford Health Systems (HFHS), a US-based health and wellness group, plans to enter India by signing a franchise partnership with Chandigarh-based hospitality and food services firm KWalls Hospitality, and set up 'Culinary Wellness' branded stores across the country. Mondelez International, the US-based confectionery, food, and beverage major, inaugurated its new manufacturing plant in Andhra Pradesh set up for Rs 1,265 crore (US\$ 190 million), with an annual production capacity of 250,000 tonnes. PureCircle, a Malaysia-based natural sweetener producer, plans to invest around Rs 1,300 crore (US\$ 200 million) in India to set up a manufacturing plant and make the country its regional production and export hub in the next five years. Swiggy, a food delivery start-up owned by Bundl Technologies Private Limited, has raised Rs 230.34 crore (US\$ 33.80 million) in a Series C funding round, with its existing investors SAIF Partners, Accel Partners, Norwest Venture Partners and Apoletto Asia Ltd contributing 79

At the end of June 2016, the aggregate turnover in agricultural commodities at all the three national exchanges—MCX, NCDEX and NMCE—stood at Rs77,696 crore, while that of the non-agricultural commodities was at Rs5.73 trillion

India by 2020, by doubling its retail reach to about 800,000 outlets and increase market share to become national leader in the sunflower oil category which will help the company be among the top three leading brands in India. Mad Over Donuts (MoD), outlined plans of expanding its operations in India by opening nine new MOD stores by March 2017. Danone SA plans to focus on nutrition business in India, its fastest growing market in South Asia, by launching 10 new products in 2017, and aiming to double its revenue in India by 2020. Uber Technologies Inc plans to launch UberEATS, its food delivery service to India, with investments made across multiple cities and regions. Di Bella, the





per cent of the new funds raised. Gujarat Cooperative Milk Marketing Federation (GCMMF), popularly known as 'Amul', plans to invest Rs 5,000 crore (US\$ 733.6 million) to establish ten new processing plants as well as expand the current capacity to touch 32 million litres per day (MLPD) capacity by 2020. Private Equity (PE) firm India Value Fund Advisors (IVFA) plans to invest around US\$ 100-150 million in the food business in India over the next two years. Zomato, a restaurant search and discovery platform, has raised US\$ 60 million from Singapore government-owned investment company Temasek, along with existing investor Vy Capital, in order to explore new business verticals.

Government has also been promoting the sector avidly. Notable recently is the allocation of a dairy processing infra fund worth Rs 8,000 Crores in the budget 2017-18. Union Budget 2016-17 had proposed 100 per cent FDI through FIPB (Foreign Investment Promotion Board) route in marketing of food products produced and manufactured in India. The Government of India has also relaxed foreign direct investment (FDI) norms for the sector, allowing up to 100 per cent FDI in food product e-commerce through automatic route. The Food Safety and Standards Authority of

India (FSSAI) plans to invest around Rs 482 crore (US\$ 72.3 million) to strengthen the food testing infrastructure in India, by upgrading 59 existing food testing laboratories and setting up 62 new mobile testing labs across the country. Government of India plans to allow two Indian dairy companies, Parag Milk Foods and Schreiber Dynamix Dairies, to export milk products to Russia for six months, after these companies got approval for their products by Russian inspection authorities. Ms Harsimrat Kaur Badal, Union Minister for Food Processing Industries, Government of India inaugurated the first of its kind Rs 136 crore (US\$ 20 million) mega international food park at DabwalaKalan, Punjab. She has also expressed confidence that the decision to allow 100 per cent Foreign Direct Investment (FDI) in multi-brand retail with 100 per cent local sourcing condition, will act as a catalyst for the food processing sector, thereby controlling inflation, uplifting the condition of farmers, and creating more jobs in the country. FSSAI has issued new rules for importing products, to address concerns over the entry of sub-standard items and simplify the process by setting shelf-life norms and relaxing labelling guidelines. The Ministry of Food Processing Industries announced a scheme for

Human Resource Development (HRD) in the food processing sector. The HRD scheme is being implemented through State Governments under the National Mission on Food Processing. FSSAI under the Ministry of Health and Family Welfare has issued the Food Safety and Standards (Food Product Standards and Food Additives) Regulations, 2011 and the Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011 which prescribe the quality and safety standards, respectively for food products. The Government of India has approved the setting up of five Mega Food Parks in the states of Bihar, Maharashtra, Himachal Pradesh and Chhattisgarh. The Government plans to set up 42 such mega food parks across the country in next three to four years.

However, the food processing sector needs to constantly innovate in an effort to reorient itself to the international standards. Considerable attention has to be therefore laid upon food safety and quality assurance mechanisms such as Total Quality Management (TQM) including ISO 9000, ISO 22000, Hazard Analysis and Critical Control Points (HACCP), Good Manufacturing Practices (GMP) and Good Hygienic Practices (GHP).

'FOOD PROCESSING IS ONE OF THE MOST IMPORTANT SECTORS OF OUR ECONOMY'

With the commitment towards modernizing the agriculture sector and bringing food security with self-reliance for India, Adani Group has been serving the nation through its three main agri verticals - AdaniWilmar Limited (AWL), AdaniAgri Logistics Limited (AALL) and AdaniAgri Fresh Limited (AAFL). AdaniWilmar Limited is one of the largest food companies in India. With over a billion lives to sustain, food security is of paramount importance to the nation. Adani Agri Logistics have established India's first integrated bulk handling, storage & logistics system for food grains. It provides seamless end-to-end solutions in bulk grain supply chain to Food Corporation of India. With state-of-the-art silo and rail terminals in major cities, Adani is changing the future of food storage and minimising food produce wastage in India. In an interview with Agriculture Today, Atul Chaturvedi, CEO- Agro, AdaniWilmar Ltd. discusses the edible oil scenario and the relevance of Food processing in India.



What is the outlook of edible oil demand in India?

Edible Oil demand in India is very robust and is increasing at around 4 to 5% per annum. We estimate current Indian demand at around 21 million tonnes. On a rough basis, additional incremental requirement of Edible Oil annually is about One million tonne. As our domestic production has largely remained stagnant, the total increase in demand is met with imports.

Indian per capita consumption currently is pegged at above 16 kgs, and with rising income levels and growing affluence, this is bound to increase further. It is interesting to note that some states like Gujarat and Maharashtra consume more than 25 kgs per capita, while Bihar and UP consume much less reflecting income disparities.

How can India bridge the gap between demand and supply of edible oil?

Demand Supply mismatch in India is like a ticking time bomb and if corrective actions are not taken we may forfeit our Edible Oil Security. As of now Imports constitute 70% of our total edible oil consumption. Last year, we imported 14.6 million tonnes of edible oils and the balance 6.5 million

tonnes came from domestic production. We estimate that by the year 2025, our consumption of edible oils would rise to around 34 million tonnes and imports may rise to almost 25 million tonnes. This is a scary scenario and it is imperative that our policy makers take notice of this and initiate corrective action.

Incentivizing oilseed production and encouraging states like Punjab and Haryana to grow more Mustard seed and reduce Wheat /Rice; Initiating technological Intervention, including allowing GM Seeds, Increasing Indian oilseed yields which are just 30% of the world average; Allowing Indian farmers to lease their lands on long term basis to Corporates for farming which will help in consolidation of land holdings for economies of scale in mechanization and modernisation of our Agriculture and giving Oilseed cultivation the status of Plantation crop which would allow and Corporatization of Oilseed Cultivation are some corrective actions that can be pursued.

How is the demand for processed food products in India?

Food processing is one of the most important sectors of

our economy with an output closer to 200 billion USD. According to some estimates, by 2025 this sector is expected to grow to USD 350 billion. India is not only a big producer but also a big consumer of processed foods and this sector currently employs more than 3.2 million people. The role of Food Processing Industry which currently contributes 21% to our GDP is crucial considering the challenge of feeding nutritional food to the Indian population.

What are the drivers of this demand?

Changing attitude of consumers towards processed food in emerging markets like India is driving this growth. Exposure to Global eating habits is increasing preference to processed food. Higher affordability and paucity of time is also encouraging consumers to opt for store processed and packaged foods into home food consumption. Shift from Food Security to Nutritional Security and Convenience shopping is also driving processed food growth.

How has the recent economic and policy reforms affected this segment?

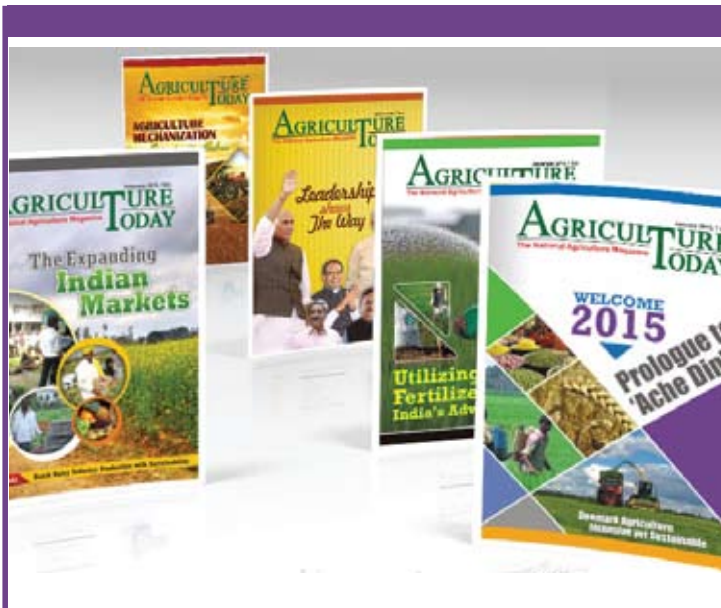
Food processing sector to my mind has not seen too much policy reforms in the recent past and has largely been left untouched. This sector promises wider employment generation across rural and urban areas and should be given due importance.

What is the role of food processing industry in doubling farmers' income?

Food Processing Industry is a vital link between agriculture and final food consumption. They play a key role in driving productivity improvements across value chain and increasing availability of affordable nutritious and safe food. Food processing companies with their backward integration are generally able to drive higher productivity in the farming sector thereby improving farm incomes. Higher involvement in procurement also helps improve price realisation for farmers. Further, farm incomes also get augmented by improving crop mix in Agriculture.

How important is new contract farming laws for food processing industry?

Contract farming laws can have only a limited impact as it is more relevant for niche crops. Need of the hour is to allow land consolidation through long term leasing which will encourage corporates to take up large scale commercial farming. India has the highest arable land in the world but due to our archaic laws we are not able to exploit the same. Agriculture is crying for big private sector investments which can help in raising productivity closer to world standards. If our productivity increases our import dependence would come down dramatically and farm incomes would grow manifold.



Subscribe Today

Term	Institutions/ Library	Individuals	Student
<input type="checkbox"/> One Year	`800	`500	`300
<input type="checkbox"/> Three Years	`2000	`1200	`700
<input type="checkbox"/> Life Membership		`6000	
I will Pay with			
Demand Draft	<input type="checkbox"/>	Cheque <input type="checkbox"/>	Cash <input type="checkbox"/>

DD/Cheque should be drawn in favour of Agriculture Today

Name: Ms/Mr.
 Organization Name:
 City
 Ph: Fax:
 Mobile No.
 E-mail:

For more details please contact:

306 Rohit House, Tolstoy Marg, New Delhi - 110 001

Ph: 23353406, 23731129, subscription@agriculturetoday.in

www.agriculturetoday.in

'ORGANIC SPICE SECTORS ARE GROWING IN INDIA AT A HUGE PACE'



Spices Board (Ministry of Commerce and Industry, Government of India), the flagship organization for the development and worldwide promotion of Indian spices, is an international link between the Indian exporters and the importers abroad. The Board has been spearheading activities for excellence of Indian spices, involving every segment of the industry. In a conversation with *Agriculture Today*, Dr A Jayathilak IAS, Chairman, Spices Board discusses the scenario of spice trade and development in India.

