



# 2017

## New Lessons Learned



The year 2017 survived on expectations and hopes, albeit, with much realization. The monsoon was fair in its arrival, although the southern states reeled under the conditions of drought. Okhi, the cyclone which ravaged the southern states also managed to inflict loss of life and crops. On the production front, the country witnessed reasonable production numbers. However, falling prices and glut destroyed the income prospects of the farmers. The year 2017 saw outbursts and protests among the farming community. The protests especially in Madhya Pradesh witnessed violence and loss of lives of farmers. The Yavatmal tragedy too consumed many farmers' lives. The year turned out to be difficult one for the farmers. However, several new schemes and programmes debuted this year. The most notable one being the GST, the effects of which are yet to emerge.

### Agriculture Production Balance Sheet

The year 2017 carried the scars of drought and patchy monsoon from previous years. Therefore the expectations from 2017 for a normal and bountiful rainfall and an ensuing successful agricultural production was rife. However, the rainfall in India's annual monsoon season was below average and less than forecast. Monsoon rains were 95 percent of the long-term average compared with the IMD's forecast of 98 percent, marking the fourth consecutive year in which the national weather office has overestimated likely rainfall. The monsoon, which delivers about 70 percent of India's annual rainfall, is critical for the farming sector that accounts for about 15 percent of India's economy and employs more than half of its 1.3 billion people.

A very good rainfall during monsoon 2016, however, had resulted in record foodgrain production in the current year. As per Third Advance Estimates for 2016-17, total foodgrain production in the country was estimated at 273.38 million tonnes which is higher by 8.34 million tonnes (3.15%) than the previous record production of 265.04 million tonnes achieved



during 2013-14.

Total production of Rice is estimated at record 109.15 million tonnes which is also a new record which is higher by 2.50 million tonnes (2.34%) than previous record production of 106.65 million tonnes achieved during 2013-14. It is also higher by 3.73 million tonnes (3.54%) than the five years' average rice production of 105.42 million tonnes. Production of rice has increased significantly by 4.74 million tonnes (4.54%) than the production of 104.41 million tonnes during 2015-16.

Production of Wheat, estimated at 97.44 million tonnes is also a record and is higher by 1.66% than the previous record production of 95.85 million tonnes achieved during

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2013-14. Coarse Cereals also registered at a new record level of 44.39 million tonnes which is higher than the average production by 3.04 million tonnes (7.36%). As a result of significant increase in the area, coverage and productivity of all major Pulses, total production of pulses during 2016-17 is estimated at 22.40 million tonnes which is higher by 3.15 million tonnes (16.37%) than the previous record production of 19.25 million tonnes achieved during 2013-14. Production of Pulses during 2016-17 is also higher by 4.77 million tonnes (27.03%) than their Five years' average production. Current

year's production is higher by 6.05 million tonnes (37.03%) than the previous year's production of 16.35 million tonnes.

With an increase of 7.27 million tonnes (28.80%) over the previous year, total Oilseeds production in the country is estimated at 32.52 million tonnes. The production of Oilseeds during 2016-17 is also higher by 3.27 million tonnes (11.17%) than the five year's average Oilseeds production.

Production of Sugarcane is estimated at 306.03 million tonnes which is lower by 42.42 million tonnes (-12.17%) 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 32.58 million bales (of 170 kg each), i.e. an increase of 8.57%, as compared to 30.01 million bales during 2015-16.

### Trading the Produce

India did register a good production on account of the bountiful monsoon the country received in 2016. However, India's agricultural exports declined to \$33.87 billion in 2016-17 from \$43.23 billion in 2013-14. The primary reasons for decline in export of agricultural commodities are low commodity prices that prevailed in the international market. However, import of agricultural commodities (including plantation and marine products) in 2016-17 rose to \$25.09 billion from \$15.03 billion in 2013-14. Our staples under the import category – oilseeds and pulses – showed a different trend this year.

India's vegetable oil imports have been reported to decline in 2017 by 19 per cent to 1.02 million tonnes for the month of January 2017, as against 1.24 tonnes in the corresponding month last year. The



overall import of vegetable oils during first three months of current oil year 2016-17, November 2016 to January 2017 stood at 3,410,008 tonnes as compared to 4,016,391 tonnes, down by 15 per cent on year-on-year basis according to the data compiled by the Solvent Extractors' Association of India (SEA).

The reason behind this development is good kharif oilseeds crop.

Despite the glorious production front, India's trade deficit, however has been narrowing. From a 150 per cent surplus of export over import, India's trade balance in agricultural and allied products has slipped in four years to near-equality. Data compiled by the Directorate General of Commercial Intelligence and Statistics under the Ministry of Commerce and Industry shows that India's exports of agri and allied products has declined by 25 per cent to \$24.7 billion for financial year 2016-17, as against nearly \$33 billion in 2013-14. In contrast, import of agri and allied products jumped in the same period to \$23.2 billion, from \$13.5 billion. Several domestic factors have attributed towards this plunging export import difference.

Since 2014, there was a drop in

the agricultural production owing to drought. The government responded to the situation by imposing restrictions on the export of rice, wheat and maize. The consumption however, was steady. Pulses and edible oil which were already deficient in terms of domestic production, was met for domestic consumption by imports. A strengthening dollar eased their import costs. The result was a narrowing of the trade surplus in agriculture and allied products.

