

Reports on Agriculture

Record agricultural production in 2016-17

There is a likely record production of agriculture in year 2016-17, however, there was steep decline in farm harvest prices of some of the agricultural commodities. Total food grains production in the country is estimated at record 271.98 MT. Total production of Rice is estimated at record 108.86 mt. Production of Wheat, estimated at 96.64 million tonnes is also a record. Production of Coarse Cereals estimated at a new record level of 44.34 million tonnes. Total production of pulses during 2016-17 is estimated at record 22.14 million tonnes. Total Oilseeds production in the country is estimated at record level of 33.60 million tonnes. 2nd Advance Estimates of production of major crops for 2016-17 released (Table 1).

Table 1. Agricultural production (million ton) of various crops

Crop	2003-04	2004-05	2005-06	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (AE)
Rice	88.5	83.1	91.8	105.3	105.2	106.7	105.5	104.4	108.9
Wheat	72.2	68.6	69.4	94.9	93.5	95.9	86.5	92.3	96.6
Coarse cereals	37.6	33.5	34.1	42.0	40.0	43.3	42.9	38.5	44.3
Cereals	198.3	185.2	195.2	242.2	238.8	245.8	234.9	235.2	249.8
Pulses	14.9	13.1	13.4	17.1	18.3	19.3	17.2	16.4	22.1
Food grain	213.2	198.4	208.6	259.3	257.1	265.0	252.0	251.6	272.0
Total oilseed	25.1	24.3	27.9	29.8	30.9	32.7	27.5	25.2	33.6
Cotton (lakh bales of 170 kg each)	137.3	164.3	185.0	352.0	342.2	359.0	348.1	300.1	325.1
Sugarcane	233.8	237.0	281.1	361.0	341.2	352.1	362.3	348.4	309.9

Source: Ministry of Agriculture, Government of India

Production of Sugarcane is estimated at 309.98 million tonnes which is lower by 38.46 million tonnes than the last year's production of 348.45 million tonnes. Despite lower area coverage during 2016-17, higher productivity of Cotton has resulted into higher production of 32.51 million bales (of 170 kg each) as compared to 30.01 million bales during 2015-16.

Horticulture

The Department of Agriculture and Farmers Welfare has released the Final Estimates: 2015-16 and First Advance Estimates of 2016-17, of area and production of horticulture crops. These estimates are based on the information received from different State/UTs in the country. The following table summarizes the All-India First Advance Estimates: 2016-17.

1. The horticulture production of the country during 2016-17 is estimated to be around 287 million tonnes which is marginally higher as compared to 2015-16.
2. Production of fruits is estimated to be 92 million tonnes which is about 2% higher than the previous year.

3. Production of vegetables is estimated to be around 168.6 million tonnes which is marginally lower by 0.3% than the previous year.
4. Production of spices is estimated to be around 7 million tonnes which is almost same as previous year.
5. Production of onion is estimated to be around 197 lakh tonnes which is 6 % lower than the previous year, which was a bumper production year. However as compared to the past 5 year's average onion production, this is about 5% higher.
6. Production of potato is estimated to be around 439 lakh tonnes which is 1% higher than the previous year.
7. Production of tomato is estimated to be around 189 lakh tonnes which is about 1 % higher than the previous year.

Table 2. Area and Production of Horticulture Crops - All India						
Area in '000 Ha; Production in '000 MT						
Crops	2014-15		2015-16		2016-17(AE)	
	Area	Prod.	Area	Prod.	Area	Prod.
Fruits	6235	89514	6301	90183	6342	91728
Vegetables	9417	166566	10106	169064	9952	168593
Flowers	249	2143	278	2184	282	2177
Plantation	3534	15575	3680	16658	3689	16753
Spices	3317	6108	3474	6988	3474	6988
Horticulture	23410	280986	24472	286188	24369	287323

Source: Ministry of Agriculture, Government of India

Estimated production of major livestock products (July-October 2016)

The Integrated Sample Survey is a regular sample survey under taken on a general principle of 15% sample basis across the country. The sample Villages/Urban wards are selected from the entire rural and urban areas of States/UTs and the survey is conducted by the States/UTs in three seasons. The list of latest Livestock Census villages constitutes the sampling frame. As per general principle, for the estimation of livestock numbers, 15% (5% for each season) of the villages/urban wards will be selected in the form of two independent sub-samples in a State for complete enumeration of livestock and poultry population by using Simple Random Sampling Without Replacement (SRSWOR). Subsequently, 5 samples will be selected from each of the sub-sample to carry out detailed survey for the estimation of yield rates. The number of sample will increase or decrease according to the number of villages in each district. The Survey period for rainy season was 1st July, 2016 to 31st October, 2016.

The total milk production has increased from 52.21 Million Tonnes during 2015-16 (Rainy) to 54.50 Million Tonnes during 2016-17 (Rainy) registering a growth 4.38%. As against the targeted production of 163.74 Million Tonnes during 2016-17, the total estimated production in two seasons, summer and rainy, is 105.42 Million Tonnes showing an achievement of 64.38%. Further, as compared to previous year's (2015-16) rainy estimates, the average milk yield per day has marginally improved for indigenous category of cows and buffaloes. The average yield rates of

exotic and crossbred cows are estimated to be as 10.85Kgs and 7.40Kgs per animal per day respectively and the average yield rates of indigenous and non-descript cows are estimated to be as 3.56 Kgs and 2.29 Kgs per animals per day. The average yield rates of indigenous and non-descript buffaloes are estimated to be as 5.86Kgs and 4.04Kgs per animals per day respectively. The first five highest milk producing States are Uttar Pradesh, Rajasthan, Madhya Pradesh, Gujarat and Andhra Pradesh during the Rainy Season.

The total egg production has increased from 27.33 Billion during 2015-16 (Rainy) to 29.09 Billion during 2016-17 (Rainy) registering a growth of 6.42%. As against the targeted production of 87.05 Billions of eggs during 2016-17, the total estimated production in two seasons, summer and rainy, is 55.11 Billion showing an achievement of 63.31%. The production of egg is largely contributed by commercial poultry farms with nearly 75.75% and remaining production is from household/backyard poultry. The first five highest eggs producing States are Tamil Nadu, Andhra Pradesh, Telangana, and West Bengal & Haryana during the Rainy Season.