Which are the most important spices produced in India?

India, the spice hub of the world is the producer of over 60 varieties of spices, of which 52 spices are included under the scheduled spices list of Spices Board as per the Spices Board Act. Most important spices produced in India in terms of its export basket are pepper, small cardamom, large cardamom, chilli, turmeric, ginger, nutmeg, coriander, cumin, fennel, fenugreek, garlic, ajwain, celery, tamarind and clove.

How does geographical indication improve the marketability of Indian spices? So far, how many spices have received the geographical indications? Are there any more in the pipeline?

Geographical indications are typically used for agricultural products, foodstuffs, wine and spirit drinks, handicrafts, and industrial products. The GI mark helps in preserving the uniqueness of the product and prevents other countries from taking advantage of it. Geographical indication (GI) status

of Indian spices helps the branding of spices as premium products which cannot be matched by similar crops grown in other parts of the world. The GI certification provides higher level of protection for notified goods, and civil and criminal remedies for infringements. This can ensure the authenticity and quality of the GI registered Indian spices boosting the demand for the products in global market, thereby increasing the export returns of the country. The cultivation of GI spice crops shall help the farmers to get premium price for the crop. The list of spices having GI status are Malabar pepper, Alleppey green cardamom, Coorg green cardamom, Naga mircha, Guntur sannam chilli, Byadagi chilli, Sikkim large cardamom, Mizo chilli, Assam karbi anglong ginger, Waigaon turmeric, Sindhudurg and Ratnagiri kokam and Uttarakhand tejpat. The studies are being conducted to identify and check the feasibility for obtaining the GI status for other spices as well.

Which are the Indian spices that are in demand in the world

market?

The major spices and spice products that contribute to the Indian economy and are in huge demand are chilli, pepper, small cardamom, large cardamom, turmeric, ginger, cumin, nutmeg, mace, fenugreek, mint products, spice oils and oleoresins.

What is the demand for organic spices in the world market?

Clean, safe and hygiene tag is the driving motto of global food industry. The organic food products are gaining tremendous trust and demand in international market, since these are considered natural and safe for consumption. Organic spice sectors are growing in India at a huge pace, and importers are keen to purchase the organic spices and spice products from India. Spices Board, being an export promotion body, receives various enquires from importers on how to procure organic spices, owing to the quality of the product obtained from India. As per 2015-16 statistics, approx 1881.15 MT of organic spices, valued at INR 10,244.69 lakhs have been exported. The major organic

spices in demand in the global market are pepper, ginger, turmeric, vanilla and cardamom among others.

What is the area under cultivation of organic spices in India?

The North-east states of India are the hub of organic farming. However, only limited areas have been registered and certified as organic. As per available data from field survey, approx 9000 ha of land under spice cultivation is organic certified.

Why do Indian exports (including spices) consignments get rejected by foreign countries? Don't we have enough quality safeguards?

Indian spices are known for their quality. However, each country that imports spices has its own stringent food safety regulations to maintain quality standards of imported products. The exporters have to follow the quality standard specified by the countries to which they are exporting so as to avoid rejections of consignments. Spices Board has established Quality Evaluation Laboratories (QEL) in Cochin, Mumbai, Delhi, Chennai, Guntur, Tuticorin and Kandla, under ASIDE scheme, which are equipped with the latest analytical instruments that are capable of testing for food safety issues with a sensitivity that meets the requirement of international regulations. Spices Board provides analytical support for mandatory inspection on the consignment of chilli and chilli products exported from India since 2003 against the incidence of Sudan dye and aflatoxins. This was extended to turmeric powder for the clearance of Sudan I – IV since May 2005 and further extended to nutmeg, mace and ginger for the conformance on aflatoxin regulations. Due to the above mandatory inspections introduced by Spices Board, the rejection rate of specified Indian spice consignments to various importing countries have reduced drastically. The Export Inspection Council of India (EIC) has developed voluntary certification programmes besides regulatory export control, especially in food sector. The certification covers the important specification/quality standards only. The projects are being designed to set a universal code of quality standards of various food products in order to smoothen and solve the quality issues pertaining to the trade. This

would also help in reducing the problems of consignment rejections which mostly arise due to export of batch of products to multiple countries with different quality standards.

How can good agriculture practices improve the price recovery of spices?

The good agriculture practices (GAP) imply good management of crop and land with judicious use of fertilizers, pesticides and insecticides, which facilitates production of quality, clean and safe spices. The spice products from farms which apply GAP showcase quality yield, less pesticide residue (which is mostly within the permissible limit) and have an average shelf life. The market demand and prices for a product are mainly based on trust on its quality, cleanliness and hygiene. The spices produced in farms practising GAP shall always meet the quality, cleanliness, safety and hygiene parameters and hence fetch a good/premium market value.

What are the challenges faced by the spices sector in India?

The primary challenge is implementation of GAP and good hygiene practices in farms. Spices Board has implemented various schemes to promote farmers to produce clean and good quality spices and exporters to set up small units for processing and value addition of spices. This has helped to enhance as well as ensure export of quality spices. The Board has set up Quality Evaluation Labs at major port cities and production centers and has established Spices Parks to provide common infrastructure facilities for both post harvest and processing operations of spices and spice products to ensure clean, safe and quality spices. The other major challenge faced by India in global market is lack of uniformity in the quality aspects in terms of quality standards among importing countries. Through the initiatives of the Spices Board, Codex Committee on Spices and Culinary Herbs (CCSCH) has been set up under Codex Alimentarius Commission, Rome - the international organization under FAO and WHO for developing international food standards, guidelines and codes of practices to protect the health of consumers and ensure fair practices in trade.

'GOOD AGRICULTURE PRACTICES (GAP) ARE BECOMING INCREASINGLY MORE CRITICAL'

LT Foods Ltd, incorporated in 1990, as a private limited company is one of the country's leading processor and exporter of packaged rice foods under the flagship brand Daawat. The brand has been a great success in domestic and international markets as well. The Company is engaged in milling, processing and marketing of branded and non-branded basmati rice, and manufacturing of rice food products in the domestic and overseas market. Its geographical segments include India, North America and Rest of the world. Its operations include contract farming, procurement, storage, processing, packaging and distribution. Its rice product portfolio comprises brown rice, white rice, steamed rice, parboiled rice, organic rice, quick cooking rice, value added rice and flavored rice in the ready to cook segment. The Company's brands include Royal; Ecolife, an organic food brand that includes rice, pulses, oil seeds, cereal grains, spices, nuts and fruits and vegetables; Devaaya, which offers branded Basmati rice, with staples, such as Atta, Suji, Besan, Dalia, Poha and Maida, and Heritage, a basmati rice brand. Its brands also include Daawat, Gold seal Indus Valley, Rozana and 817 Elephant. In an interview with Agriculture Today, Mr. J.S Oberoi, Director, LT Foods Limited discusses India's packaged and processed food segment.



"Initially Basmati rice was restricted to ethnic stores and markets, but now mainline and retail chains are also stocking well-presented basmati rice in superior packaging"

What is the share of packed and processed foods in the Indian market?

The Indian packaged food market has been growing at an impressive rate over the last decade. While most sales in rural areas continue to be in loose, weighing at point of sale mode, even this is fast changing. Drivers of this change are the increasing concerns on health, safety and quality assurance which are manifested even in such far flung locations. Manufacturers of a range of products have contributed to this change by offering newer products, innovative packaging and robust supply chains. Edible oils, dairy, rice, pasta, noodles are the major categories which have moved to almost complete to

packaged category.

What are the important markets for Indian Basmati?

Within the country Basmati rice is a fully packaged category, most of it with well-known brand names. Since this category is a niche product, brands have a major role in persuading consumers. Overseas, major markets for Indian basmati rice are in the Middle East and Iran. USA, Europe, UK are also significant markets for this heritage product. Initially Basmati rice was restricted to ethnic stores and markets, but now mainline and retail chains are also stocking well-presented basmati rice in superior packaging.

What is the extent of competition

in the Basmati segment from Pakistan?

India and Pakistan are the only two countries in the world that grow this heritage product owing to specific confluence of soil, rainfall pattern, temperatures at critical stages in the growing period and of course the skills of the farmers acquired over many years. India has an edge in depth of research by which many new varieties have been launched. India is also very strong in Basmati rice brands which have been built over many years by investing in modern plants and concentrating on brand strengths. Pakistan has an edge in some markets like Iran owing to their close proximity as also land connectivity that translates into lower logistics costs.

How has the industry responded to the bans imposed on basmati rice by some countries?

Managing external environments is part of the skill set acquired by Indian exporters over many years. In managing uncertain political situations, the Indian government has also played its role in supporting export efforts. For instance, in the case of Iran which has had its share of uncertainties on account of US sanctions, industry and government have worked in tandem to resolve payment issues. Iran also from time to time imposes bans on imports as they try and balance interest of their domestic farming sector with the requirement of consumers in urban areas.

What are your views on Good Agriculture Practice and its effect on global trade?

Good Agriculture Practices (GAP) are becoming increasingly more critical for producing agricultural products for exports. While India is the leading producer, either No1 or No2 in a number of products but the hygiene, safety and phyto sanitary standards leave much to be desired. Export markets are becoming more conscious of these aspects and have put in place regulatory mechanisms accordingly. Indian exporters are finding that without GAP there are many rejections at ports of entry leading to higher costs and disrupted supply chains. In order to meet these requirements, many Basmati rice



exporting companies have farmer outreach programmes to provide extension support to farmers and encourage adoption of GAP.

What are the challenges faced by Indian companies with processed and packaged foods in the global market?

As Indian companies scale up not only in size but sophistication of their operations they are better able to compete with global companies and hold their own. However, they need to increase their efforts in depth of research for constant innovation and newer offerings for the consumers. In this aspect, global companies do have an edge but it is only a matter of time when Indian companies too will be up there.

What are the future trends in the processed food segment in India?

The Indian packaged food market is forecast to see strong growth in the 2016-21 period. This will be driven by increasing product availability and much greater penetration to smaller cities and rural areas. It is expected to touch US 20 billion by this year. Factors that are fuelling this growth are the arrival of multinationals, rising popularity of quick service food outlets, modern retail, changing urban lifestyles and rising disposable incomes. The main categories are bakery products, canned / dried / processed foods, frozen foods, dairy products and condiments.

'MAKE QUALITY A WAY OF LIFE'



Jain Farm Fresh Foods Limited, a subsidiary of Jain Irrigation Systems Limited (JISL), India manufactures Dehydrated Onion and vegetable products and Aseptic fruit purees, concentrates, clarified juices, IQF, and Frozen products of finest quality, which are marketed under the brand name, Jain Farm Fresh. Jain Farm Fresh Foods Limited (JFFFL) uses the most controlled modern, world-class fruit processing facility setup at Jalgaon. Selected varieties of Onion, Vegetables, Banana, Guava, Mango, Pomegranate, Aonlas, Papaya and Tomato are grown in the farms and processed in the plant. In an interview with Agriculture Today, Mr. Athang Jain, Director, Jain Farm Fresh Foods discusses the relevance of food processing segment in India.