A report prepared by a not-for-profit organization, Center for Environment and Agriculture (Centegro) emphasises the need to raise India's share in global agri exports to increase farmers' income automatically. The report was prepared in association with experts from Tata Strategic Management Group. The report stresses the need to quadruple India's agri and allied exports by 2022, if the farmers' income has to be doubled. Incidentally, there is enough space for India to attract a fair share of global market space. The World Trade Organisation (WTO) estimates global export in agricultural products at over \$1,500 billion annually, of which India's share stands at less

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than \$35 billion. By participating in the international market, India can efficiently handle excess production, thereby preventing fall in domestic prices.

The tapering trade deficit is a worrying trend and shows the unhealthy trend that India is espousing for short term gains. Experts aver that to double farmers' income by 2022, our strategy should be to increase consumption in the domestic and foreign markets. The domestic consumption, however, is robust considering the increasing population and improving living standards. Our focus should be to develop foreign markets and increase our share in the international market. Once a wider market is established, farmers are motivated to increase their production by resorting to better inputs and technology. The government should encourage exports and hence devise policies that would enable them to do so.

### **Union Budget**

The Union Budget 2017-18, unlike its predecessors, was presented on first of February 2017. This year Shri Jaitley in his budget speech reiterated

the government's commitment to double farmers' income in five years and have diverted a record level of Rs. 10 lakh crores to agriculture sector. Farmers will also benefit from 60 days' interest waiver announced on 31 Dec 2016. The budget also revealed the government intention to computerise and integrate all 63,000 functional Primary Agriculture Credit Societies (PACS) with the Core Banking System of District Central Cooperative Banks in 3 years at an estimated cost of Rs. 1,900 crores. Coverage under Pradhan Mantri Fasal Bima Yojana scheme will be increased from 30% of cropped area in 2016-17 to 40% in 2017-18 and 50% in 2018-19 for which a budget provision of Rs.9000 crore has been made.

Soil Health received major attention in this year's budget. The decision to start new mini labs in Krishi Vigyan Kendras (KVKs) and ensure 100% coverage of all 648 KVKs in the country for soil sample testing is a step in this direction. In addition, 1000 mini labs will be set up by qualified local entrepreneurs and Government that will provide credit linked subsidy to these entrepreneurs. Subsidy for the P&K (phosphatic and potassic) fertilizer segment has been marginally hiked by 6 per cent which will to an

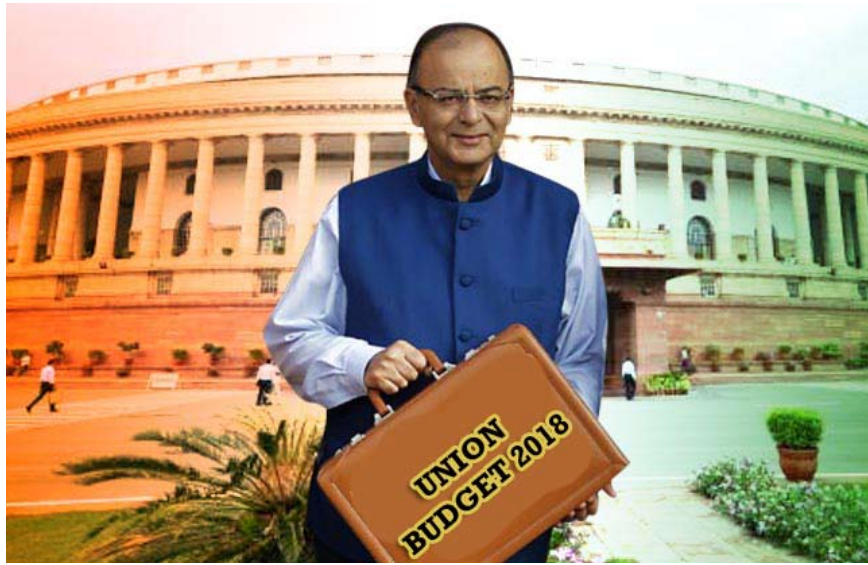
extent encourage their usage.

Irrigation was another area which received a major budget allocation. The Long Term Irrigation Fund already set up in NABARD was augmented by 100% to take the total corpus of this Fund to Rs. 40,000 crores. A dedicated Micro Irrigation Fund in NABARD to achieve 'per drop more crop' with an initial corpus of Rs.5,000 crores has been recommended.

In a bid to ensure the much needed marketing reforms, considerable impetus has been laid on agricultural marketing in this budget. The National Agricultural Market (e-NAM) which was launched last year has an expansion target from 250 markets to 585 APMCs. Rs. 75 lakhs has been earmarked for every e-NAM for establishment of cleaning, grading and packaging facilities with the intention of value addition of farmers' produce. The objective of doubling farmers' income will only be realized if farmers get appropriate price for their produce. This intention is very well reflected in the government's attempt to materialize market reforms. Shri Jaitley in his budget speech has been explicit in undertaking market reforms and even urged the states to denotify perishables from APMC giving the farmers the opportunity to sell their produce and get better prices. The budget has also proposed to integrate farmers who grow fruits and vegetables with agro processing units for better price realisation and reduction of post-harvest losses. A model law on contract farming is therefore being mulled to be circulated among the States for adoption.