The total meat production has increased from 2.24 Million Tonnes during 2015-16 (Rainy) to 2.43 Million Tonnes during 2016-17 (Rainy) registering a growth 8.74%. As against the targeted production of 7.37 Million Tonnes during 2016-17, the total estimated production in two seasons, summer and rainy, is 4.67 Million Tonnes showing an achievement of 63.28%. Nearly, 47.86% of the meat production is contributed by poultry and 20.11% is from buffaloes. The first five highest Meat producing States are Uttar Pradesh, Maharashtra, West Bengal, Andhra Pradesh, & Telangana during the Rainy Season.

The total wool production has decreased from 5.91 Million Kgs during 2015-16 (Rainy) to 5.78 Million Kgs during 2016-17 (Rainy), a decline of 2.16%. As against the targeted production of 44.07 Million Kgs during 2016-17, the total estimated production in two seasons, summer and rainy, is 20.66 Million Kgs showing an achievement of 46.89%. The first five highest Wool producing States are Karnataka, Gujarat, Maharashtra, Himachal Pradesh, & Jammu & Kashmir during the Rainy Season

Agriculture exports on road to recovery after dropping 20 per cent last year

According to data from Agricultural and Processed Food Products and Export Development Authority (APEDA), exports in April-December FY17 stood at Rs 76,902 crore, 3.7% lower than same period last year. India's farm and processed foods exports had fallen to Rs 1.06 lakh crore in FY16 against Rs 1.31 lakh crore reported in FY15.

After a fall of 20% witnessed in the last fiscal, India's farm and processed food exports are set to register a turnaround by the end of current financial year despite a sharp fall in shipment of basmati rice, which has share of 20% of total exports basket.

Because of stoppage of rice shipment to Iran, the country's biggest destination for shipment of aromatic long grain rice, India's exports during first three quarters of FY17 has fallen by close to 13% to Rs 15, 379 crore. In case of non-basmati rice, the exports have increased marginally to Rs 11,640 crore in the current fiscal compared to Rs 11,509 crore reported during the same period last fiscal.

However the exports of buffalo meat, with a biggest share of around 26% in the APEDA export basket, has declined only by 4% to Rs 19, 739 crore in April-December, 2016-17. "Buffalo exports which was hit temporarily because of demonetisation, has seen a rebound and expected to witness an increase in the last quarter of the current fiscal.

The shipment of fresh fruits and vegetables rose by more than 12% in the current fiscal to around Rs 7,000 crore while the exports of groundnuts witnessed an increase of close to 30% to Rs 3,630 crore in April-December 2016 period. Trade sources said in the last quarter of the current fiscal, basmati rice exports could increase as India and Iran negotiate the modalities. Tehran recently put upper limits for import and consumer prices of the cereal.

While India's recent exports of the rice to the West Asian country cost the importer around \$ 900 to 950 per tonne (landed price), the ceiling price imposed is \$ 850 a tonne and the maximum consumer price set is \$1.15 a kg. Clearly, realisations of Indian exporters will diminish under the price caps.

APEDA has identified 20-odd clusters for sustaining growth in the exports of food products.

'Pink Revolution': Why the Government Should Boost the Bovine Meat Industry

Even as the 'beef ban' and demonetisation hit Indian industries, bovine meat comes to Indian's economic rescue. But steps must be taken to help the industry seize new opportunities.

In 2014, India surpassed Brazil and Australia to become the largest bovine meat exporting country in the world. Bovine meat became India's top agricultural export item (\$4,781.18 million), ahead of basmati rice (\$4,518.25 million) in 2014-15. India's bovine meat consists only of buffalo meat (carabeef) due to cultural reasons. With 58% of the world's buffalo population, India is home to the world's largest population of cattle and buffalo. The bovine meat industry plays a significant part in employment generation in the agricultural sector. About 10% of the rural labour force is employed in livestock rearing and related occupations, which constitutes around 26% of the total agricultural value added. The major states where such buffalo meat production centres exist are Uttar Pradesh, Andhra Pradesh, Maharashtra and Punjab. These

abattoirs conform to international hygiene standards, with zero hand-touch-processing and regular visits by halal inspectors from the importing countries. Major export destinations during 2014-15 were Vietnam, Malaysia, Egypt, Thailand and Saudi Arabia.

One of the most important factors for the increased bovine meat export from India is the comparative advantage that India enjoys over its competitors. According to Meat & Livestock Australia, a meat industry research company, the cost of production of bovine meat in India is much lower compared to its competitors like Brazil and Australia. Gravity model studies have shown that distance plays a crucial factor in the trade of perishable commodities like bovine meat. Given India's geographical location, it can easily cater to markets in the Gulf as well as in the East Asian countries. Meat production in India is generally a by-product of livestock rearing. Buffaloes are sent to the abattoir once they grow old. In other competing nations such as Brazil, cattle are reared specifically for the purpose of meat production. This makes their bovine meat industry expensive compared to its Indian counterpart.

On the demand side, with rising incomes in the developing world and an expanding youth population, food preferences are shifting towards a protein rich diet. In such a scenario, India stands to gain from the rising demand for meat products. There have been recent instances of meat adulteration in some European countries. However, there has been no such report of adulteration in the Indian bovine meat industry. Moreover, restrictions had been imposed on imports from EU nations on account of Bovine Spongiform Encephalopathy (BSE) or what is popularly called mad cow disease. These are some of the other factors, which may explain why India suddenly became a favourite source for bovine meat.

The story of this pink revolution can thus overwhelmingly be attributed to the comparative cost advantage of Indian beef vis-à-vis its exporting competitors rather than any domestic conducive policies of the government. According to the Report of the Working Group on Animal Husbandry and Dairying 2012-17, the major constraints in the bovine meat industry include poor infrastructure, such as proper abattoirs and cold storage facilities, which are essential for this industry to thrive. Without direct government support, these problems will persist and can outweigh the cost advantage enjoyed by this industry.