When did Jains get involved in Food Processing segment? What motivated Jains towards this segment?

The food division was started in the year 1995 with the Dehydrated Onions and Mango Pulp manufacturing at Jalgaon. After 22 years, the food division has now become a subsidiary of Jain Irrigation Systems Ltd. (JISL) called "Jain Farm Fresh Foods Ltd." and constitutes 25% of the group's revenue. Over the years, the subsidiary has diversified into other fruit pulps, purees, frozen fruits and have entered retail market as well under the Jain Farm Fresh brand. Our founder Shri Bhavarlal Jain was deeply concerned about the state of farmers and wanted to create a unique business model of integrated farming whereby the welfare of farmers would be the main motivation. With this foundation principle, the food division launched its operation with the objective of creating value for the farmer. Once the productivity is enhanced, the surplus produce would be brought back to add value and the same sold in local and international markets, thereby completing the agri value chain.

What is the market reach of "Jain Farm Fresh" in India and abroad?

Internationally, we are No.1 in terms of bulk processed mango pulp as well as No.2 in dehydrated Onions and

Vegetables, and ship to more than 44 countries including Europe, Middle-east and USA. We also supply internationally and domestically to many FMCG manufacturers like Coca-Cola, Nestle, HUL, Frito-lay, Kerry, Kraft and many more.

We have recently launched our products in retail and are available in Maharashtra, MCG, Gujarat, Rajasthan, while expanding in Delhi-NCR, Punjab and Karnataka. By 2018 we strive to be present in all states in India. Our retail products are also available in East Coast (New York, New Jersey) in select outlets and will gradually spread to more parts of the country.

"Jain Farm Fresh Foods Ltd has diversified into other fruit pulps, purees, frozen fruits and have entered retail market as well under the Jain Farm Fresh brand"

How do you maintain quality and safety standards in your product?

Our perspective is 'Make Quality a way of Life' and we work towards Quality Excellence in every aspect of our operation. All our products are tested for various Physio, Chemical, Microbiological parameters, sensory, heavy metals and pesticide residues in our R&D lab as per

customer requirement. Our plants are regularly audited by our Overseas and Domestic customers as well as by third party auditors for Social Accountability and Supplier Guiding principles. QMS has been applied from Farm to Fork by us. Our Agronomist work closely with growers and give them guidance on Good Agricultural Practices (GAP). All our products are certified with BRC, ISO: 14000, OHSAS: 18000, Kosher, Halal etc.

How can integrating farm with processing industry improve the agricultural productivity? How was the experience of Jains in it?

Our primary objective is to increase productivity of the farmlands through micro-irrigation systems and thereby leading to the prosperity of the farmers as more crops mean more produce for the farmer to sell. But with the increase of surplus produce, the demand should also be maintained, then only the increase in productivity will be beneficial to the farmer. Hence, the integration of processing industry with the agricultural productivity assures the utilization of surplus produce in terms of finished products which benefits both the farmer and the end-consumer. The experience has been very rewarding with the food division of the company having grown over the years at a compounded annual growth rate of over 25% and throughout this period we have always been driven by our commitment to social responsibility and environmental concerns.

Are you satisfied with the Union Budget 2017-18? How do you think will it influence the food processing sector of India?

The Union budget is designed to give a fillip to the farm and the allied sector. The key factor is that the government is focusing on conservation of water by dedicating separate funds to the cause. GST implementation will be a key factor in boosting the business environment in the country.

How can food processing segment help India in battling losses in farm products?

As stated earlier, food processing imparts the capability to cut such losses by utilizing the farming products and process it to make finished products. Food processing segment can create products by using produce sourced from the farmers which have not been seen before and hence works out best for both consumers as well as farmers. 100% natural AamRus, Strawberry and Jamun pulps without any preservatives, added colors or flavors are examples of such products that have been



“100% natural AamRus, Strawberry and Jamun pulps without any preservatives, added colors or flavors are examples of such products that have been launched by us”

launched by us.

What is the market scenario of processed and packaged foods in India?

The packaged and processed foods in India are witnessing the shift towards more healthy offerings. The consumer is definitely getting wiser about the various options that are available and picks those which do not have an adverse effect on his/her health and that of the family. These are exciting times for companies involved in manufacturing products which retain their natural characteristics and attributes.

What are the future plans of Jains in Food processing segment?

This is just the tip of an iceberg and we have plans to launch many more innovative products in the future adding to our retail as well as B2B business.

FOOD PROCESSING CREATES LARGER VALUE ADDITION

B Sumant, President FMCG Businesses, ITC Ltd

India processes less than 10% of its agri-produce. Various studies indicate that the level of processing in advanced and emerging economies range between 40 to 70 %. High levels of Food Processing not only creates larger value addition enabling higher rural incomes, but addresses several chronic problems that challenge India's rural and agricultural sector. The Food Processing industry is uniquely positioned at the intersection of agriculture and industry. While it drives farmer empowerment and ensures better return to farmers by linking agriculture to market dynamics, it plays a critical role in reducing agri-wastage, promoting crop diversification, as well as implementation of better agricultural practices. The branded packaged and processed food segment ensures that consumers are provided quality, hygienic, safe and nutritious products. As a result, Food Processing has a multi-dimensional impact on economic development by significantly contributing to employment generation, food security, management of food inflation and provision of wholesome, nutritious food to the masses.

ITC's businesses are deeply linked to agriculture and the Company's relationships with farmers extend more than a century. The Company's Foods business, which has grown manifold in the last decade, enables a synergistic creation of value across the entire value chain from farm to fork. ITC's enterprise strengths honed over several decades, which include extensive engagement with farmers through the globally acknowledged e-Choupal initiative, deep consumer insights leading to the creation of winning brands in the



Foods sector, supported by the cuisine expertise of ITC's Hotels business, investments in world-class R&D and state-of-the-art manufacturing together with an extensive distribution infrastructure enable the Company to make a large contribution to agriculture and Food Processing. By building competitiveness of the inclusive agri-food value chain, ITC aspires to contribute to the Prime Minister's vision in doubling farm incomes by 2022 as well as the Make in India initiative. It is a matter of pride that several of ITC's winning brands in the branded packaged food segment including Aashirvaad, Sunfeast, Bingo!, Yippee!, Fabelle, Sunbean, Kitchens of India, B Natural, mint-o, Candyman, and so on serve as anchors for the development of sustainable and inclusive value chains. Such value chains contribute to large scale farmer empowerment and enhancement of rural incomes.

As the Company channels its resources to achieve its vision of achieving a Rs 100,000 crore turnover in new FMCG business by 2030, ITC's foods business will continue to make a significant contribution to the agriculture and Food Processing sector.

Creating world-class Indian brands in the Food Processing sector is extremely critical in capturing and retaining larger value in India, which also enables larger returns for Indian farmers. Whilst the export market will also help in adding value, the large Indian global market, where brands from all over the world are today meeting consumer needs, needs to see a wider



and deeper penetration of high quality Indian food brands. Such internationally competitive domestic brands enable a perpetual flow of value over the long run for the national economy, enriching the entire agri-food value chain.

Quality is a keystone that differentiates superior processed food products. ITC is deeply committed to ensuring the highest benchmarks of quality and safety in its superior and differentiated food offerings. ITC has recently launched high quality Super Safe ITC MasterChef Spices. Every variant of the basic and blended spices have undergone more than 470+ tests for pesticide residues as per European Standards which goes far beyond than what is currently required as per Indian guidelines. Leveraging its unique strengths in agri-sourcing, ITC has developed a robust backend that focusses on stringent standards of product safety. ITC has developed an Integrated Pest Management Programme where extensive work is undertaken with farmers to produce crops of the highest quality. Manufacturing and packaging takes place at state of the art production facilities that are certified for global standards to ensure that the product that reaches the consumer is of pristine quality.

Even though India produces enough food, consumer prices remain high and farmer incomes remain low due to enormous wastages along the agri-value chain. It is estimated that food worth

Rs 92,000 crore is wasted in India annually. This not only reduces incomes of farmers, but also fuels supply side constraints, leading to food inflation, apart from the overall loss in the country's GDP as well as livelihood opportunities. Food Processing offers significant opportunities to address the problems arising out of the colossal wastages from the agricultural sector. The sector is also a major employment generator. With even the current low

level of processing, this industry employs 13 million people directly and 35 million people indirectly. ITC is therefore, actively considering a foray into the fruits and vegetables segment by utilizing its sourcing expertise, investments in cold chain infrastructure and agri-based knowledge to provide consumers with superior products that will also help in reducing the farmers' challenges arising out of agri-wastages.

The Ministry of Food Processing Industries has rightly formulated a Vision 2015 Action Plan that includes trebling the size of the food processing industry, raising the level of processing of perishables from 6% to 20%, increasing value addition from 20% to 35%, and enhancing India's share in global food trade from 1.5% to 3%. A major challenge is the low level of demand for processed food products relative to the potential that the Indian market promises. While food per se is largely untaxed, processed food attracts a tax incidence. Inefficiencies in supply chain, lack of cold chain infrastructure, agricultural policies that are yet to be reformed, the vulnerability and risks associated with the agri-food sector add to the costs. It is very important therefore, that end to end players from agri-sourcing to cold chains to manufacturing branded products to distribution are encouraged through an enabling policy framework that stimulates demand and keeps costs competitive. Only then can significant investments flow into the Food Processing sector and contribute to actualizing the Government's vision of doubling farm incomes in the near future. Reforms in the Agricultural Produce Market Committee (APMC), Essential Commodities Act (ECA) and Forward Contracts Regulation Act (FCRA) are also critical to mobilise investments in the food processing sector.





ICFA hosts National Meet on North Eastern Region

ICFA hosted National Meet on North Eastern Region in New Delhi, chaired by the Sh. Naveen Verma, Secretary- DONER, Govt of India and participated by 50 plus CEOs and senior officials. The Secretary announced support for projects in areas of organic food, spices, dairy, fisheries, bio-inputs, Precision agriculture, yield improvement, agro processing, craft products and for branding North East project. He also announced North East Agri Summit from 20-22 April at Guwahati and invited industry to join and partner in business opportunities. North Eastern Region of India presents tremendous opportunities for agriculture, horticulture, spices, tea, dairy, poultry, organic farming, food processing, farm machinery, MI, rural craft and animal health products. But despite the high priority of the Government, opportunities for investment, business and marketing remain largely unrealized.