Realising the potential of dairying in generating additional income to farmers, the finance minister has been generous in allocation to this sector. To enhance the availability of milk processing facility and other infrastructure, a 'Dairy Processing and Infrastructure Development Fund' would be set up in NABARD with a corpus of Rs. 8,000 crores over 3 years.

The budget thus gave emphasis on



**Global market for micronutrient fertilizers is expected to reach a market value of \$6291.3 million by 2022 from an estimated \$3922.2 million in 2016 with an annual compound growth rate of 8.2% during 2017-2022**

soil health, irrigation, processing and marketing by openly emphasizing their significance and apportioning impressive allocations. However, the budget for agriculture remained calm with



respect to introduction of new schemes or innovative ideas. It fully focused on the existing schemes. Many areas such as organic cultivation, biotechnology, pulse & oilseeds cultivation did not receive any mention or support. This was a huge let down considering the momentum they were gaining from the last years. Another key area that missed the attention of the FM was Climate smart agriculture.

Budget, post demonetization, was lukewarm for agriculture. The focus and emphasis was much centered on digitalization of monetary transactions. The resolve to double farmers' income largely remained in the finance ministers' repeated assertions in the budget speech and not reflected in the budgetary announcements.

### 2017- The year of loan waivers and Farmer Distress

Loan waivers have become a permanent fixture in our country. While the phenomenon has stayed with each government, 2017 witnessed a spurt in this altruistic gesture. So far, three major states—Uttar Pradesh (UP), Punjab and Maharashtra—have announced large-scale farm debt waivers. The debt waiver packages of UP and Punjab were aimed to fulfil poll promises made by the Bharatiya Janata Party (BJP) and the Congress party, respectively, in these two states. The cumulative debt relief announced by the

three states amounts to around Rs77,000 crore or 0.5% of India's 2016-17 GDP.

UP's debt waiver of Rs 36,400 crore is equivalent to one-fourth of the total estimated farm debt in the state. Punjab's debt waiver worth Rs 10000 crore is equivalent to less than one-seventh of the total estimated farm debt in the state. Maharashtra's farm debt waiver appears slightly more generous as it appears to cover almost one-third of the state's farm loans.

If poll-bound states—including Gujarat, Karnataka, Rajasthan and Madhya Pradesh—too announce farm debt waivers and extend it to one-third of farm loans in their respective states, then the aggregate amount of farm debt waivers before the 2019 elections would balloon to Rs 2 trillion, or 1.3% of India's GDP.

The year 2017 also was a year which showcased the wide spread unrest among farmers, and most of the loan waivers that were announced were done to appease the warring factions of farmers. The problem erupted in to a magnanimous proportion in 2017, when five farmers were shot dead at a protest in Mandsaur, Madhya Pradesh. The state as well as Maharashtra, had witnessed protests by the farmers who dumped vegetables and milk on the roads demanding debt waivers and better prices for produce. Farmers blocked highways in both states preventing delivery trucks from reaching city markets. Many of the

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A bountiful rain in 2016 that followed two consecutive drought years raised the expectations of a bountiful harvest, which materialized leading to glut. As a result, the prices plummeted which did not help farmers to emerge from the debts accrued in the previous season owing to poor monsoon forcing farmers to take to streets demanding support from the government. Loan waivers by neighbouring states made matters worse and demands for similar actions erupted among farmers. Besides the current issue, farmers are plagued perennially by lack of infrastructure, poor knowledge of market demands, price fluctuation, and dependence on monsoon among many other factors.

Farmers are staring at huge losses in earnings from this kharif season. The All India Kisan Sangharsh Coordination Committee (AIKSCC), a coalition of over 180 farmer unions, has put the numbers at Rs. 36,000 Crores, the amount lost due to poor price realization at the mandis. With major crop prices plunging below minimum support prices (MSPs), farmers losses stand at an estimated Rs35,968 crore in earnings for the kharif season. In the two weeks to 7 November, 2017, farmers, have incurred a loss of Rs. 6,283 Crore, having sold crops at lower than their support price as was quoted by the farmers' coalition. The analysis was done for seven major kharif (summer) crops—paddy, maize, bajra, soybean, groundnut, cotton and urd—by taking into account market arrivals and a weighted average of modal prices in major growing states.

The farmers are enduring a particularly lean period for the past seasons. The consecutive droughts were followed by three successive seasons of low crop prices. The estimates, according to the farmers'



organizations are conservative as the actual prices at which farmers are selling their produce are often lower than official wholesale prices. Even the MSPs fixed by the government seems to be unfair as they are lower than the cost of production as calculated by the Commission for Agricultural Costs and Prices. These include crops like jowar where the support price is 19% lower than the cost of production and pulses like moong for which the MSP is 2% lower than the production cost.

Agriculture has progressively become non remunerative and this year that assertion came quite boldly. The mounting cost of production and lowering commodity prices have affected the profitability of agriculture. The current wave of the economic turbulence in the country has deteriorated the farmers' position in the society. Farmers' suicides, protests and the reluctance of the younger generation to choose agriculture as a profession have all stemmed from the non-profitability of this vocation. It is high time the government lend the much needed support to the farmers and help them tide over this uncertainty.

### Yama of Yavatmal

2017 also witnessed another tragedy that struck the Yavatmal cotton farming community. Yavatmal, the cotton city of Maharashtra, fell victim to an avoidable tragedy. Around 36 farmers lost their lives when they came into contact with pesticides, while applying them on the cotton fields. Around 1800 farmers have been affected by the inhalation of pesticides so far. The cause of death has yet to be ascertained with finiteness by the authorities, but pesticide poisoning has been alleged as the main suspect.