The upsurge of right wing ideologies and politics around beef also worsens the situation, with some states even banning buffalo slaughter. In order to give an impetus to the dairy industry, the government has introduced policies like the National Dairy Plan (NDP Phase-1), 2011-18 and National Programme for Bovine Breeding and Dairy Development (NPBBDD), 2014-15. However, no such policy eagerness has been noticed for the bovine meat industry. This political and administrative failure is clearly reflected in the decline in the export of bovine meat from 14.7 lakh mt in 2014-15 to 13.14 lakh mt in 2015-16. The value of exports also declined significantly registering a negative growth rate of 15.8%.

However, with China recently lifting its ban on bovine imports from India, the Indian bovine meat industry is expected to witness another surge due to the large market access. This can expand the market for Indian exporters and enable India to remain a leader in bovine exports in

the future. The current political leadership must cast aside their myopia and enable this critical sector of India's economy to realise its true potential

Mission Fingerling with a total expenditure of about Rs. 52000 lakh to achieve Blue Revolution

Recognizing the potential and possibilities in the fisheries sector, Government of India has envisaged a program named "Blue Revolution" to unlock the country's latent potential through an integrated approach. The Blue Revolution, in its scope and reach, focuses on creating an enabling environment for an integrated and holistic development and management of fisheries for the socio economic development of the fishers and fish farmers. Thrust areas have been identified for enhancing fisheries production from 10.79 mmt (2014-15) to 15 mmt in 2020-21.

Greater emphasis will be on infrastructure with an equally strong focus on management and conservation of the resources through technology transfer to increase in the income of the fishers and fish farmers. Productivity enhancement shall also be achieved through employing the best global innovations and integration of various production oriented activities such as: Production of quality fish seeds, Cost effective feed and adoption of technology etc.

Fish Fingerling production is the single most important critical input visualised to achieve fish production targets under the Blue Revolution. We need to establish more hatchery to produce Fry/PL required for different categories of water bodies. Barring few States that's to in terms of fry (15-20 mm size), all States are in need of Fingerling production (standard size 80-100 mm). Use of High Yielding Varieties of brooders is another significant aspect to be addressed on priority.

The Department has identified 20 States based on their potential and other relevant factors to strengthen the Fish Seed infrastructure in the country. This program with a total expenditure of about Rs. 52000 lakh will facilitate the establishment of hatcheries and Fingerling rearing pond to ensure the fish production of 426 crores fish fingerling, 25.50 crores Post Larvae of shrimp and crab in the country. This will converge in the production of 20 lakh tonnes of fish annually and will benefit about 4 million families. The implementation of this program will supplement the requirement of stocking materials in the country up to a large extent, which is a much needed input to achieve the enhanced fish production.

Steps taken to Promote Fisheries under the scheme of Blue Revolution

The Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmers Welfare under the Central Plan Scheme on Blue Revolution: Integrated Development and Management of Fisheries provides financial assistance to all State Governments and Union Territories including Lakshadweep for promoting fisheries Sector. The Blue Revolution Scheme, with its multi-dimensional activities, focuses mainly on increasing fisheries production and productivity from aquaculture and fisheries resources. Besides, the Administration of Lakshadweep is also implementing schemes for development of fisheries.

The Marine Products Export Development Authority (MPEDA), Ministry of Commerce & Industry has convened a meeting of officials of Kerala State Cooperative Federation for Fisheries Development Ltd. (MATSYAFED), National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT) and a representative exporter to explore the export prospects of tuna from Lakshadweep on 06-01-2017. One of the exporters has shown interest in setting up of tuna processing facility in Lakshadweep with the technical assistance from Japan. A team from the exporter side visited the Island during the second week of January, 2017. MPEDA has offered all possible assistance in this regard.

Central Government has established Banana Research Centre at Gorole, Vaishali, Bihar

Union Agriculture and Farmer's Welfare Minister Shri Radha Mohan Singh said that Bihar and particularly Vaishali district is very suitable for the cultivation of bananas and large scale production of banana can change the fate of farmers.

He further stated that this centre will work in the areas of finding reasons of less production in banana, enhancement in acreage for cultivation, suitable utilization of the various parts of the plants, different products, marketing and value addition.

Shri Singh said that Dr. Rajendra Prasad Central Agricultural University has already started the research work for doubling the income from banana cultivation. With starting this centre the research work will get more momentum.

Union Agriculture and Farmer's Welfare Minister further stated that the farmers of Maharashtra have developed a domestic and export market with the help of 26 cooperative societies operating in the state and thus has given a new direction in the field of banana cultivation. By adopting high density cultivation, tissue culture, drip irrigation etc. Maharashtra is transporting high quality bananas to the entire country through 12-15 thousand Railway Wagons.

Shri Singh further informed that the total production of banana in the country is around 14.2 million tons. India holds number one position in the world in the area of banana production and stands at number three in acreages which is 13 per cent of the entire acreage and 33 per cent of the total production. Among the states, Maharashtra is the largest producer followed by Tamil Nadu. Productivity of Maharashtra is 65.7 ton/ha, which is more than the average national production of 34.1 ton/ha. Banana is grown in Bihar in around 27.2 thousand hectare, production is around 550 thousand tons and average productivity is 20.0 ton/ha, which is very less than the national average.

Provide financial help to women to strengthen women cooperatives in the country: Shri Radha Mohan Singh

Ministry of Agriculture and Farmers Welfare earmarks 30% funds for the women in all of its schemes: Shri Singh

Deployment of one female scientist in every Krishi Vigyan Kendra made compulsory: Agriculture Minister

Agriculture Ministry decides to celebrate 15th October of every year as Female Farmer Day: Shri Singh

The net NPA of the NCDC has been nil and the recovery rate of the loans is more than 99.59%- Shri Singh

The Union Minister of Agriculture and Farmers Welfare, Shri Radha Mohan Singh has said that it is imperative to provide financial help to women so as to strengthen women cooperatives in the country as there is great potential for the development and success of women cooperatives. Shri Singh further said that if this movement continues, more and more women will be benefitted through women cooperatives. Shri Singh briefed it on a national workshop on the subject of strengthening of women cooperatives organized by National Cooperative Development Corporation (NCDC) in New Delhi. Almost 200 women linked with cooperatives across the country participated in the workshop and interacted with each other about different schemes related to women cooperatives.