ICFA participates in Fifth Inter Drought International Conference

ICFA participated in the 5th Inter Drought international conference at Hyderabad, organised by ICRISAT which was a global gathering of 800 plus experts from over 60 countries. Dr. MJ Khan, ICFA chairman, presented mementos along with the Agriculture Minister of Karnataka Mr. K Byre Gowda and Chairman of the Event Organising Committee, Dr. RK Varshney, Director, Genome Center, ICRISAT



Prof. MS Swaminathan, chairs Board meeting of ICFA

Prof. MS Swaminathan, Pioneer of India's Green Revolution chaired Board meeting of Indian Council of Food and Agriculture at its HO in New Delhi. The Board took the decisions of hosting 10th Global Agri Leadership Summit on 5-6 Sept in New Delhi to be inaugurated by the Prime Minister, Mr. Modi. The decision was also made to launch Indian School of Agri Business www.isab.org.in at New Delhi to offer MBA program and Industry-Academia Partnership Projects. The meeting was attended by Dr. Purvi Mehta, Director (Ag) South Asia, Gates Foundation; Dr. PK Joshi, South Asia Director, IFPRI, Mr. Ashish Bahuguna, Chairman, FSSAI; Dr. M Moni, Chairman WG on ICT; Mr. Alok Sinha, DG, ICFA; Dr. Gurbachan Singh, Chairman, ASRB; Dr. KL Chadha, President, HSI and Dr. Ajit Kumar, Vice Chancellor, NIFTEM.



ICFA takes part in 69th Session of AARDO Board meeting

African Asian Rural Development Organisation (AARDO) is New Delhi headquartered Inter-Governmental body focusing on agri and rural interventions to improve food security, livelihood options and welfare of rural masses in member countries. Dr. MJ Khan, ICFA chairman, participated and addressed 69th Session of AARDO Board meeting in New Delhi, which was joined by 31 Ambassadors and Heads of Missions. Indian Council of Food and Agriculture is strategic partner of AARDO and participated with the status of Observer. AARDO offers great platform to participate in development process and market opportunities in African and developing Asian countries.

ITC ADVT

Mexico, funding, sustainability key to meeting agricultural challenges, “CIMMYT 50” delegates say

Julie Mollins



Although increasing food supply to meet future demand must involve pushing the boundaries on technological innovation, sustainability must always be first and foremost, said Martin Kropff, Director General of the International Maize and Wheat Improvement Center (CIMMYT), at a conference held in El Batán, on 26 September 2016, to mark the 50th anniversary of the organization, which has attracted almost a thousand delegates from Mexico and around the world, including agriculture ministers, scientists, policy makers and farmers.

“We can’t afford to be complacent because the need is so immense, but

we must be cautious in our application of research to consider farmer needs and the environment,” Kropff said, as he set out a strategic plan for CIMMYT until 2022. “It’s not just about food security, we must achieve nutritional security as well.”

Kropff detailed plans to take a broader view of maize and wheat as components of agrifood systems, rather than strictly as commodities, taking into consideration the activities and relationships that determine how food is produced, processed, distributed and consumed, together with the human and biological systems that shape those activities.

“Already, at least 900 million people go to bed hungry at night –

an unacceptable number now, which will continue to grow in tandem with population growth if we don’t ratchet up our efforts to improve maize and wheat yields,” he said, adding that the U.N. Sustainable Development Goals provide a roadmap for ensuring food security.

He also announced that CIMMYT would engage in more public-private partnerships and increase its focus on training and capacity building.

Just as a Mexican delegation, including agriculture secretary Jose Calzada Rovirosa, arrived at CIMMYT’s main research station in El Batán outside Mexico City, the skies opened and rain poured down, fortunately clearing in time for mid-day tours of the crops,

wheat quality laboratory and the gene bank.

Mexico plays a major role in the improvement of maize and wheat crops by hosting five CIMMYT research stations throughout the country and providing funding for such programs as MasAgro, a project that not only works to develop improved maize and wheat varieties but also supports conservation agriculture techniques that help increase yields and improve environmental sustainability of farming.

"CIMMYT's achievements are indisputable," Calzada Rovirosa said. "CIMMYT 50' calls on all of our consciences. The world needs to increase yields without hurting the environment."

He affirmed his continued support for the longstanding partnership between CIMMYT and Mexico.

"The Mexican government is committed to continuing the promise we made 50 years ago to support CIMMYT and agricultural research in Mexico," said Calzada Rovirosa, who also delivered a message of congratulations from Mexico's President Enrique Peña Nieto.

Farmers in Mexico were represented at the conference by Rodolfo Rodríguez Flores, president of Patronato, the farmers' organization in Mexico's northern state of Sonora.

Later in the day, agriculture ministers from Afghanistan, Bangladesh, Kenya and Pakistan, countries where CIMMYT has also played a key role supporting national agricultural programs, spoke, detailing achievements and future plans.

CIMMYT needs long-term, secure funding to achieve its goals, said Derek Byerlee, a former World Bank economist and adviser who delivered the keynote address at the conference.

"Although the first drought-tolerant maize varieties were made in the 1980s, we're just now achieving widespread distribution of drought-tolerant maize seed in Africa," said



Byerlee who has had a long association with CIMMYT. "The CIMMYT maize program works with 200 local and global seed companies and it's crucial to get these varieties to farmers."

Byerlee's history of CIMMYT, titled "The Birth of CIMMYT – Pioneering the idea and ideals of international agricultural research" was published this month. It details the challenges global agricultural research faces.

Today, global, publicly-funded networks which combine the talent and resources of scientists and institutions across borders to foster more productive, profitable agricultural systems seem logical, but at their inception after World War Two, they were remarkably innovative, Byerlee said.

Developing countries will need to take much larger responsibility and participation in their own agricultural development, but the principles that underlie the origins of CIMMYT and the CGIAR remain valid.

At the same time, many countries where CIMMYT works are embroiled in conflict, making research and development activities difficult and at times dangerous.

Other highlights of the day included speeches by Sanjaya Rajaram, a prolific wheat breeder known as the Sultan of Wheat who worked for many years

at CIMMYT as director of the Global Wheat Program and won the 2014 World Food Prize.

"New wheats are better able to produce under high temperatures, but more needs to be done to address climate change," Rajaram said, adding that disease resistance has been a critical achievement in protecting yield.

"More prosperous emerging countries like India or Mexico need to provide long-term funding for CIMMYT and other CGIAR centers and programs," he said. "CIMMYT scientists based in our target countries and global partnerships are key to success. It's a shared global enterprise with national systems and the private sector."

Julie Borlaug, the granddaughter of the late 1970 Nobel Peace Prize laureate Norman Borlaug, the key wheat breeder known internationally as the father of the Green Revolution, spoke enthusiastically of CIMMYT's work and compassionately about rural poverty and smallholder farmers.

"Mexico is a leader and should continue its legacy worldwide," said Julie Borlaug, who is now associate director of external relations at the Norman Borlaug Institute for International Agriculture at Texas A & M University.



2017 will be crucial for India's Food Security Strategy

Rising food inflation, rising imports and declining exports are costing huge money. According to the Department of Commerce, Government of India, imports of agriculture based commodities have gone up by Rs. 19,873 crores between 2014-15 and 2015-16, where as in the same period the country has lost export market of agri-based commodities worth Rs. 25,832 Crores. The total value loss in just one year due to ineffective agriculture and food security policies is about Rs. 45,706 Crores. So, we have not detected this must money in demonetization drive. If you add the food losses and wastage of about 30 percent every year, it is about Rs. 100,000 crores every year. So, due to neglect of agriculture, India has lost about Rs 1,50,000 crores last year. This is the revenue loss in just one year. The loss to farmers due to not getting remunerative price, even minimum price, is another huge cost to society and rural economy. This is more than total black money

which we are anticipating in Indian economy within the country. The impact of food inflation on other sectors of economy and also on public health and nutrition is not factored in.

Political leadership of India has taken a drastic step like demonetization to address the black money issues within India. Can we now expect similar action and political will to address agriculture and food security issues in the country?

No country can ensure its political sovereignty without food security. There is close relation between food security, economic growth and law and order in the society. The economic growth is directly related to food inflation. Higher the food inflation lower will be the economic growth because high food inflation reduces consumer spending on non-food economic activities. In India, we are also adding about 15 million people every year. They all will need food to survive and perform. Food intake less than required by the body will lead to widespread sickness due to

malnutrition, stunting and disease due to imbalanced diets.

Considering these facts on ground let us be clear that there is no hope that food inflation will come down in coming years, unless we have some serious rethinking about our food production, food supply chains, lifestyle and consumption habits.

The biggest challenge for the policy makers and for governance is going to be, how to improve our productivity and prevent food losses to ensure food security for masses at an affordable price in coming years.

How much food India will need in coming years?

It is good to hear that India is food secure, no doubt we have managed our food supplies to a great extent, but now India is at cross roads. It is high time we should recognize the ground reality before it is too late.

In a country of 1270 million, where per capita income is lower than world average, and where 30% of population lives below poverty line, about 45% kids suffer from undernourishment, majority of child mortality is due to stunting, lactating mothers are not getting enough diet to feed her new borne, food inflation is and will always remain a biggest political issue in every election. The management of food inflation will be the corner stone of good governance claims by any ruling party.

Agriculture reforms will take time because no government has capability to take on vested political interest. Policy makers are habitual of offering freebies as political bribe to voters to win elections but they are not keen to look at productivity and efficiency as criteria for policy reforms.

In case we want economic success in India, agriculture sector needs due attention by political establishments in India. Long term consistent policy is pre-condition to ensure minimum food security. There is need to develop a food security plan.

Demand projections by author based on various recommended consumption parameters (in million tons)			
Category	Production in 2015 (Estimated.)	Demand By 2030 (Projected)	Required Growth in production per year (in Million tons)
Pulses	17.2	40.0	1.52
Coarse Cereals	41.7	102.0	4.02
Wheat	88.9	95.0	0.41
Rice	104.8	156.0	3.41
Oilseeds	26.7	70.0	2.89
Milk	146.3	182.0	2.38
Fish	10.1	16.0	0.39
Egg	39.2	57.0	1.19
Meat	6.0	15.0	0.60
Fruits	86.0	110.0	1.60
Vegetables	167.0	180.0	0.87
Tea	0.9	1.1	0.01
Sugar	25.0	33.0	0.53
Total food Demand	759.8	1057.1	19.82

Please note: Demand for many other items which make part of food system is yet to be estimated.

Source: The POLITIECONOMY, Int'l Research Journal of Political Economy, Volume 3, Issue 1, September 2016, Page 135



High time to Develop National Food Security Plan

The National Food Security Plan will act as a blue print for all and will also encourage private investment. This document should include growing demand for food, feed, fiber and fuel. This plan must address supply chain issues at all levels including agriculture based inputs for other industrial sectors. This should give clear direction to all stakeholders for next 10 to 15

years, which can be evaluated on yearly basis for any corrections based on experiences on ground.

Many political leaders and policy makers will claim that all is fine and we are in comfortable situation. If that is so why we are losing our export markets.

Food requirement for India by 2025

According to an FAO study, food energy requirements for South Asian population will be about 2700 Calories / capita / day in the year 2025.

In India, the food grain availability is at present around 525 gms per capita per day whereas the corresponding figures in China & USA are 980 gms and 2850 gms respectively. Due to improvement in per capita income, if per capita consumption is 650 gms, the food grain requirement will be about 390 MT of food grain by 2025.

In case of Pulses, according to WHO requirements, India will need about 35 million tonnes of pulses by 2025.