The problems began as early as July, when farmers started developing discomforts that eventually led to fatalities of this magnitude. Experts have pinned the reasons behind the fatalities to the unscientific way of using pesticides. This year the application of pesticides extended for a longer time. Some blame it on the height of the crop and heavier foliage which incited the attention of the pest necessitating application of pesticides. Some believe that the current variety under cultivation was no more immune to boll worms, and the resultant pests were subjected to



a dangerous improvised cocktail mix of pesticides. Some even suggested the unfavourable environmental conditions like humidity that hastened the entry of the poison into the applicators body. The blame has also been put on the new type of sprayer, whose smaller droplet sizes caused rapid absorption of the chemicals in to the body.

Whatever be the reason, the situation calls for an assessment at the grass root level. Pesticide over use and misuse had become very common in India. Reports of pesticide residues over the prescribed limits are quite frequent. But a fatality of this scale is unprecedented in recent times. It brings to the fore a very pertinent question as to how safety is perceived among the farming community.

### The GM Gig

India's central biotech regulator, Genetic Engineering Appraisal Committee (GEAC), in May, 2017 cleared the genetically modified (GM) Mustard for commercial cultivation and recommended its approval to the environment ministry. There lies a very slim chance for this technology to be replicated in farmers' fields, as political compulsions may not side with this technology. It would most probably enjoy the same status as that of Bt Brinjal which got shelved under immense public and political pressure despite having bright prospects.

But the case of GM mustard is quite different from that of GM Brinjal, which was developed by Mahyco and vehemently opposed due to the involvement of corporate interests. GM mustard (DMH-11) however, was developed by a team of scientists at Delhi University led by former vice-chancellor, Deepak Pental under a government-funded project. Pental had filed the application for commercial release of the GM Mustard in December



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2015. The GEAC had subsequently set up a sub-committee to examine the safety aspect of the use of transgenic variety of the mustard. The sub-committee had last year given its safety clearance while noting that the GM Mustard is safe for human consumption and environment.

The GM mustard developed is scientifically a break through. Mustard is a self pollinated crop and hence attempts to hybridize them to evolve superior breeds economically has been a real challenge for the scientists. The genetically modified mustard uses genes from soil bacterium to render the parents male sterile and hence amenable to hybridization. According to Deepak Pental, the GM technology used in mustard has been used extensively for hybrid seed production in rapeseed which is widely cultivated around the world. The oil from rapeseed internationally branded as Canola, imported by India from Canada is made from the GM rapeseed. So technically, the Genetically Modified Foods have already entered India. The GM mustard in question unfurls a host of opportunities apart from the purported yield increment. For instance, the said variety can double up as a parental line for

conventional plant breeder to create his own creations.

While India is still inconclusive regarding its policy on GM technology, illegal trade of GM seeds was reported in 2017. This parallel market has drawn a huge crowd of customers. This illegitimate market is worth about Rs 472 crore according to Delhi-based South Asia Biotechnology Centre (SABC).

Backed by top scientists of India, SABC has reported that about 35 lakh packets of illegal HT cotton hybrids were sold this kharif season across the major cotton growing belts such as Telangana, Maharashtra, Gujarat, Andhra Pradesh, Odisha, Karnataka and Madhya Pradesh. Shockingly, around 8.5 lakh hectares or 7% of the total cotton growing area in the country, is under the illegal cultivation of Herbicide Tolerant (HT) variety. The HT cotton samples collected were tested positive for the presence of glyphosate tolerant gene. This amply suggests the extensive illegal and spurious sale of HT cotton which has not been technically and officially approved in India so far. The only Genetic Modification that India ascribes are hybrids/varieties that contain 'cry1Ac' and 'cry2Ab' genes, isolated from the soil bacterium *Bacillus thuringiensis* (Bt) and coding for proteins toxic to bollworm insect pests.

The existence of clandestine cultivation of HT cotton was reported as early as 2008. But the report has not received its due share of attention either from the government authorities or any other organizations. The trade continued and today it has reached a sizeable portion.

### The GST Gamble

July 1, 2017 – India saw another revolutionary reform as the country moved to the new Goods and Services Tax (GST) regime. Unifying

the country under a uniform tax code is slated to bring massive changes for consumers and producers.

The new tax structure eliminates the multitude of taxes, the rates of which changes considerably between states. Taxes under different headings -value added tax, infrastructure tax, rural development tax among many others would be abolished to make way for GST. This ensures a level playing field for farmers across the nation boding well for the successful implementation of National Agriculture Market. e-NAM (National Agricultural Market), a pan-India electronic trading portal launched by Ministry of Agriculture & Farmers' Welfare, Govt of India is intended to facilitate farmers, traders, buyers, exporters and processors with a common platform for trading commodities. The fragmentation of markets according to the existing marketing structure, hinders free flow of agri commodities from one market area to another and multiple handling of agri-produce and multiple levels of mandi charges ends up escalating the prices for the consumers without commensurate benefit for the farmers. NAM was designed to address these challenges by creating a unified market through online trading platform. The pre GST differential tax structure, however, was a major hindrance to the success of this idea. Thus

GST becomes pertinent for the successful implementation of NAM. Most of the indirect taxes levied on agricultural products, would be subsumed under GST. This will create a transparent, hassle free supply chain which would lead to free movement of agri-commodities across India.