Agriculture Minister stated that there is 1.2 billion population in India out of which about 70% population of India resides in rural areas. Women play an important role in sowing and harvesting process and in the aftermath scenario as well. Shri Singh further added that only about 20,014 cooperatives are run by women out of the 8 lakh cooperatives in the country. Shri Singh said that the Ministry of Agriculture and Farmers Welfare ascertains partnership of women in all of its schemes as well as its programs and earmarks 30% funds for women. Since, 2013-14, States and implementing agencies have been advised to utilize 10 to 20% of the funds for the livestock owned by women under the existing Centrally Sponsored/Central Sector Schemes for the empowerment of them.

In addition to this, the deployment of one female scientist in every Kendra has been made compulsory in 668 Krishi Vigyan Kendras spread all over the country. 3.1 lakh female agriculturists have been trained during 2016-17 by these Krishi Vigyan Kendras across the country. Apart from this, the participation of women agriculturists has been ascertained in different programmes like frontline demonstration and agricultural demo being conducted by Krishi Vigyan Kendras. Now, the Ministry of Agriculture and Farmers Welfare has decided to celebrate 15th October of every year as Female Farmer Day. A gender knowledge portal has been developed for women farmers in which the data and information related to women farmers have been displayed. Apart from this, the women have been linked actively with fisheries related activities like collection of fishery seeds, catch of small fishes, mussel, eatable oyster, collection of marine vegetation, fisheries marketing, fisheries processing as well as products development etc. They are providing training and micro financing for increasing their partnership and participation in fisheries sector so that their potentialities might be raised by organizing them in a cluster resulting in a spirit of inspiration towards this end.

Shri Singh further stated that the National Cooperative Development Corporation (NCDC) specifically aims to provide funds for the production of agricultural yield, processing, marketing, storage, export as well as import etc. NCDC provides financial assistance to women under the several programmes being run for weaker sections. NCDC provides loan upto Rs. 50 lakh for programmes related to women cooperatives. Further, the schemes above the range of Rs. 50 lakhs

enjoy the loans available on 0.50% and 0.25% less interest rate respectively. On this occasion The Minister said that a Central Institute for Women in Agriculture, Bhubneshwar has been established for women agriculturalists by Indian Council for Agricultural Research. This is the first and only institute for the women associated with agriculture in the world.

Thereafter, Shri Radha Mohan Singh also chaired the 81th meeting of General Council of the National Cooperative Development Corporation. On this occasion Shri Singh stated that financial sanctions amounting to Rs. 17,334 crore have been given till 28.02.2017 as well as a sum of Rs. 11,579 crore has been distributed. This amount is almost double as compared to the distribution target of Rs. 6000 crore this year. During this period the net NPA of the corporation has been nil and the recovery rate of the loans is more than 99.59%. Shri Singh congratulated the Managing Director, NCDC and her team for performing even better during the current year 2016-17. While expressing his expectations Agriculture Minister said that NCDC will continue its endeavors for the weaker sections through programmes related to fisheries, dairy, poultry, handloom, cooperatives concerned with SC/ST and specifically for the development of the cooperatives located in North-Eastern region as well as underdeveloped areas.

Crop varieties released by ICAR after 2011 should be promoted throughout India to achieve higher rate of varietal replacement

A Pre-Kharif Interface between Department of Agriculture, Corporation & Farmers Welfare and ICAR (Indian Council of Agricultural Research) was held last week in Delhi, chaired by the Secretary (AC&FW) and co-chaired by the Secretary (DARE). It was attended by senior officials from the Departments of Agriculture, Cooperation & Farmers Welfare; Animal Husbandry, Dairying and Fisheries; and ICAR/Agricultural Research and Education.

The objective of Interface is to jointly identify emerging researchable areas and evolve strategies for better implementation of the schemes and programmes of the Ministry during the coming crop season. The Ministry has a well established institutional mechanism for identifying critical and contemporary issues for research and technology/farm management practices. It begins with a Zonal Conference on agricultural inputs in the month of January, wherein the Divisional Heads of Department of Agriculture, Cooperation & Farmers Welfare/Department of Animal Husbandry, Dairying & Fisheries supported by their counterpart from ICAR hold meetings with State representatives and identify critical issues. These are deliberated further at the Ministry level and brought up before the Interface chaired by Secretary, DAC&FW. The issues deliberated upon and recommendations made during the Pre-Kharif Interface would be further shared with the State representatives during the forthcoming National Conference for Kharif Campaign 2017, scheduled on April 25-26, 2017. Simultaneously, all researchable issues will be shared with ICAR for appropriate research based solutions.

During the Interface, joint/common issues relating to Crops, Seeds, Plant Protection, Horticulture, Farm Mechanization & Technology, Natural Resource Management, Rashtriya Krishi Vikas Yojana, Integrated Nutrient Management, Extension and DAHD&F were deliberated upon. A few important decisions taken include:

- ✓ Crop varieties released by ICAR after 2011 should be promoted throughout India. The purpose is to achieve higher rate of varietal replacement.
- ✓ It was decided to request all the State governments to put seed indents for all the recommended varieties of various crops for their respective State, released after 2011.
- ✓ It was also agreed to have DNA fingerprint of all the released varieties for ascertaining their varietal identity and genetic purity.
- ✓ The Secretary, DAC&FW directed to identify different sources of supply of Gypsum, so that it is made available for enhancing the productivity of Oilseeds and Pulses, besides treating all problem soils.
- ✓ The Secretary, DARE stressed on developing transgenic groundnut, sunflower and castor varieties resistant to peanut bud/ stem necrosis disease, Alternaria and Botrytis diseases, as the search for resistance sources in the germplasm has not given the desired result so far.
- ✓ Among many issues discussed, the issue of application of drip irrigation technology in sugarcane cultivation throughout the country was stressed by the Secretary, DAC&FW, who referred to the law made by the Government of Maharashtra in this regard.
- ✓ It was also jointly decided that the consolidated laboratory for honey-testing will be established at IARI, New Delhi to promote the enterprise and take advantage of its positive impact on crop productivity.
- ✓ Both the Secretaries agreed to work for addressing the problems of the farming community by providing appropriate technology through proper dissemination mechanism.