In terms of edible oil demand, it is estimated that it will be about 17

Indian agriculture is losing global competitiveness is also visible from decline exports in major commodities

HS Code	Agro-based Commodity Exports from India (All Values are in Rs. Lakhs)	Export Value in 2014-2015	Export Value in 2015-2016	Export Growth in Value Terms
10	Cereals.	5,828,222	4,096,626	-1,731,596
13	Lac; gums, resins and other vegetable saps and extracts.	1,189,543	567,190	-622,353
23	Residues and waste from the food industries; prepared animal fodder.	1,000,615	523,662	-476,953
3	Fish and crustaceans, molluscs and other aquatic invertebrates.	3,208,438	2,937,892	-270,546
12	Oil seeds and olea. Fruits; misc. Grains, seeds and fruit; industrial or medicinal plants; straw and fodder.	1,356,084	1,096,778	-259,306
2	Meat and edible meat offal.	3,018,653	2,760,392	-258,261
22	Beverages, spirits and vinegar.	231,523	209,761	-21,761
15	Animal or vegetable fats and oils and their cleavage products; pre. Edible fats; animal or vegetable wax.	595,502	574,181	-21,321
4	Dairy produce; birds' eggs; natural honey; edible prod. Of animal origin, not elsewhere spec. Or included.	231,358	214,579	-16,779
5	Products of animal origin, not elsewhere specified or included.	60,838	60,251	-586
6	Live trees and other plants; bulbs; roots and the like; cut flowers and ornamental foliage.	46,080	48,341	2,262
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included.	36,609	43,426	6,817
11	Products of the milling industry; malt; starches; inulin; wheat gluten.	186,709	195,504	8,795
20	Preparations of vegetables, fruit, nuts or other parts of plants.	308,948	320,095	11,146
21	Miscellaneous edible preparations.	359,105	372,659	13,554
19	Preparations of cereals, flour, starch or milk; pastrycooks products.	299,646	331,359	31,713
1	Live animals.	7,775	46,627	38,852
18	Cocoa and cocoa preparations.	84,866	126,761	41,895
16	Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates	95,198	138,745	43,547
8	Edible fruit and nuts; peel or citrus fruit or melons.	985,913	1,040,376	54,463
24	Tobacco and manufactured tobacco substitutes.	586,859	645,236	58,377
7	Edible vegetables and certain roots and tubers.	721,603	826,753	105,150
9	Coffee, tea, mate and spices.	1,756,310	1,932,656	176,346
17	Sugars and sugar confectionery.	657,473	1,160,778	503,305
Exports (in Rs. Lakhs)		22,853,871	20,270,629	-2,583,242
Exports (in Rs. Crores)		2,285,387	2,027,063	-25,832

Data: Dept. of Commerce, Govt. of India & Analysis by Vijay Sardana

kg per capita per year. It means India will need about 23.8 million tonnes of edible oils by 2025.

Deficit for feed and fodder is already about 35% to 65% in various regions.

Shrinking and fragmenting landmass for food production

Indian agriculture is dominated by small farmers, having small landholdings for cultivation. The average size of the landholding was 2.30 ha in 1970-71, which declined to 1.32 ha in 2000-01. The absolute number of operational holdings increased from about 70 million to 121 million. If this trend continues, the average size of holding in India would be mere 0.68 ha in 2020, and would be further reduced to a low of 0.32 ha in 2030.

On the other hand, by 2025, per capita agriculture land available will be just 0.1 ha per capita. In other words, it is just 100 feet x 100 feet plot per person to meet the daily needs of food, fuel, fodder and fiber round the year. With increasing population, this area will further shrink.

Soil health is becoming a serious concern

At the same time, available estimates with agriculture ministry reveal that nearly 120.72 million ha of land in the country is degraded due to soil erosion and about 8.4 million ha has soil salinity and water-logging problems. Besides, huge quantities of nutrients are lost during crop production cycle.

Annually, India is losing nearly



0.8 million tonnes of nitrogen, 1.8 million tonnes of phosphorus and 26.3 million tonnes of potassium—deteriorating quality and health of soil is something to be checked. Problems are further aggravated by imbalanced application of nutrients (especially nitrogen, phosphorus and potash), and excessive mining of micronutrients, leading to deficiency of macro- and micronutrients in the soils.

Water Requirement and Shrinking Availability

According to Ministry of Agriculture, by 2025, India will have about 1700 m³ of water per person and 84% of this water will be used for irrigation purpose. This is at stress level.

At the time of Independence of India, population was less than 400 million and per capita water availability over 5000 cubic meter per year (m³/yr). In the year 2007, India's population was about 95 crore and per capita water availability had fallen to about 2,200 cubic meters per year. With the population crossing 1 billion mark, water availability has fallen to about 2000m³/yr per capita. By the year 2025, per capita availability is projected at only 1500 m³/yr or just 30% of availability levels in comparison to what was at the time of Independence.

By 2025, the water requirement for irrigation will be 790 billion cubic meter. Our total reservoir capacity will be about 300 to 350 billion cubic meter.

This per capita water availability will further fall to about 1500 cubic meter per year by the year 2025 due to increasing population. It means about 4000 liters of water per day per person to meet all our requirement for food, feed, cleaning, industrial and non-industrial activities like recreation, etc. Animal also need water to survive which we have not factored in.

At the same time, economic growth and individual wealth are shifting diets from predominantly starch-based to meat and dairy, which require more water. Producing 1 kg



rice, for example, requires about 3,500 L water, 1 kg meat some 15,000 L, and a cup of coffee about 140 L. The water requirement for per litre of milk production is about 2000 litres. This dietary shift will have the greatest impact on water consumption over the next 10 years, and is likely to continue well into the middle of the twenty-first century.

This is a very complex and serious problem. Food security of India needs serious attention by all.

India will emerge as major net importer of food products in coming years

According to author's estimate, with the best of the efforts and resources, India will be not be able to produce enough essential commodities to meet her growing demand mainly in the area of edible oils and pulses for human consumption and protein meals and fodder for livestock. Milk production growth reach will reach stagnation.

Challenges before India in meeting food production targets

In order to meet the demand for food and other agriculture products, according to author's estimate, by 2030, India will need to double the land mass to produce food and other agriculture items if the productivity remain static at the same level. The alternate option before us is to double

the yield per unit area to meet the growing demand or look at alternate sources of food supplies.

There are many supply side challenges which will need out-of-box-thinking because existing way of working has exhausted its potential to deliver the desired results.

Food inflation is indicating stress in agriculture system:

It is also important to note that most of the essential commodities are facing food inflation and to stabilize the prices in domestic market, imports are increasing.

Recommendations for Policy Makers:

- Let us move away from the political slogans and accept the facts that situation is not under control.
- The way PM has taken charge of Demonetization, I feel National food security should also be priority for Prime Minister and he should not delegate it to any other Minister because improper handling of this vital issue will derail all the plans developed to provide 'acche din' to masses. My concern is, in 2019, food inflation will emerge as major political issue.
- We should Learn from GST experience and we must create a "National Food Security Council" because agriculture is a state subject and unless all state governments

HS Code	Agro-based Commodity Imports into India	Import Value in 2014-2015	Import Value in 2015-2016	Import Growth in Value Terms
7	Edible vegetables and certain roots and tubers.	1,735,882	2,640,929	905,047
15	Animal or vegetable fats and oils and their cleavage products; pre. Edible fats; animal or vegetable waxes	6,518,454	6,892,714	374,260
8	Edible fruit and nuts; peel or citrus fruit or melons.	1,628,775	1,988,399	359,624
10	Cereals.	13,650	122,541	108,892
9	Coffee, tea, mate and spices.	446,276	505,682	59,406
23	Residues and waste from the food industries; prepared animal fodder	202,261	249,999	47,738
17	Sugars and sugar confectionery.	418,870	456,252	37,382
22	Beverages, spirits and vinegar.	332,245	366,706	34,462
13	Lac; gums, resins and other vegetable saps and extracts.	111,812	133,446	21,634
12	Oil seeds and olea. Fruits; misc. Grains, seeds and fruit; industrial or medicinal plants; straw and fodder.	196,584	214,340	17,757
21	Miscellaneous edible preparations.	76,176	90,082	13,906
3	Fish and crustaceans, molluscs and other aquatic invertebrates.	37,929	44,152	6,223
20	Preparations of vegetables, fruit, nuts or other parts of plants.	45,923	51,371	5,448
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included.	13,782	18,978	5,196
4	Dairy produce; birds' eggs; natural honey; edible prod. Of animal origin, not elsewhere spec. Or included.	30,519	34,045	3,526
24	Tobacco and manufactured tobacco substitutes.	29,845	33,122	3,277
5	Products of animal origin, not elsewhere specified or included.	22,694	25,113	2,418
6	Live trees and other plants; bulbs; roots and the like; cut flowers and ornamental foliage.	11,337	11,440	103
16	Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates	2,001	1,861	(140)
11	Products of the milling industry; malt; starches; inulin; wheat gluten.	37,570	37,263	(308)
2	Meat and edible meat offal.	1,966	1,276	(690)
19	Preparations of cereals, flour, starch or milk; pastrycooks products.	40,008	38,739	(1,269)
1	Live animals.	7,398	6,123	(1,275)
18	Cocoa and cocoa preparations.	155,163	139,891	(15,272)
	Import Amount (in Rs. Lakhs)	12,117,120	14,104,464	1,987,344
	Import Amount (In Rs. Crores)	1,21,171	1,41,045	19,873

Data: Dept. of Commerce, Govt. of India & Analysis by: Vijay Sardana

have commitment towards food security at state level, any initiative of central government will be of no use.

- Food Security and Agriculture must get priority in fund allocation once GST is implemented because food and nutrition is essential to livelihood and employment for unskilled and semi-skilled masses.
- Develop National Agriculture Technology Policy, and not just Agriculture Policy. Agriculture Universities should be made accountable for the growth in productivity in their regions. In order to achieve this, even if we have to change the mandate of India Council of Agriculture Research (ICAR) and Agriculture Universities, we must do it in the budget session itself, without wasting time.
- Niti Aayog should develop state wise action plan and report the progress on quarterly basis so that we don't lose time and resources.
- Special focus on food handling infrastructure and related facilities to minimize food wastage and to preserve the efforts of farmers and tax payers' money.
- We must use all technologies options like satellite technologies and IT technologies to manage agriculture and food systems in India.
- Imagine if we invest just 50 percent of the revenue lost in last one year for the development of agriculture, we will be able to save at least USD 50 billion every year.
- Food Security and Agriculture are the only sectors which would ensure that India remain a political power on the world stage. Without food security India will lose its strategic political and economic power on world stage.

In my view, 2017, will be crucial for national food security and now we don't have buffer stock across the commodities to ensure comfort zone for policy makers.

Dr. Vijay Sardana,
Head – Food & Agribusiness,
UPL Group,



Department of Agriculture
Cooperation and Farmers Welfare
Government of India



Department of Chemicals & Petrochemicals
Government of India



Seminar on EMPOWERING FARMERS ON SCIENTIFIC USE OF AGROCHEMICALS-PESTICIDES FOR MAXIMIZATION OF YIELD

19th April 2017 - Chandigarh



**GROW
SAFE
FOOD**

Knowledge and Strategic Partner



TATA STRATEGIC MANAGEMENT GROUP

Academic Partners



Farmer Association Partners



Civil Society Partner



Agriculture Extension
Network Partner



for further details please contact

Mr. P. S. Singh

Head
Chemicals & Petrochemicals Division, FICCI

Federation House, 1 Tansen Marg, New Delhi - 110001

Tel: +91-11-2331 6540 | EPBX: +91-11-23738760-70 (Extn 395)

Email: prabhsharan.singh@ficci.com

Ms. Renu Goyal

Executive Officer
Chemicals & Petrochemicals Division, FICCI

Federation House, 1 Tansen Marg, New Delhi - 110001

Tel: +91-11-23487473 | EPBX: +91-11-23738760-70 (Extn 473)

Email: renu.goyal@ficci.com

NATIONAL ROUND TABLE ON UNTAPPED POTENTIAL OF NORTH EASTERN REGION



North East region is one of the richest reservoirs of genetic variability and diversity. In spite of the presence of diversified crops in the region, the potential of the region is still untapped. In order to discuss the untapped potential of the region, a National Round Table on "UNTAPPED POTENTIAL OF NORTH EAST REGION" was organized by Indian Council of Food and Agriculture (ICFA) on March 15, 2017 at India International Centre, New Delhi. The main purpose was to provide a platform to private players, government officials and heads of research and academic institutions to interact face to face and talk over the issues, challenges and opportunities in the region and steps

required in the same direction.