GST rates for fertilizers were also brought down as the GST council reduced GST rate on fertilisers to 5 percent from 12 percent and on exclusive parts of tractors to 18 percent from 28 percent. Under the new rates, the average weighted maximum retail price (MRP) will decrease to Rs. 5909 a tonne (or Rs. 295.47 per 50kg bag) as compared to the existing all-India weighted average of Rs 5923 a tonne (or Rs. 296.18 per 50 kg bag). After GST, there will be a uniform MRP of Rs.295.47 per 50 kg bag across the country except couple of states where additional value added tax (VAT) is charged on natural gas. Similarly, MRP of P&K Fertilisers, for which the prices are not administered, are also expected to come down on an average basis as the incidence of tax will be lower than the existing tax on an average. The GST regime, apart from integrating the entire fertilizer market into a single market, will also deter inter-state smuggling of fertilizers due to differing levels



of taxes and consequently MRPs in different adjoining States.

However, bio-fertilisers, bio-pesticides and organic manures has been kept under the 18 per cent slab. A higher GST on bio-fertilisers and organic manures will promote the use of chemical fertilisers curtailing the prospects of organic farming. To promote organic farming and less chemical intensive agriculture, GST on biofertilisers, biopesticides/ biological control agents (BCA) and branded organic manure/ vermicompost/ farmyard manure (FYM) need to be reduced especially since these are suitable alternatives to improve soil health which has considerably degraded due to the over use of chemical fertilizers and erosion of organic matter content in the soil.

GST would also bring a sigh of relief to those farmers or traders who move their goods between states and who most of the time find themselves stuck in endless queues to get across state borders. The waiting not only affects the quality of the produce, but also discourage farmers from carrying out business. The GST aims to remove the hidden, cumulative costs of doing business in India and has the additional benefit of reducing food wastage.

### Indexing Agricultural Assets

Asset creation, although a significant factor deciding the development of agriculture, has not always yielded the desired result. Part of this discrepancy has been the result of a marked departure of reality from the records. To harmonise this incongruity and to ensure accountability, the government has decided to geo-tag all the agricultural assets in the country.

An MoU has been signed between Ministry of Agriculture and National Remote Sensing Agency (NRSA), ISRO for geo-tagging every piece of agriculture land created

under Rashtriya Krishi Vikas Yojna (RKVA) in the country. An exercise that guarantees better land and crop management, will tag geographical identification parameters like latitude and longitude to various media such as a photo or video which eventually will help users to find a wide variety of location-specific information from a device. It provides users the location of the content of a given picture.

National Remote Sensing Agency (NRSA)'s software platform, Bhuvan, allows users to explore a 2D/3D representation of the surface of the Earth. It also acts as a platform for hosting government

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data. Bhuvan Application Services that are diversified and relevant for many ministries have already been released. The assets created under RKVY could be monitored by geotagging them using BHUVAN, a geoplatform of National Remote Sensing Centre (NRSC) of ISRO, Hyderabad. In future, the location of the infrastructure created and distances from each other could also be utilised for arriving at distribution of assets and optimum number of that particular asset required in a district or state. The process involves development of a mobile app for mapping the assets through photographs and geo-tagging before hosting on to DAC –RKVY platform that would be specially created for RKVY monitoring. Since 'Bhuvan' is an open-source mapping platform, these assets will probably be visible

for public viewing as well. Geo-tagged assets will not only ease identification and monitoring; it can also be implemented to perform additional developmental works on existing assets like creating watershed and drought-proofing irrigation facilities through terrain mapping.

Geotagging holds immense potential in scientific planning of infrastructure projects. Several assets have been created in the states under various schemes of the Ministry of Agriculture. Under RKVY also, states have been utilizing substantial amount of funds for creation of infrastructure/ assets in agriculture and allied sectors such as soil testing labs, pesticide testing labs, bio fertiliser setting units, custom hiring centres, vaccine production units, veterinary diagnosis labs, dispensaries, milk collection centres, fish production units, godowns, cold storage, shade nets, pandals for vegetable cultivation etc. Monitoring of such wide spread activities is of paramount importance to states and Government of India to understand flow of funds, inventorising the assets, bringing in transparency, planning of assets for future, and finally informing the farmers about the facilities available.

The technology would provide crop-wise details as evidence in case of crop damage and enable officials to verify claims. In terms of land management, satellite imagery would be used to cross check with the details on the ground. Ultimately, there would be data base of all lands under the Ministry.

Geotagging has already been successful with some departments in the government ministry. Ministry of Rural Development has very well utilized this method for monitoring of assets for MGNREGA and Department of Land Resources for monitoring of watershed activities

in the states. Postal department has also geotagged the post offices using NRSC Bhuvan Platform.

More than 1.5 lakh assets have been created/ developed under RKVY in agriculture, horticulture, livestock, fisheries and dairy sectors. It is high time a system is put in place to monitor them, index them and eventually understand them. This progressive step has immense potential in agriculture not only in creating transparency in the existing schemes but also for formulating development schemes in the agriculture sector.

### DBT in fertilizers Debuts

Enthused by the success of Direct Benefit Transfer (DBT) of fertilizers implemented in pilots districts, where fertilizer subsidies were transferred to manufacturers on the basis of actual sales, the pan India roll out of the scheme is expected to pave the way for implementation of the direct benefit transfer (DBT) system in this sector with a potential to save up to Rs 7,000 crore by plugging leakages.