The close coordination and cooperation amongst the three Departments of the Ministry was recognised by all participating members and it was agreed, that the same spirit shall be brought to bear upon the working to ensure food and nutrition security of the country in particular and growth of agriculture sector at large. The Chairman also highlighted the need to work jointly for realising the vision of the Hon'ble Prime Minister of doubling the farmers' income by 2022.

Shri Parshottam Rupala inaugurates NDDB's national workshop on improving feed production efficiency & quality control aspects of cattle feed plants

Shri Rupala launches NDDB's Cattle Feed Knowledge Portal

The Union Minister of State for Agriculture & Farmers Welfare, Shri Parshottam Rupala has said that agriculture is the back bone of rural economy in the country and dairying plays an important role in it. Even though India is the largest milk producer in the world, there is ample scope to improve per animal productivity. Shri Rupala stated it while inaugurating a National Workshop on Improving Feed Production Efficiency & Quality Control Aspects of Cattle Feed Plants organized by the National Dairy Development Board (NDDB) in Anand. Shri Dilip Patel, Member of Parliament, Shri Dilip Rath, Chairman, NDDB and Dr HPS Makkar, FAO, Rome graced the occasion. Around 200 cattle feed plant professionals from all over the country participated.

Shri Rupala said that with the increase in demand for milk, productivity of dairy animals should

increase. It is time to refocus our efforts in providing good quality feed and mineral mixture and put up concerted efforts in promoting different variants of compound cattle feed for different categories of animals. For ensuring quality in feed production, we need to have qualified trained manpower, efficient plants and machinery and technical expertise to produce right type of feeds. Shri Rupala thanked NDDDB for organizing this workshop to address all these issues with participation from dairy cooperatives all over the country. The Minister hoped that this workshop will discuss ways to achieve global standards in the feed production and requested NDDDB to take benefit from budget allocation by Government of India for modernization of dairy technology.

Shri Parshottam Rupala also launched NDDDB's Cattle Feed Knowledge Portal, an interactive knowledge platform on various aspects of compound cattle feed production. The portal will also have information on least cost formula for feeds, suppliers of feed ingredients, raw material specifications as well as a discussion forum to share information.

Shri Dilip Patel released a booklet titled Understanding Your Bovine. The booklet creates awareness on easily discernible signs of bovines so that corrective measures can be taken for management, feeding, health, hygiene practices, levels of discomfort etc, thereby avoid losses which at times could be disastrous.

While delivering the welcome address, Shri Dilip Rath, Chairman, NDDDB said that India's model of milk production is based on feeding crop residues and agricultural by-products and using family labour to add value to resources which otherwise have limited alternative economic value. It is in this context that the role of compound cattle feed in animal nutrition to help support the increase in milk production becomes significant. The Chairman said that feeding balanced ration can help the milch animals produce milk commensurate with their genetic potential with the attendant benefits of lower cost, increased SNF, higher immunity to disease, improved reproductive efficiency and reduced methane emissions. In the absence of adequate quantity of quality green fodder, concentrate feeds provide bulk of essential nutrients in the diet of dairy animals.

The Chairman, NDDDB informed that the dairy cooperative network produces about 3.6 million tonnes per annum with an installed capacity of about 5 million tonnes in 70 cattle feed plants. In addition the private sector produces an additional 4.5 million tonnes. A total of 8 million tonnes per annum is sufficient for only about 8 million of the more than 100 million breedable animals.

During the workshop issues related to cattle feed production, quality control aspects in a feed plant, improving feed production efficiency, latest trends in feed milling operation, least cost feed formulation and modernization of a quality control lab were discussed in details.

Shri Radha Mohan Singh inaugurates India's Western Regional Agriculture Fair – 2017 in Bikaner

Shri Singh, while addressing the people, said that most of the blocks in Rajasthan have gone into dark zones. In such circumstances, the scientists are to develop such techniques and high yielding varieties of seeds which are adaptable with lesser quantity of water. He further said that the farmers

and agriculture scientists should work together for the utilization of every drop of water in agriculture.

The Minister of Agriculture said that the government has initiated Pradhan Mantri Krishi Sinchai Yojana to channelise maximum potential for irrigation and to get rid of the problems related to drought. He added that the scheme aims at water for every farm. The government has started another ambitious programme titled as Soil Health Card Scheme for the farmers. Now, the farmers will be capable to get the knowhow of nutritious elements existed in their soil resulting in better production on their farms.

The Minister of Agriculture further said that Government of India has fixed an ambitious target for making the farmers income double in the next five years. To achieve this target, the out of box initiative has been taken instead of traditional system. Towards this, the establishment of National Agriculture Mandi E-NAM portal is an revolutionary initiative for the farmers with which farmers can sale their agricultural products on better prices in any of the mandis.

Shri Singh said that the agriculture budget for 2017-18 has been increased to Rs. 51,026 crores from Rs. 44,250 crores in the previous year. A separate fund has been set up amounting to Rs. 20,000 crores meant for irrigation with the assistance of NABARD. The government has increased agriculture loan up to Rs. 9 lakh crore this year which would enable the farmers to get more loans. He added that till 2013-14 under National Food Security Mission, only 3 crops – rice, wheat and pulses were covered. Now, seven crops viz. rice, wheat, pulses, jute, sugarcane, cotton and cereals have been covered under the mission.

Thereafter the Minister of Agriculture addressed the people in a function organized in Veterinary and Veterinary Science Univeristy, Rajasthan (Rajuvras), Bikaner. He said that for the first time in the country a new initiative titled as Rashtriya Gokul Mission has been initiated with the allocation of Rs. 500 crore for preserving and promoting the domestic species of bovines under National Bovine Breeding and Dairy Development Programme. Under this mission, 14 Gokul Villages are being set up and 35 Animal Breeding Centers are being made sophisticated by providing the bulls of improved species with the assistance of more funds. Further, 3629 bulls have been allocated for genetic improvement.

Shri Singh further said that government had incurred only Rs. 45 crores during 2007-08 to 2013-14 for the growth of the domestic species of bovines whereas the existing government has sanctioned a sum of Rs. 582.09 crores for 35 proposals obtained from 27 states only within a span of 1½ years by December, 2015. This amount has been multiplied 13 times more during two last years. Two new National Kamdhenu Breeding Centres (each in Madhya Pradesh – North India and Andhra Pradesh – South India) are being established for which Rs. 50 crore have been allotted.