The conference was chaired by Hon'ble Secretary – Ministry of Development of North Eastern Region, Sh. Naveen Verma the presence of Dr. Vijay Sardana, Head – Food & Agribusiness, UPL Group, Dr. S Bhaskar, ADG (NRM), ICAR, Dr. T Janakiram, ADG (Horticulture-Veg) ICAR, Prof SM Ilyas, Former Director, NAARM and other eminent faces from various sectors active in North East Region. In all, forty five esteemed executive members of Government associations, scientists along with policy makers and corporate heads were present for the brainstorming session.

Mr. Alok Sinha, Director General- ICFA, welcomed all the participants and

expressed gratitude to the secretary, Ministry of DoNER, Sh. Naveen Verma for his benign presence in the event.

Sh. Naveen Verma, Secretary- Ministry of Development of North Eastern Region, in his opening remarks underlined the importance of agriculture for development of the North East Region. He mentioned that the region is primarily organic in nature but needs certification and branding for enhanced product recognition. Also, the need for capacity building and technological advancements in the region was stressed upon. Further, he deliberated upon Indian investors looking for opportunities in international market and overlooking the potential within, especially in North East Region and brought to light the huge export



potential for medicinal plants that the region holds. Hence, he invited industry to invest in the region, and revealed the possibility of creation of a venture fund to increase investments and encouraging startups in North East Region.

Mr. Vijay Sardana, Head – Food & Agribusiness, UPL Group, addressed various challenges and opportunities in the North East Region of India, from the viewpoint of an entrepreneur. He discussed the major challenges such as Logistics Challenge; High Cost of Distribution and Low Average Productivity. However, there lies untapped potential for entrepreneurs in the spices segment further, it being high value and low volume product and could bear logistics challenge. Packaging Issues and Inadequate Infrastructure were also other challenges. But the region has also some significant opportunities. He opined that Siliguri is the best trading center for traders in the North East Region as it connects the entire North East Region with the adjoining countries, such as, Nepal, Bhutan and

Tibet. Piggery, Fisheries, sericulture, apiculture and minor forest products could also be capitalized on. Further, he identified the requirement of the strategic planning, feasibility study and SWOT analysis for the North East Region. At last, he stressed on the need to develop local entrepreneurs for local and neighboring markets and adding value to the products with a touch of glamour like souvenirs for tourists.

Mr. Harpal Singh Grewal, Promoter Director, Heavenly Farms, briefly talked about organic farming versus chemical farming. He mentioned about various benefits of organic products and potential of North East Region in producing the same.

Ms. Monalisa Das, Joint Resident Commissioner, Sikkim, stated that

in Sikkim, 84% of land is forest area and only 16% land is habitable and this limited land is to be efficiently utilized for residential and economic purposes. Hence, certain organic commodities, which could fetch high price and give better returns are focused.

Mr. R.P.S. Gandhi, Chairman, Green Valley Stevia, brought to light that stevia is one of the five most profitable crops in the North East Region and a viable opportunity to increase farmers' incomes.

Mr. Gaurav Mehra, Managing Director, SMGK Agro Exports, expressed his interest in procuring pineapple and spices directly from farmers and sought guidance from the government and experts regarding the same.

Prof S.M. Ilyas, Former Director, NAARM, brought to the notice that there are inadequate storage facilities in the region. Thus, he opined that instead of focusing on high volume high yielding plants, which have more logistic requirement, attention must be paid to aromatic & medicinal plants and spices, which have high potential due to the topography of the region and are low volume high value crops. Also, he recommended adopting the policy of one village one crop as in Malaysia and promoting local entrepreneurs in the area.

Mr. M.P.S. Rathi, Director, Tropical Agro Systems, talked of the pineapples in the region, but also drew attention towards perishable nature of the fruit. Thus, for better returns, he suggested setting up small plants for the extraction of the concentrated juice and trading it to other parts of the nation and world.

Mr. Arvind Aggarwal, Director, Arohan Foods Pvt.



Ltd., brought to the notice that his company to a great extent has been successful in replacing the imported pig meat in Indian hotel industry. He also mentioned that they have collaborated with a research institute for research on development of better pig feed. He also expressed interest in exporting the pig meat to international markets but was facing few challenges. Thus, requested for guidance from the government for the same.

Dr. Anish Chatterjee, Principal Coordinator, AFPRO, briefly talked about his experience in piggery and goat rearing and recommended skill training for youth in the region, as it would open more avenues for employment and livelihood.

Dr. Gauri PVSM, Vice President – Organics, Round Glass Partners, underlined some of the initiatives taken by the government for the development of the region. She discussed the initiatives for promoting organic farming in the North East Region and suggested promoting young groups and helping them financially to increase the organic production in Sikkim and other states.

Mr. Tushar Pandey, Senior President – Horticulture, Yes Bank, spoke of limited high altitude plants, adoption of cluster approach, and digital banking in the region and drawing economic value for North East Region. He identified horticulture products as substitutes for imported products and stated Assam as the hub for commercial business. Thus, he suggested further expansion of the state's potential.

Dr. V Sadamate, Adviser and Expert, Planning Commission, Gol, focused on strengthening of extension services as there are large number of agencies, such as KVKs, ATMA which could help in providing technological options to the farmers.

Dr. S Bhaskar, ADG (NRM), ICAR, stated that NER region is defacto organic, thus, there is a need for certification of the organic products. Along with this, he also mentioned about plants being affected by diseases, such as banana plant. Thus, he opined to address this challenge.

Dr. T Jankiram, ADG Horticulture (Vegs), ICAR, talked about the organic value chain development schemes, integrated organic farming system, carbon neutral farming and certification of products. He also briefed the house about cluster approach for the production of various crops in the region. He underlined the potential of dry flower exports from the North East Region and unexplored crops like jack fruit.

Dr. K.L. Chaddha, President, HIS and Chairman, ICFA Working Group (WG) on Horticulture, mentioned that there is limited land available for farming in the region as most of the land is waste land. Thus, he voiced to identify the suitable crops with their requirement. He suggested to analyze Crops for local market; Crops for domestic market; Crops, which could be exported to adjoining countries and developed countries and Crops required by processing industries. According to him, technology has not perpetuated despite

several efforts being made. There is a need to review critical technology for each crop. Like for citrus crops – micro propagated in vitro plants, for bananas – micro propagated plants. Thus, units can be established for the same in the region. He emphasized on introducing the technology to North East Region selectively. Also, he suggested following high density planting approach and cluster approach. He affirmed to explore the crops like passion fruit, mushroom etc.

Dr. A.K. Yadav, Advisor – NAB, APEDA, focused on the problem of availability of produce. He talked about the Mission Organic Value Chain Development Scheme, under which, concentrated cluster models and integrated cold chains were developed to produce quality and quantity of limited products. According to him, there is a need to explore the local markets of the region so as to reduce transportation cost and promote products to tourists. He also opined that every state has its own area of expertise and must promote it. He concluded with saying that piggery has high potential in the region.

Ms. Niteeka Walia Chabra, Fellow, TERI, pointed out that it is difficult to find disease free ginger, not only in North East Region but also in rest of India along with Bananas. Thus, there is a need for tissue culture for producing disease free planting material. She also identified the high potential of banana fiber as it is used for making Japanese Currency. Along with this, she suggested to opt for inter cropping

approach, in which farmers could choose spices and vegetables for the purpose.

Mr. Kunal Tiwari, Executive Director, CARD, enquired about methods adopted to address farmers' needs of technological developments or technical know-how. To which, it was realised that there is a need for farmers call center in NER.

Mr. Sunil Kumar, General Manager, Amira Foods, shared his experiences of sourcing turmeric from Sikkim and found that it was not suitable for FMCG sector and was apt for medicinal uses. Based on his experience, he advocated positioning and branding of products from region on quality basis. He also quoted the high price of the organic products from Sikkim as compared to those from Uttarakhand and Himachal Pradesh.

Mr. Kamal Somani, Managing Director, Somani Kanak Seedz, focused on the production of yellow capsicum, hybrid cucumber and small cardamom. According to him, yellow capsicum can

be produced in the North East Region as the cost of production would be low, although climatic conditions were not suitable for seed production.

Dr. A.K. Shrivastav, Director Projects, CARD, stressed on tourism study for the region and suggested to promote agri-tourism along with carrying out a successful experiment, inclusive of all aspects i.e., pre-production – production – post-production along with long term projects, which be scaled in the logical way i.e., area – product – stakeholders.

Mr. Sohrab, Managing Director, Quality Care Services, talked of value addition to trade if the products are certified. He stressed on the importance of certification to ensure quality products in the market.

Mr. Harish Mehta, Senior General Manager, DhanukaAgritech Limited, briefly stated about the growth in income from tea plantations, especially for small farms.

Dr. M.J. Khan, Chairman, ICFA, proposed to have a Joint Business

Council with ASEAN focusing on North East Region to facilitate and promote international trade and MoU for food processing with NERMCA. He also discussed about coming up with the model for e-commerce website, with in-built customer feedback and satisfaction feature which would help artisans work in the required direction to promote North East Region Craft.

Sh. Naveen Verma last remarked that the discussion was enlightening and suggested ICFA to organize Round Table Conferences relating to specific sector, such as, Agri-Tourism, Animal Husbandry, Rural Craft, Packaging and more in specification to North East Region.

Finally, the formal vote of thanks was presented by Director – Corporate Affairs, ICFA, Ms. Mamta Jain. She expressed gratitude to Sh. Naveen Verma for sparing his valuable time and gracing the conference. She also thanked all other dignitaries for active participation making the discussion worthy.

Several recommendations evolved from the round table conference to explore the potential of NER.