A variant of the actual DBT scheme, subsidies for fertilizers are not transferred to the actual end users – the farmers. Instead, the difference between the actual value

and the subsidized price of fertilizer is deposited in the companies' bank account after actual details of sales through the Point of Sale (PoS) is furnished. Implementation of DBT in the strict sense is difficult to be materialized in the fertilizer segment, atleast not in the near future as the beneficiaries and their entitlement is not clearly defined. Multiple subsidized products, urea and 21 grades of Phosphatic & Potassic fertilizers have different subsidy rates. The subsidy rate in respect of urea varies from company to company due to different production processes, energy efficiencies of plants, vintage etc. As the amount of subsidy in some fertilizers, particularly urea is more than double the MRP, it will be a huge financial burden on the farmers to pay the MRP and subsidy upfront and receive the subsidy amount subsequently.

Apart from this, DBT scheme for fertilizers also differ with other subsidy schemes in terms of the quantity delivered to the end users. Unlike other subsidy schemes as in the case of LPG or food grains, where subsidy is capped for certain quantity per household or individual, the government has chosen to adopt the "no denial" policy in the case of fertiliser sale. Anyone who presents

his Aadhaar number will get the fertilizer at subsidized rate.

To ascertain the actual quantity of fertilizers required, the retailers have the added responsibility of recording the quantity sold to farmers whose authentication is done through Aadhaar cards, voter IDs or Kisan credit cards. This requires the mammoth task of installing PoS machines across the entire registered fertilizer retail stores in India which runs to around 2 lakhs in numbers. So along comes with it the inherent difficulties associated with the working of PoS - network failures in PoS operations and biometric authentication glitches. Besides this, the perennial issue of delay in payment of subsidies to the manufacturers after the companies have incurred all cost upfront will affect the program to roll out smoothly.

The scheme apart from plugging the leakage of subsidies and diversion of fertilizers to non-agricultural uses, can also assess the fertilizer quantity that is actually sold across the country. Beyond this, the quantity can be linked to the soil health card scheme to ascertain the actual need of fertilizer. However, the soil health card scheme has by far achieved only 40% of its target. Once it attains completion, the country's actual fertilizer need can be assessed and the fertilizers can be delivered accordingly. Apart from saving subsidies, the DBT scheme in the future can regulate the fertilizer sale per farming unit in an attempt to contain the malaise of overuse and hence bring in a balance of nutrients in the soil. Against an ideal combination of 4:2:1, NPK national average of 7:3:1 has resulted in drastic reduction in crop yields over the years. To ensure nation's food security, it is imperative to scale down this ratio and bring in a more economical and efficient fertilizer usage.



## India Labels its Organic Products

India will finally have a uniform code for products sold as organic. In 2017, Food Safety and Standards Authority of India (FSSAI) unveiled a unified regulation on organic foods to ensure that these food items are actually organic. At the Organic World Congress held in Greater Noida recently, FSSAI revealed a common logo for organic foods as a symbol of authenticity and trust. Agriculture Minister Radha Mohan Singh launched the Food Safety and Standards (Organic Foods) Regulations 2017, along with the 'Jaivik Bharat' logo and 'Indian Organic Integrity Database Portal' at the event. The portal, developed by FSSAI along with APEDA and PGS-India, would help consumers verify the authenticity of organic foods. FSSAI is mandated to regulate organic food in the country under the provisions of Section 22 of the Food Safety and Standards Act, 2006.

This is a significant development for India as this brings to a closure the debate over the authenticity of organic foods that are sold under that label in India. Organic food market is a booming market in India as consumers become more wary over the ill effects of conventional agricultural products that are raised with chemical fertilizers and pesticides. However, most of the products currently sold in India under the label of organic never carries any stamp of authenticity and hence viewed with suspicion and mistrust. With a certification procedure and norms in picture it will be a sigh of relief for customers.

So the new regulations would require any food to be sold as 'organic' in India to be certified under either of the two prevailing systems - National Programme for Organic Production (NPOP) regulated by the Union Ministry of Commerce &



Industry and Participatory Guarantee System for India (PGS-India) of the Union Ministry of Agriculture and Farmers Welfare. These regulations also carries provisions for recognition of other certification systems in the future. Earlier only food products meant for export have to be certified and the agency was that of NPOP system. The PGS-India system, on the other hand dealt with domestic market only and it was voluntary. Small producers or producer organisations making direct sale to end consumers are however, exempt from mandatory certification. Import of organic food into India would be possible under the new regulations without being re-certified in India if the organic standards of the exporting country have been recognised as equivalent to NPOP.

The products certified by the new set of regulations will also henceforth carry a logo for organic food from India called 'Jaivik Bharat' which would integrate the logos of both—the NPOP system and PGS-India. With an intent to build consumer trust in organic

food and also to accelerate growth of trade in organic food including export, the FSSAI has also launched a portal called 'Jaivik Bharat' to help consumers verify the authenticity of organic foods and also to share their grievances.

These steps are a welcome move as it gives the consumers' confidence to buy labelled organic products. Most importantly streamlining of products and a uniformed logo will remove confusion and guarantee to develop a stable demand and a regular market for these products. An assured market will help in increasing the organic cultivation in the country. Since the products are sold at a premium price, it will aid in better profit realization for the farmers.