The Minister of Agriculture said that for removing the shortfalls of trained veterinary physicians, the strength of veterinary colleges has been increased from 36 to 46 and the strength of the students to be admitted in these colleges has been increased from 60 to 100. The number of veterinary post graduate students has been increased up to 1½ times more. Even 1½ times more seats have been enhanced in veterinary colleges. Extensive modifications have been made in Veterinary Minimum

Standards Regulations, 2008 to transform the existing graduate veterinary courses and parameters as per the approved standards on global level.

Shri Singh further added that new scheme – National Bovine Productivity Mission has been started in November 2016 with the amount of Rs. 825 crores. This scheme is comprised of four components – Pashudhan Sanjivini Nakul Swasthya Patra, Unnat Prajanan Taknik, Rashtriya Desi Nasal Genomic Kendra, e-Pashudhan Haat. He further added that outbreaks have been reduced from 377 to 109 as compared to the year of 2013 by dint of the improved techniques for the treatment of foot and mouth diseases of animals under Animal Health Improvement Programme.

On this occasion, Minister of Agriculture briefed that total milk production during 2015-16 was 52.21 million ton which increased to 54.50 million ton in 2016-17. An increase of 4.38% has been recorded in the area of milk production.

Shri Singh briefed that Government of India has taken a decision to celebrate 3rd December as Agriculture Education Day to commemorate the anniversary of 1st President and Agriculture Minister of India, Bharat Ratna, Dr. Rajendra Prasad, for inspiration of youth. Similarly, it has been decided to celebrate 15th October as Women Agriculture Day. The government has decided to implement Pandit Deen Dayal Upadhyaya Improved Agriculture Education Scheme in 100 education institutes of the country so as to promote agriculture education on grass root level. He added that record 310 new species of crops have been released this year and 663 Krishi Vigyan Kendras have been set up to make the agriculture and livestock techniques accessible to the farmers.

Availability of certified/quality seeds increased in the country due to the policy initiatives of the government: Agriculture Minister

Besides vegetables, there is great potentiality to export hybrid maize, paddy, pearl millet and cotton seeds to SEI & African countries: Shri Singh

Indian seed industry has the potential to become a major industry to supply quality seeds in global markets: Shri Singh

The Union Minister of Agriculture and Farmers Welfare, Shri Radha Mohan Singh spoke about National Farmer Policy of the Union Government and said that the objective of this policy is to accelerate agricultural output, develop infrastructural facilities in the villages, promote value addition, expedite the growth of agro-business, create employment in the rural areas, ensuring better livelihood status of the farmers and agriculture workers and their families, discourage migration to urban areas and face the challenges emerging out of economic liberalization and globalization. Shri Radha Mohan Singh stated this on the inaugural function of Indian Seed Congress – 2017, in Kolkata. The theme of Seed Congress is “Seed of Joy” which is very much in line with vision of this government to bring happiness and prosperity in the lives of farmers by doubling their farm income by 2022.

Speaking on this occasion, Shri Singh said that on account of the strategic measures of this government, there has been enhancement in the availability of certified/quality seeds. The availability of certified / quality seeds in the country has increased from less than 40 lakh quintal during decade of 60 to 370 lakh quintal in 2015-16. Shri Singh further said that the Department of Agriculture, Cooperation & Farmers Welfare has asked the State Governments to prepare variety wise seed rolling plants to meet year wise, season wise requirements of quality seeds. This seed rolling plant will fulfil the double purpose of improving the Seed replacement rate along with Variety replacement rate so that sustainable agricultural production and productivity could be ensured.

Agriculture Minister further said that Indian Seed Market is growing fast and during the recent past, hybrid seed market of vegetables and cereals has shown remarkable growth. Shri Singh was of the view that Indian Seed Industry can emerge as a prominent industry for supplying seeds in international markets. India has great potentiality to produce hybrid seeds specially costly vegetable seeds on cheap rates as compared to the seeds of the other countries. Apart from vegetables, the hybrid seeds of maize, paddy, pearl millet and cotton may be exported to SEI and African countries in magnitude.

Shri Singh further added that the Ministry of Agriculture & Farmers Welfare is continuously attempting to streamline the regulatory framework in order to make it transparent, substantial and progressive. The Minister assured the representatives present that Central Government is making all out efforts to help them to grow even more, both domestically and in the international arena.

Shri Singh on this juncture said that under the able guidance of Hon'ble Prime Minister, Shri Narendra Modi, a number of schemes have been initiated. Pradhan Mantri Gramin Sadak Yojana, Pradhan Mantri Krishi Sinchai Yojana, Pradhan Mantri Fasal Bima Yojana, Pradhan Mantri Krishi Vikas Yojana, Paramparagat Krishi Vikas Yojana, Soil Health Scheme, Neem Coated Urea and E-National Agriculture Mandi Scheme's aim at to bring improvement in crop productivity as well as income of the farmers.

Shri Radha Mohan Singh said that the opportunities of employment have been created for the skilled men and women and the girls in the field of agriware housing, cold chain, supply chain, dairy, poultry, meat, fisheries, horticulture, agriculture mechanization as well as micro irrigation. Skill India Mission is being implemented for imparting opportunities as well as skills to the rural youth in rural areas.

Agriculture Minister placed emphasis on 7 points programmes laid down by Hon'ble Prime Minister, Shri Narendra Modi to make the income of the farmers double. The details there of are as follow:

- ✓ Big focus on irrigation with large budgets, with the aim of “per drop-more crop”
- ✓ Provision of quality seeds and nutrients based on soil health of each field
- ✓ Large investments in warehousing and cold chains to prevent post-harvest crop losses
- ✓ Promotion of value addition through food processing

- ✓ Creation of a national farm market, removing distortions and e-platform across 585 stations
- ✓ Introduction of a new crop insurance scheme to mitigate risks at affordable cost
- ✓ Promotion of ancillary activities like poultry, beekeeping and fisheries.