- A committee of experts must be constituted from all relevant sectors to analyse the crops for local as well as domestic consumption, secondly for exports to neighbouring countries and rest of the world and lastly for food processing industry. Further, the competitive advantage for the identified crops need to be worked out for better advisory to the states.
- Piggery could be a great opportunity for NER considering huge domestic as well as export demand and limited availability for the same. Subsidy schemes must be evolved for piggery.
- In order to reduce the price of commodities processed in other states with raw material from NER region, it is recommended to set up value chain and processing firms in the region. For the purpose, government should implement subsidy schemes for efficient transportation, storage and processing infrastructure in the region.
- As new avenues in agriculture and allied sector are coming up, skill development of the communities is necessary. Therefore government should earmark funds for extension agencies like KVKs, ATMA for training of people so as to enable them to take up new enterprises.
- Considering the high quality of produce from NER, it is strongly recommended to undertake a promotional campaign to endorse produce from NER for their specific qualities like turmeric for medicinal usage. In accordance, ministry should dedicate funds for promotional campaign at national level.
- NER has products like bamboo, jackfruit, dry flower which largely remain unexplored and have opportunities in global market. Thus, to tap the potential of such unexplored products, Government should earmark funds to promote research regarding their feasibility and cost benefit analysis in the region.
- To take advantage of region's topography, high value crops like medicinal and aromatic plants as well as spices should be promoted. Hence, it is suggested that government through existing extension institutions should demonstrate the scientific cultivation to harvest high quality and quantity of yield.
- To promote and establish the processing industry in the region, quality needs to be ascertained, in this regard region should have incubation centers for developing and testing of technologies and testing labs to ensure the quality of produce entering the market. It was recommended to establish at least one quality testing lab for each state and four incubation centers for the region. Public private partnership model for the same may also be considered.

HAS AGRICULTURE / FOOD RESEARCH ADDRESSED THE PROBLEM OF HUNGER IN THE COUNTRY?



India's agriculture production has been recording impressive progress over the past seven decades, as exemplified by record production of 52 million tonnes in 1950s to over 265 million tonnes in 2015-16. Various factors contributed to this achievement, including the green revolution. The fact that India has moved on from 'ship to mouth' existence in food grains (from USA under USPL scheme) to self sufficiency in 1960s could not be denied. The moot point here is that even during 1940s and early 1950s there was problem of poverty that reflected on hunger which could be attributed to inadequate food production. Even at the level of population of about 350 crores then, hungry population was over 40 percent, which was understandable. But, now with increase in population and also enhanced food production

with all advanced technologies in agriculture research and management, why hunger still persists with over 25 crore population is a serious question that needs to be examined. Since hunger index is high and malnutrition poses challenges there is a need to analyze the situation. A dispassionate and incisive analysis is attempted with available information.

AGRICULTURE RESEARCH

The Indian Council of Agriculture Research (ICAR) with over 100 Institutes and supporting over 60 State Agriculture Universities across the country, has the main mandate to conduct research on all aspects related to production of not only major field crops but also horticulture crops like vegetables, fruits, fishes, milk, meat. Thus, the overall food production objectives are within the purview of

the ICAR which has wide network with several crops, covering all the agro climatic zones in the country. The major thrust is to increase yield with all technologies namely crop improvement with high yielding varieties (genetics, plant breeding, biotechnology), crop production (soil, water, nutrient management), crop protection (pests, diseases, nematodes), characterization for desirable traits (Physiology, biochemistry), pre and post harvest processing technologies with product diversification and value addition, design of fields, economics of crop production, marketing (Statistics and computer technology) and dissemination of knowledge through various technologies (extension). To be fair enough to the hard work of scientists and ICAR's well conceived, world recognized Agriculture Research Service system (ARS) and the

involvement of State Agriculture Universities and Departments of Agriculture in toto and the Krishi Vigyan Kendras numbering over 600, the educational set up for imparting knowledge to farmers, there is discernible improvement over the decades in agriculture growth through high yielding varieties, adoption of technologies by farmers, plant protection measures, strategies to address drought or cold seasons, dryland agriculture, utilization of natural resources. These have had positive impact on realizing food production to the extent of over 260 million tonnes, with potential to further improve, notwithstanding many challenging problems. These facts must be accepted with due acknowledgement. The question that begs for answer is why then poverty and hunger exist even in bountifully rich States where agriculture growth is impressive with diversity of crops, recording high rank for food production? Then, what ails our agriculture / food system?

LACUNA IN THE SYSTEM

While all care was taken on food production to meet the demands of growing population, there was no focus on whether food commodities are satisfying the people with poverty and hunger in rural, tribal and slum areas. This does not come under the domain of agriculture ministry but the ministry of food and cooperation. So much so, there is no project in ICAR, directly or indirectly (to the best of my knowledge) to address various aspects of hunger of people, who face different malnutrition problems like under nutrition, under weight, energy deficiency, anemia. In other words, agriculture research so far was not linked to health and nutrition, which means that food security was taken care of well but nutrition and health security remained unattended to the desired extent. Honestly, I myself did not realize the importance of a holistic approach to fighting hunger until I started working on hunger index and allied aspects with input from the International Food Policy Research Institute. The lacuna has caused enormous damage to the country's image on poverty and chronic hunger of millions of people. I do not know whether the agriculture education system in ICAR and SAUs have relevant syllabus on hunger related topics which would include understanding the linkage between agriculture, nutrition and health (A4NH) the recent concept of the UNFAO. Unless students in undergraduate courses (BSc Ag) are sufficiently sensitized on the topics they will not be able to take up projects for post graduate and doctoral thesis on hunger related subjects. Had we realized this two or three decades ago, we perhaps would have addressed



malnutrition and other problems better than now. This is my perception based on my publications, field experience on hunger. Hunger fighters must emerge from student/youth population.

WAY FORWARD

From the foregoing, it is evident that a paradigm shift is necessary to revise our agriculture education system to make it holistic with A4NH approach. If the students are well equipped with knowledge, then they may take up projects at later stage. Second, all ICAR Institutes and SAUs may have to revitalize the projects in such a way that A4NH is given due priority. The Institutes working on pulses, millets, vegetables and other essential crops, fish and milk, as also dry land agriculture, natural resources have to undertake the exercise to initiate socially relevant projects that address the challenging problems of malnutrition. Since most of the Institutes have KVKs, it may be possible to create data base on chronically hungry population, especially children under weight, anemia of children and women and then take up work to minimize the problem. The collaboration of Home Science Departments of the Universities with nutrition specialists will be of great help in this regard. As suggested by Dr. M. S Swaminathan 'Farming System for Nutrition' (FSN) may be introduced. He opined that " malnutrition problem can be solved through locally grown biofortified plants, by establishing 'Genetic garden of biofortified crops' ". This sounds meaningful in as much as the nutritionally rich crops like millets, pulses could come to the rescue of malnourished population. Thus, in the ensuing years it must be possible to progressively reduce hunger of people with food crops that have health and nutritional benefits. The answer to my title question is that so far we have not focused on hunger, but now poised to take new positive direction.

**V. Rajagopal, Former Director CPCRI (ICAR)
and Founder President Society for Hunger
Elimination (SHE), Tirupati, AP**

PERU - DOOR FOR INDIAN PRODUCTS IN LATIN AMERICA

An agriculturally important nation, Peru to its credit has a host of agricultural commodities such as asparagus, potatoes, maize, rice, and coffee. Peru provides half of the world supply of quinoa. In recent years Peru has become the world's primary source of high-quality organic coffee. With a sizeable population dependent on agriculture and the government's keen intent to promote agriculture and trade, Peru is emerging as a destination of agricultural trade and investment. In a rendezvous with Fariha Ahmed of Agriculture Today, H.E. Mr. Edgar Manuel Vasquez Vela, Vice Minister of Foreign Trade, Peru discusses mutual trade and cooperation between the two countries.



What is the importance of agriculture in Peru? What is the share of agriculture in Peru's foreign trade?

Agriculture is a very important sector in Peru. It is an important heritage for us and, over the years, people have domesticated lot of agricultural products. Significant percentage of our population works in agricultural sector. Thus, we need to help them finding new markets in order to give them more opportunities to improve their situation and take out people in agriculture from poverty to better condition. In that regard, Peru have had lot of success in the last 10 years. Just in 2003, Peru's export of agricultural products was around USD 500 million. Nowadays, it is around USD 6000 million. Our goal for the next five years is to reach almost USD 15,000 million in exports. Our main export products are coffee, cocoa, asparagus, fruits like grapes, mangoes, avocados, blueberries, and grains like quinoa. Our basket for export is really wide and we are

growing year by year. In the last 5 years, our exports grew at an average of 11 percent. Right now, agriculture represents 15 percent of the total export of the country. Peru's import average around USD 4000 million. Grains like corn, wheat and soybean are the most important agricultural products that Peru imports from other countries. The import of agricultural products represents 11 percent of the total import of the country. The numbers are growing really well in the agricultural sector and India represents a key additional step in our strategy to continue growing in this sector. Our idea is to increase our exports of agricultural products to India but also give agricultural producers of India an opportunity in Peru as well.

I am certain that we have lots of opportunities for both countries. Regarding agriculture, Peru is an important partner with countries like the US, China, also with the EU and others. Currently, the trade numbers with India are very low but it has got a lot of potential. Part of the goal of

my visit to India is to send a strong signal to the Indian authorities that Peru could be the door for Indian products in Latin America because Peru has Free Trade Agreements with almost every important country in Latin America and around the world. 94 percent of our imports and exports are covered by preferences under FTAs, which makes Peru a widely and globally integrated country. We could give a lot of opportunities to Indian investors in Peru to use it as a hub for their businesses in Latin America. Similarly, India is important for us taking into account its big size and our potential presence here in India. We want to enhance the presence of Peruvian products in other regions in general, but India in particular.

Please brief us about trade agreement in process between Peru and India to further increase the agricultural trade and cooperation between the two countries?

Last year, the governments of India

and Peru concluded a joint feasibility study for a trade agreement between both countries. In January 2017, the Indian Cabinet approved holding negotiations for a Trade Agreement with Peru. The main reason of my visit in New Delhi is that I am here with a Peruvian team of negotiators to conclude the terms of reference of the negotiation of this trade agreement. The term of reference will set some ground rules for the agreement like time frame, which country will host the first round of negotiation, etc. The idea is to have the first round of negotiations during the first semester of the year. We look forward to have a really comprehensive agreement. In that sense, in addition to negotiate tariff reductions and non-tariff measures for goods, we will cover trade in services, investment and, most important, movement of persons. We want to increase the interest of Indian investors, businessmen, and tourists to Peru and also from Peru to India. It is the first time that India agreed to negotiate this kind of agreement with a country from Latin America. India has preferential trade agreements with Chile and MERCOSUR. Those agreements only cover trade in goods and include a limited number of tariff lines for tariff reduction. Our goal is to have an ambitious comprehensive trade agreement for goods, services, investment and movement of persons.

Which are the biggest trading partners of Peru in agriculture segment? How significant is India as a trade partner to Peru?

Regarding the agricultural sector, our main trading partner is the EU; around 38 percent of our total exports are going there. Our second main partner is the US with 32 percent, followed by our neighbors in Latin America such as Ecuador, Colombia, Brazil, Argentina and other countries. Our exports of agricultural products to India represent less than 1 percent of our total exports in the sector. That indicates that we have lot of potential and that is the reason why we are interested in not only tariff but non-tariff measures. It is important to facilitate measures related to sanitary and phytosanitary matters.

There is lot of potential for association between India and Peru. We are two complementary economies. I met with the Secretary of Agriculture of India and we shared common views about possibilities to grow in this sector. India is interested in exporting mangoes, grapes and rice to Peru, and we are interested to export citrus, blueberries and other products.

The idea is to try to expand the basket of products that we can exchange among us and increase the numbers in agriculture trade. The export number is really very low, we export around USD 7 million. It is interesting that there are lots of opportunities and we find possible to introduce our avocados, mangoes, citrus and blueberries. I am sure we will have better numbers in the upcoming months as we will continue working together in order to open doors for our market.