The year 2017 thus brought with it some tragedy and misery for farmers. Falling prices and the inability of the government to protect the farmers from market forces destroyed their financial prospects. Having learned from this, the government and farmers can make some informed choices in the coming year.



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# ANTICIPATORY RESEARCH TO FACE UNCERTAINTIES IN THE MONSOON AND THE MARKET

**A**griculture Today is rendering very valuable service in highlighting the problems facing our agriculture. 2017 has been a difficult year to farmers both due to the uncertainty of the monsoon and the market. The recently concluded World Trade Agreement Negotiation has created further problems for developing countries. I would like to highlight a few of the problems which will need attention during 2018:

## Managing price volatility in urban food security

Currently, the price of tomato, onion and other commodities used extensively in urban areas is going up. Such price volatility is a perennial problem. We should find a permanent solution than merely take adhoc steps to pacify the consumer. A feasible method is the promotion of peri-urban horticulture. Considerable areas of land are available both within cities and nearby areas and they can be used to promote a peri-urban horticulture movement involving the cultivation on rooftops and vacant land with crops like tomato, onion, chilli and other essential food plants. This will confer a double advantage – price stability on the one hand and sustainable nutrition security on the other.

A couple of months ago I had written about the hardship caused to the growers of natural rubber in Kerala as a result of low price. Currently, rubber farmers are experiencing considerable price improvement. But unfortunately, their hopes for higher production will depend upon monsoon behaviour. Extreme heat and drought will reduce the production of latex. In this context, we should take two steps to achieve price stability. First, as suggested by me in a report about

10 years ago, the Governments of Kerala and India, should jointly establish a Price Stabilization Fund. Secondly, drought tolerant and climate smart clones should be planted, while taking up new plantings. The Rubber Research Institute of India (RRII) at Kottayam has developed drought tolerant strains of natural rubber through genetic modification. Because of their GMO origin, they have not been approved for field trials. We should permit field trials since such clones can be of immense value in an era of climate change. Also, the area under natural rubber can be increased in Northeast India with such clones. Natural rubber is one of our greatest assets and through a combination of technology and public policy we should be able to achieve sustainable production and price stabilisation.

## Burning of Rice Straw and Atmospheric Pollution

There is considerable debate going on at present among states, political parties and professionals about the methods of avoiding the burning of rice straw. It is also attracting attention at the legal level. In order to help farmers move away from this practice which is caused by the need to prepare the rice field for sowing wheat on time. Market driven alternatives should be demonstrated. There is no policy so far for biomass utilization. The Rice Bio-park established by MSSRF on behalf of the Government of India in Myanmar is a good example of how farmers can have options in ecologically safe use of the straw, the bran, husk and other parts of the plant. Money spent to prevent farmers from burning straw can be utilized better to demonstrate the value of community owned and managed bio-parks. This will also



Prof. M.S. Swaminathan

help to achieve a doubling of farmers' income during the next five years.

## Making National Nutrition Mission a Success

Government has approved a National Nutrition Mission with a three year budget of Rs. 9,000 crore. This is government's response to the widespread malnutrition resulting in children with impaired cognitive abilities. For the Nutrition Mission to be successful, it should be designed on a mission mode with symbiotic interaction among components and with a Mission Director who has the requisite authority coupled with accountability. Earlier Missions were not successful because the concept of the Mission was not fully operationalized. For example, the Nutrition Mission should have the following interactive components to make it a success:

- Overcoming undernutrition through the effective use of the provisions of the Food Security Act and also taking advantage of the enlarged food basket which includes millets in addition to rice and wheat.
- Assuring enough protein intake through increased pulses production and increased consumption of milk and poultry products.
- Overcoming the hidden hunger caused by micronutrient malnutrition through the establishment of genetic gardens of biofortified plants.

- Ensuring food quality and safety through steps for the adoption of improved post-harvest management.

In addition to the above, there is need within the mission for provision of clean drinking water, sanitation, primary health care and nutrition literacy. Further we must ensure that Community Hunger Fighters well versed in the methods of applying agricultural remedies to nutritional maladies are trained with the help of agriculture universities. The Nutrition Mission should have proper monitoring tools so that the efficacy of the intervention can be judged. Thus the term Mission should not only be in terms of a project title but more importantly in the procedure of implementation through synergy and symbiosis among different components of balanced nutrition.

### WTO and Food Security

Minister Suresh Prabhu deserves our gratitude for indicating at the Buenos Aires meeting of WTO that there can be no compromise on food security. WTO exists for promoting free and fair trade. The term "fair" should include the protection of the livelihood and food security of a majority of our people who depend on farming for their livelihood. This is why even in 1992, I suggested that there should be a livelihood and food security box which takes into cognizance the fact that agriculture in many developing countries including India is not just a commercial enterprise but it is the backbone of the livelihood security system of a large proportion of the population. This difference between a purely commercial activity and serving as a livelihood security profession should be kept in view while dealing with issues like food security reserves, and food security act. In other words, WTO should recognise the support needed for achieving Goal 2 ("End hunger, achieve food security and improved nutrition and promote sustainable agriculture") of the sustainable development decade. This should be the basis of the negotiation in agriculture.