Centre is committed to the development & strengthening of the cooperatives sector: Shri Radha Mohan Singh

Cooperatives have provided direct and indirect employment to about 23.86 millions of people: Union Agriculture & Farmers Welfare Minister

The Union Minister for Agriculture and Farmers Welfare, Shri Radha Mohan Singh has said that cooperative societies have provided inputs like credit, fertilizer, seed and have established themselves in many fields of Indian economy such as dairy, banking, sugar, fertilizer, marketing, handloom, fisheries and housing. Shri Radha Mohan Singh has said this at Golden Jubilee celebrations of Cooperative Institution, IFFCO in Motihari. IFFCO is completing its 50 years of establishment on the 3rd November, 2017.

Shri Singh has said that IFFCO came into existence with only 57 cooperative societies in the year 1967-68 but, today, it is one of the largest cooperative societies of India. Now, it has more than 36,000 cooperative societies. Its business is spread over from general insurance to rural telecommunication apart from manufacturing and sale of manure. Agriculture Minister said that through its vast network, IFFCO is rendering its services to about 5.5 crores of farmers. IFFCO has extended its international involvement through important memorandum of understanding and agreements for supply of raw materials to many international fertilizer industries. He said that IFFCO is working for the prosperity of the farmers after providing environment friendly and real time reliable, high quality agricultural products and services. IFFCO is implementing several schemes and programmes for their welfare.

Shri Singh further added that the present government of the centre is committed to the development and strengthening of the cooperatives. The government has formed NCDC keeping in view of the importance of cooperatives in rural economy and it caters to the several dimensions and necessity of the cooperatives. Agriculture Minister said that there are more than 249 million of members of cooperatives in India in which 6.10 lakh cooperative societies and more than 71% rural families are the members of the cooperatives. Cooperatives have provided direct and indirect employment to about 23.86 millions of people.

Shri Singh hoped on this occasion that the production of the farmers will increase from the profitable schemes of IFFCO and it will help to get them additional income. The Minister said that cooperative societies should be made strong democratically and by providing occupational services to the farm labourers, we will have to make the rural people strong. Agriculture Minister also praised the Managing Director of IFFCO, Dr. U.S. Awasthi and his team for the best efforts and assured every possible assistance to the IFFCO.

Students trained in agriculture to come to forefront for bringing Second Green Revolution, : Shri Radha Mohan Singh

11 varieties of rice, wheat, mustard and pulses released during the year 2016: Union Agriculture Minister

The Union Minister of Agriculture and Farmers Welfare, Sri Radha Mohan Singh has said that for bringing the second Green Revolution in the country, students trained in agriculture will have to come to forefront and devote their knowledge and skills to agriculture and farmers' welfare. Shri Radha Mohan Singh stated this on the occasion of 55th Convocation of ICAR-Indian Agricultural Research Institute in New Delhi.

Shri Singh said that due to the presence of Pusa Institute in Delhi, there has been continuous development of agriculture in the adjoining states like Punjab, Haryana and Western Uttar Pradesh and due to this reason, two more Indian Agricultural Research Institutes (Assam and Jharkhand) have been opened, through which holistic development of agriculture is taking place in the entire country. Shri Singh said that due to adoption of crop varieties developed by Pusa Institute, meaningful and multiple changes have been observed. Earlier, we were dependent on other countries for food grains, but now we are helping other countries by providing food security. Agriculture Minister applauded the agricultural scientists of the country, particularly the scientists of the institute, for this achievement.

Shri Singh said that with cultivation of wheat varieties developed by Indian Agricultural Research Institute in 10 million hectares, 50 million tonnes of wheat were being produced. The contribution of Basmati rice contributes about 22 thousand crore in agricultural export exchequer of about 1 lakh crore rupees and in this, the contribution of Basmati varieties developed by Pusa Institute is about 90%.

During 2016, IARI has released 11 varieties of different field crops such as rice, wheat, mustard and pulses. Pusa Double Zero Mustard 31, a canola quality mustard, developed by the institute, is the first variety of high quality in the country having less than 2% Erucic acid and less than 30ppm glucosinolates found in oil-cake, which is conducive for human and animal health. He raised the hope that a state-of-art automated phenomics facility established by IARI would be useful to study the environmental stress. He said that this facility would be used in developing plants from which higher yield could be secured with less use of water and fertilizers.

Shri Singh said that ICAR-Indian Agricultural Research Institute (IARI), Pusa has developed an innovative, eco-friendly and cost-effective wastewater treatment technology through which waste water can be easily made pollution free and useful for irrigation purpose with less than 1% energy and less than 50-60 % investment and operational cost. The Minister expressed that this technology would be effective in checking the shortage of water and pollution of soil, ground water and food due to wastewater in future.

Agriculture Minister said that under the leadership of Hon'ble Prime Minister Sri Narendra Modi, a number of agricultural and farmers' welfare schemes had been stated to strengthen rural livelihood security besides promotion of food production. Prime Minister Crop Insurance Scheme,

Prime Minister Agricultural Irrigation Scheme, Farm Mechanization Mission, National Agricultural Marketing, Rural Storage Scheme and Soil Health Card Scheme, are a few to mention. These schemes would be prove helpful in doubling the income of farmers. At the end, Shri Radha Mohan Singh extended greetings and congratulated the students, parents, teachers and all the people associated with the convocation program.

The Secretary, ICAR, Shri Trilohcan Mohapatra, dignitaries, scientists, students & innovative farmers were present on the occasion.

Percentage of milk producers/farmers with bank accounts increase from 49.27% to 63.42% after demonetization

Cashless transaction to milk producers/farmers increases from 23.82% to 72.25% after demonetization

Consequent upon the Central Governments decisions of demonetization, certain unintended impacts have been observed especially in the sectors thriving upon sheer cash transactions. In this regard, non-availability of funds to the co-operative banks for making payments to Milk producers/farmers by dairy co-operative against the milk supplied by them came to the notice of the Government.

Responding promptly to the prevailing situation of reported payment problems, the Union Minister of Agriculture and Farmers Welfare, Shri Radha Mohan Singh has regularly reviewed and directed to take appropriate action to alleviate the problems. Meetings with Mother Dairy, Gujarat Cooperative Milk Marketing Fed (GCMMF) /Amul, Delhi Milk Scheme and other State Co-operative Dairy Federations are taken at regular intervals.

In order to take stock of the prevailing situation, the Secretary Animal Husbandry, Dairying and Fisheries, Shri Devendra Chaudhry has accordingly convened a series of meetings and initiated actions for streamlining the payment system to Milk producers and even sale of milk to consumers through cashless transactions primarily.