Last month we have launched our international campaign to increase our participation in the international food market. We have launched our new country brand 'Superfood Peru' in Fruit Logistica in Berlin. We will participate in different events around the world to introduce our new brand because Peru is an important producer of Superfoods. Wide range of superfoods like quinoa, maca, tara, purple corn, etc., are produced in the country. Also, Peru is the region of potatoes and we produce almost 4000 varieties of potatoes. Peru is a rich country with a combination of



natural resources and climate that you cannot find around the world. We have coastal region, rich sea, mountains and jungle that make us good provider of fruits, grains, cereals, vegetables, and sea products. That puts Peru in a special position to offer a variety of products around the world. We see a lot of opportunities for Peruvian products in the Indian market like superfoods, taking into account that India has a culture of consuming healthy food products.

What are the major agricultural products that are currently exported to India?

Our main agricultural product is coffee followed by grapes, cocoa, also we are exporting quinoa and some mangoes. We are also working to introduce avocados in the Indian market. These are some of the products that could arrive to India but we still need to continue working to improve logistical aspects to make possible the arrival of a wide range of Peruvian products to the Indian market. This is a long-term relationship and we expect to

have India as one of our best trading partner.

What are the impediments that Peru has encountered in trading with India?

The most important barrier not just with India but around the world is related to sanitary and phytosanitary measures. Peru already have 19 FTAs that give us preferences in 53 countries around the world with zero tariff in most of the cases for the agricultural sector, but it is not possible to take advantage of these opportunities if non-tariff measures, in particular sanitary and phytosanitary measures, are applied. That is why it is important to continue working together and try to eliminate most of these barriers and facilitate the entrance of these products with rationale measures. We are working very well with India and we have a trade counsellor and a specialist in agriculture, both based in New Delhi, who are working closely with the Indian officials for the entry of Peruvian products to India and Indian products to Peru. That is the most important barrier but this is natural barrier that exists in most of the countries. It is important to have close work between our sanitary authorities to try to reduce or, if possible, eliminate those barriers. Sanitary authorities in India are invited to visit Peru to know our methods and certification of products. Also, we have shared a proposal for Memorandum of Understanding with Indian authorities to extend cooperation on sanitary and phytosanitary matters and exchanging technical information.

Besides trade in agricultural commodities, which are the other areas in agriculture segment where the two countries can cooperate?

We proposed signing MOU with India to increase cooperation in science and technology. Other important aspect is to try to increase the number of visits of the business sector and government authorities of both sides to our countries because we need to know each other very well. We should know the opportunities that both markets could give to our producers and exporters, therefore these kinds of visits are important. My visit is not just only to start negotiation for trade agreement with India but is also a signal of strong interest to enhance our bilateral relations and to know very well the opportunities that Indian market could give to Peruvian exporters. We will try to promote the visit of our business sector as soon after we receive the delegation of Indian companies in Peru in order to promote their products in the Peruvian market but also to see the opportunities that exist in India. We have to build a bridge between Peruvian and Indian exporters, importers and partners here in India. One of our main objectives is to let the Indian business persons to know what we can offer to the Indian market. We will continue with these kinds of activities in order to share information and to know very well our markets.



(L-R) Mr. Edgar Manuel Vasquez Vela, Vice Minister of Foreign Trade, Peru; Ms. Fariha Ahmed, Assistant Editor, Agriculture Today; and Mr. Luis Miguel Cabello, Commercial Counsellor of Peru in India

How is the business environment in Peru for Indian companies and investors?

Peru is an open market. We receive all the foreign investors with open arms. In particular, Indian investors in Peru are in different sectors such as automobiles, textile and services. There are also developments in restaurants and in the pharmaceutical sector. Peru is a free market and any investor who wants to do business there will have the same treatment as a Peruvian company has. There is no discrimination between national and foreign investors and we seek the participation of foreign companies in Peru. Given this treatment, it is important to highlight that Peru can also be a hub for Indian investors and exporters to Latin America.

How does the Peruvian government support producers who cater to global trade?

In the agricultural sector we have a special regime to promote agricultural activity. For example, general income taxes are 30 percent but for agriculture it is 15 percent. Also, there are other benefits regarding value added taxes, a special labor regime and in case of exports we have a drawback of 4%. It means any tax they are paying, we give them back. This is our general principle.

In terms of trade promotion, we are promoting concepts like our country brand 'superfood Peru'. The agricultural sector in particular is important in our strategic plan for export promotion. Our goal is to reach almost USD 15000 million of export during the next 5 years. We are supporting the participation of our exporters in most of the most important fairs worldwide in order to promote Peruvian products. We have an Export Promotion Plan for next 10 years which constitute the umbrella under which we are developing brands and trade promotion strategies. Taking into account the potential that Peru has in the agricultural sector and, in particular, in superfoods we are more than clear that future in Peru will be really good in terms of our capability to provide safe and good quality food products.



Inspired by Science



Discovering the balance of producing more from less.

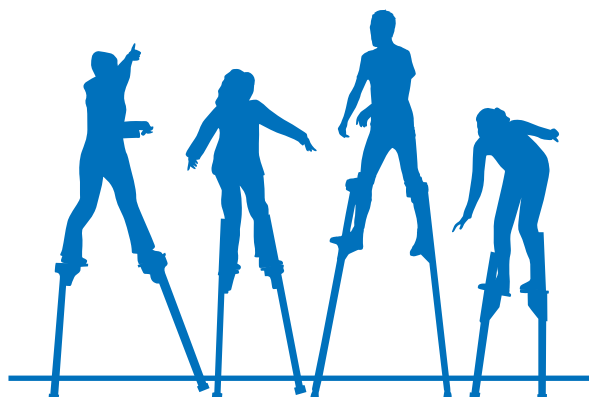


Rice Solution

The land available for agriculture is decreasing rapidly. Now, more than ever, we need to increase our productivity and deliver more from less.

We at PI, are constantly in search of new answers. For more than 60 years, our line of products for rice crop such as Foratox®, Biovita®, Nominee®Gold, Osheen®, Vibrant®

Kitazin®, Fluton®, Sanipeb, Bunker® etc. have been aiding farmers in improving their crop quality, increasing productivity and protecting their crops from insects, weeds and fungi. Today, we are helping to feed millions of hungry mouths while improving the farm income. Our comprehensive solution to enable the adoption of Direct Seeded Rice (DSR) has helped increase the farm income, conserving the precious natural resource, water. It is this technology that is helping us in building a better tomorrow.



PI Industries Ltd

www.piindustries.com | mktg@piind.com

CAPTAINING PUNJAB'S DEVELOPMENT

Captain Amarinder Singh, a veteran politician and efficient leader from Punjab, has donned the role of Chief Minister for the second time. Known not to shy away from speaking or acting his mind, Shri Singh has a long association with the state's politics. The political leader has always kept the interests of his home state Punjab or the Sikh community as a priority even ahead of politics or friendship.



Captain Amarinder Singh, was sworn in as the 26th Chief Minister of Punjab after a landslide victory of Congress in the recently concluded Punjab Assembly elections. An elected Member of the Legislative Assembly from Patiala, Shri Singh is also the president of Punjab Pradesh Congress Committee, the state division of the Indian National Congress. Having also served as the Chief Minister of Punjab from 2002-2007, Captain's victory this time around consolidated Congress presence in the state after ten long years.

Born on 11 March 1942 to Maharaja Yadavindra Singh and Maharani Mohinder Kaur of Patiala, Shri Singh belongs to the Phulkian dynasty of Sidhu Brar descent. His schooling was in Welham Boys' School, Lawrence School Sanawar and The Doon School, Dehradun. Graduating from the National Defence Academy and Indian Military Academy, he joined the Indian Army in June 1963 and resigned from the service in early 1965. However, he later rejoined the Army as hostilities broke out with Pakistan and served as Captain in the Sikh Regiment in the 1965 Indo-Pakistan War.

He was initiated into politics by his close friend, by Rajiv Gandhi and was first elected to the Lok Sabha in 1980. His association with the Congress was short-lived as in 1984, he resigned from Parliament and from Congress, as a protest against the Army action during Operation Blue Star. Subsequently, Captain continued his political journey with Shiromani Akali Dal and was elected to the state legislature from Talwandi Sabo and became a minister in the state government for Agriculture, Forest, Development and Panchayats. His political career took a different direction in 1992 when he broke away from the Akali Dal and formed a splinter group named Shiromani Akali Dal (Panthic) which later merged with the Congress in 1998 after Sonia Gandhi took over the reign of the party.

He served as the President of Punjab Pradesh Congress Committee on two occasions from 1999 to 2002 and 2010 to 2013, he also became Chief

Minister of Punjab in 2002 and continued until 2007. He was appointed as chairman of Punjab Congress Campaign Committee in 2008. Captain Amarinder Singh is also a Permanent Invitee to the Congress Working Committee since 2013. He defeated senior BJP leader Arun Jaitley by a margin of more than 1,02,000 votes in 2014 general elections. He has been a member of the Punjab Vidhan Sabha for five terms representing Patiala (Urban) thrice, Samana and Talwandi Sabo once each. On 27 November 2015, Amarinder Singh was appointed President of Punjab Congress in the run up to Punjab elections slated for 2017. On March 11, 2017 Congress Party won the State Assembly Elections under his leadership.



Capt Amarinder Singh is president of the All India Jat Maha Sabha. He had been associated with the Jat Maha Sabha for last 30 years as its patron since 1980 when Capt Bhagwan Singh was its president. He demanded reservation for Jats under the Other Backward Classes (OBC) category.

His victory and ascension into power entails immense responsibility and reforms towards the state's agriculture sector. Aware of this, the Captain's government has decided to form a group of experts to assess and analyse the quantum of agriculture debt in the state, and propose means to waive it in a time-bound manner. A slew of measures are being proposed to reform the state of agriculture in the state such as establishment of the Punjab State Agricultural Insurance Corporation and vigorous pursuance of the Agricultural Sustainability Programme, defraying farmers' subsidy through direct bank transfers, strengthening and re-organising the Punjab Farmers Commission, and setting up of an Agricultural Production Board. A new legislation is also sought to be brought in to prohibit sale and 'kurki' of a farmer's land by the lending agencies.

An author, Shri Singh has penned many books. His extended political career and deep connect with the state's history lends him the requisite knowledge to deal with Punjab's existent and emerging problems.

“Agriculture makes a major contribution to the fundamentals of our country’s economy. Economic prowess of villages imparts momentum to the nation’s economic progress”

NARENDRA MODI
Prime Minister



RADHA MOHAN SINGH
Agriculture Minister

“Agriculture education, agriculture research and agriculture extension are also important to increase farmers income”



AJAY NANDA
Minister of State for Finance and Planning

“All the schemes like Kissan Credit Card and Pradhan Mantri Fasal Bima Yojana will be extremely fruitful to the farmers if they are implemented in letter and spirit with the aid of field functionaries”

“We feel that in case of a (farm) loan waiver there is always a fall in credit discipline because the people who get the waiver have expectations of future waivers as well. As such, future loans given will often remain unpaid”

ARUNDHATI BHATTACHARYA
SBI chief



“When Punjab does not have enough water, the question of giving it to other states does not arise. Punjab has 60% of agrarian land with just eight MAF (million acre feet) water, while Haryana with 40% of agriculture land has 12 MAF water”

CAPTAIN AMARINDER SINGH
Chief Minister, Punjab