### Mrityunjay Singh, Managing Director, CLAAS Agricultural Machinery Pvt Ltd

"As we move to 2018, the industry continues to expect support from the Government and the farmers to adopt variety of farm equipment specialized for various operations. Harvesters, Balers and Transplanters will help improve efficiency of farm operations and tackle specific problems like those of stubble burning. By growing the network of custom hiring centers, subsidizing equipment where required and empowering farmers to progress, will help mechanization reach the grassroots of Indian fields"

### "India to see balanced fertilizer use in 2018"

I foresee the Indian agriculture will get a major boost in terms of balanced fertilizer use in the coming year. The Hon'ble Prime Minister, Shri Narendra Modi's recent appeal to the farmers to cut the urea consumption by half, will have a major positive impact on the balanced nutrition, specially, keeping in view his greater call for doubling the farmers income by 2022.

It would be imperative to mention here, since urea is out of the ambit of Nutrient Based Subsidy (NBS) Scheme, farmers have been using urea more than it is actually needed, being the cheapest among the macronutrient fertilizers, distorting the nutrient use ratio in the process.

In fact, the Government's decision to reduce the urea bags from the present 50 kg to 45 kg is a welcome move and a step towards balanced fertilizer use. Farmers can now follow the recommendation based on the Soil Health Cards (SHC), a key movement in Indian agriculture now, for balanced use of fertilizers in maintaining soil health and higher farm income.

In addition, reducing the GST rates on micronutrients from 12% to 5% and bringing it at par with the N,P,K would help the farmers in applying more micronutrients in their farms. Needless to mention that the deficiency of micronutrients like zinc is widespread in Indian soils, which is not only deteriorating the crop yield and quality, but also impacting the human health adversely, leading to widespread micronutrient malnutrition in India.

Furthermore, approving the Zincated Urea by the Government, which was included in the Fertilizer Control Order (FCO) way back in 1990's, but still pending due with the Government, will certainly ensure the replenishment of this critical micronutrient, zinc -essential for life, into the soils, crops, livestock and humans.

I am sure, the Government will take a favourable policy decision in the coming year, to encourage the farmers in practicing balanced fertilizer use to realise the Hon'ble Prime Minister's bigger dream of doubling farmers income by 2022.



**Dr. Soumitra Das**  
Director - India, Zinc Nutrient Initiative,  
International Zinc Association



## “Expecting the Government to develop Policy Initiatives for encouraging Pesticide Use”

**D**hanuka Group is in the forefront in introducing eco-friendly crop protection products along with farmer’s training about agri-technology for rational use of inputs to optimize return from their investment. The Group is also actively advocating ‘Dhanuka Kheti Ki Nai Takneek’ which focuses on Integrated Crop Management, along with capacity development of Agri-input dealers who are still the primary source of knowledge for the farmers. Our Group was the first to join hands with the National Institute of Agricultural Extension Management (MANAGE), Hyderabad in their out-reach Diploma (DAESI) for Agri-input dealers. On our initiatives under public-private partnership, three SAUs in Gujarat- Anand, Navsari, and Junagadh have also launched a similar out-reach diploma, and look forward to more SAUs coming forward for creating a credible agri-technology provider work-force of agri-input dealers across the country.



**Shri R.G. Agarwal**  
Group Chairman  
Dhanuka Agritech Limited

At a time when the country is looking for ‘Doubling Farmers’ Income’, can we afford the avoidable colossal loss of around Rs 4 lakh crore per annum by pests? In the coming year, we look forward to working more in public- private partnership and private-private partnership and continuous capacity building of farmers through increased use of ‘artificial intelligence tools’ to provide timely customized advisory for a specific farmer to enable him to go for adoption of safe and judicious use of pesticides, which are highly cost effective. We expect the Govt. to come up with policy initiatives for encouraging pesticide use which at present is limited to a few areas and crops; reduction in GST on pesticides; and campaign to overcome the unfounded myths about pesticide use. As a part of innovation and differentiation, Dhanuka Group will telecast in the very start of 2018, a 13- Episodes programme on National Channel-ABP News, in which several renowned scientists from the National Agricultural Research System would be sharing their views on how to make the national goal of ‘doubling farmers’ income by 2022’ a reality.



**Mr. Raman Mittal**  
Executive Director, Sonalika International Tractors Ltd

## “India offers huge opportunity for tractor industry”

**G**ood monsoons this year has led to a buoyant tractor industry with growth of 15.5% YTM (April-Oct’17) which is so far the highest ever for the period, while Sonalika has registered growth of 20% during the same period, gaining market share. The country witnessed two major policy changes, demonetization and GST. During demonetisation, industry de-grew (-13.5%) in November’16. However, we at Sonalika, practise a lean inventory structure and during this time, we remained connected with our farmers and channel partners. With the cash flow situation improving and other factors being conducive, farmers started purchasing tractors. December’16 witnessed recovery with industry registering growth (+7.7%) and we continued to grow (+18%) faster than industry, thus gaining market share. There was a minor blip in tractor sales momentum during June 2017, when participants postponed purchases and de-stocked ahead of implementation of GST.

India offers huge opportunity for tractor industry as the tractor availability is quite low at 20 per 1000 ha, as per CRISIL. India has 670,000 villages but industry-wide sales have never crossed the number of one sale per village in a year, hence the potential to grow is huge. In order to address these growing needs, we at Sonalika firmly believe not only in the concept of make in India but also in make quality in India with customized product offerings to meet the needs of farmers across the globe.”