GCMMF/Amul has been specifically directed to ensure 100% milk producers accounts to be opened by 30th December, 2016. Similarly, other co-operatives have been directed to ensure the opening of 100% accounts of milk producers/farmers by 30th January, 2017.

Specific instructions have been issued to all the agencies such as National Dairy Development Board, Mother Dairy, Delhi Milk Scheme and all state Dairy co-operative federations for ensuring direct payment to milk producer's bank account at the earliest. Low penetration of nationalized banks and co-operative bank accounts in rural areas need adequate financial support with appropriate safe guards. This department vides D.O. letters dated 06.12.2016 have taken up the matter with the Department of Economic Affairs and

Reserve Bank of India to provide necessary funding support to the cooperative banks in rural areas with appropriate safeguard to protect the interest of milk producers and for timely payment of the milk supplied by them.

It is to be noted that there are 1.70 lakh Dairy Co-operative Societies (DCS) at village level having 1.6 crore milk producers affiliated with 218 milk unions. About 850 lakh litres per day Milk is procured totally, of which co-operative sector procures about 425 lakh litres per day and about 425 lakh litres per day is procured by private sector. The value of the milk procured by Village level DCS is to the tune of rupees 120 crore per day. For weekly and 10 days payment cycle the substantive amount is to be disbursed to lakhs of milk producers spread over varied geographical areas.

Using the window of opportunity opened by the demonetization decision, it is high time to accelerate the opening of bank accounts of all those unbanked milk producers to make it cashless and digital sooner than later. Eventually, transparency saving habits, financial enclosure etc. would be benefiting milk producer in multiple ways.

The situation of easing the payment to milk producers is being reviewed and monitored periodically by the Central Government.

As per information received from NDDDB and 23 major State Co-op dairy federations, the status of cashless payment to milk producers is as below:

Participating agencies i.e NDDDB Dairy Services and 23 State Milk Federations	No of Farmers (Nos in Lakh)				Details of payment done (amount Rs in Crore)			
	Total	with bank account	without bank account	% farmers having bank A/c	Total	through Bank accounts	through Cash	% cashless Transaction
Pre-Demonetization (1- 8th Nov 2016)	31.64	15.59	16.05	49.27 %	₹ 215.23	₹ 51.28	₹ 153.77	23.82 %
Post-Demonetization (9th Nov 2016 to 18 Jan 2017)	88.99	56.43	32.56	63.42 %	₹ 1,146.60	₹ 828.39	₹ 318.21	72.25 %

The above table shows that:-

- ✓ The percentage of farmers with bank accounts has increased from 49.27% to 63.42%.
- ✓ The cashless transaction to farmers after demonetization has increased from 23.82% to 72.25%.

- ✓ Due to close follow up, now only 27.75% farmers are being paid through cash, balance through bank accounts. Further that, the sale of milk has gone up by 2.81% in December 2016 as compared to December 2015 and the overall sale of milk from April- Dec 2016 has gone up to 328.91 lakh litres per day as compared to 321.43 lakh litres per day in April- Dec 2015.

It is evident from the above facts that situation regarding making cashless payment to the farmers has considerably improved over last two months and there is no negative impact of demonetization.

Investments

According to the Department of Industrial Policy and Promotion (DIPP), the Indian agricultural services and agricultural machinery sectors have cumulatively attracted Foreign Direct Investment (FDI) equity inflow of about US\$ 2,299.83 million from April 2000 to September 2016.

Some major investments and developments in agriculture in the recent past are as follows:

India and Brazil have signed a bilateral investment agreement, aimed at enhancing cooperation in areas of agriculture, cattle genomics, ship building, pharmaceuticals, defence production, ethanol production and oil and gas, between the countries.

Zephyr Peacock, the India-focused private equity fund of US-based Zephyr Management, has invested an undisclosed amount in Bengaluru-based potato seeds firm Utkal Tubers India Pvt Ltd, which will be used to produce high-quality mini-tubers in a tissue culture laboratory and multiply them in its own development farms and through supervised contract farming in different regions of the country.

Mahindra Agri Solutions Ltd (MASL), a unit of Mahindra & Mahindra Ltd, has agreed to purchase 60 per cent stake in OFD Holding BV, a Netherlands-based fruit distribution company, for Rs 36 crore (EUR 5 million), which will provide MASL access to European and Chinese markets for Indian grapes.

Mahindra and Mahindra Ltd has acquired 35 per cent stake in a Finnish combine harvesters manufacturer, Sampo Roselnew Oy, for US\$ 20.46 million and will jointly focus on the combine harvester business in Asia, Africa and Eurasian Economic Union countries.

Mahindra & Mahindra (M&M), India's leading tractor and utility vehicle manufacturer, has entered into pulses retailing under the brand 'NuPro'. Going forward, the company plans to foray into e-retailing and sale of dairy products.

Fertiliser cooperative IFFCO launched a joint venture with Japanese firm Mitsubishi Corp for manufacturing agrochemicals in India.

Acumen, a not-for-profit global venture fund, has invested Rs 11 crore (US\$ 1.7 million) in Sahayog Dairy, an integrated entity in the segment, based at Harda district in Madhya Pradesh.

Rabo Equity Advisors, the private equity arm of Netherlands-based Rabo Group, raised US\$ 100 million for the first close of its second fund – India Agri Business Fund II. The fund plans to invest US\$ 15–17 million in 10–12 companies.

Oman India Joint Investment Fund (OIJIF), a joint venture (JV) between the State Bank of India (SBI) and State General Reserve Fund (SGRF), invested Rs 95 crore (US\$ 13.94 million) in GSP Crop Science, a Gujarat-based agrochemicals company.

Road Ahead

The agriculture sector in India is expected to generate better momentum in the next few years due to increased investments in agricultural infrastructure such as irrigation facilities, warehousing and cold storage. Factors such as reduced transaction costs and time, improved port gate management and better fiscal incentives would contribute to the sector's growth. Furthermore, the growing use of genetically modified crops will likely improve the yield for Indian farmers. The 12th Five-Year Plan estimates the food grains storage capacity to expand to 35 MT.

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