

Agro-Economic Alerts

Aiding the future of India's farmers and agriculture



For kind attention of:

The Hon'ble Prime Minister's Office,
the Ministry of Agriculture and Farmers Welfare,
and all others interested

**Emerging critical situations
and threats in India's
agricultural economy**

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Alert 1: No Ear (Cob) Formation in Rabi Maize in Bihar

Key highlights

- Bihar contributes nearly 11 percent to the total maize production of the country. About 55.4 percent (2016-17) of the total maize was produced during the Rabi season alone.
- The State Agriculture Department has recognized 11 districts of north Bihar and Seemanchal region as the 'Maize Road'.
- However, during the 2017-18 Rabi season, it was found that there was no formation of ears (or cobs) in the maize crop in several districts of Kosi region and northern Bihar.
- The main reasons attributed for the same are long spells of cold at a stretch (around 40–50 days) and late sowing of seeds (after October).
- Consequent upon no ear formation in maize crop, reportedly, two farmers have committed suicides.

Observations

- Experts affirm that the reasons the maize crop is not producing ears at all are the non-resilient varieties of seeds and the climatic stresses.
- The Department of Agriculture has constituted a five-member enquiry committee and the committee has been directed to submit the report after making an assessment of crop losses.
- The Disaster Management Department of the Government of Bihar has decided to compensate the loss at Rs. 13,500 per hectare for irrigated field, Rs. 6,800 per hectare for unirrigated field and the minimum compensation of Rs. 1,000 per hectare

against the estimated cost of production at Rs. 50,000 per hectare.

- As per the estimates, compensation will have a tentative cost of Rs. 200 – Rs. 250 crores.
- Farmers have been staging protests and have put forward their demands before the District Magistrate, Bhagalpur. Various demands of the farmers' unions include waiving off of borrowings and land tax and registration of share croppers for getting the benefits of government schemes.

Actions suggested

- Despite several visits by state officials, the compensation amount is yet to be distributed. Hence, the process must be accelerated.
- As per the guidelines of Pradhan Mantri Fasal Bima Yojana (PMFBY), comprehensive risk insurance is provided to cover yield losses for standing crop only. Such a risk of no formation of ears in the maize plants should also be included in the ambit of PMFBY.
- Value chain for maize should be strengthened where maize processing companies can offer production contracts that include better seed provisioning to farmers who are not aware of the best products in the market.

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Information sources:

Field observations during 2017-18 on maize study allotted under the AERC work plan.

Alert 2: Coconut Cultivation in Lakshadweep Hit by Rat Menace

Key highlights

- Coconut is the only major crop in the islands of Lakshadweep and has been grown for centuries. Farming activities in these islands are essentially coconut based.
- Owing to the rapid subdivision and fragmentation of holdings, the farmers practice very close planting and plant a large number of seedlings on the boundaries or corners to mark their fields, thus creating overcrowding of coconut trees in all the islands.
- Besides the problems like non-systematic and non-scientific cultivation pattern, predominance of senile and unproductive palms and shortage of skilled palm climbers, the cultivation of coconut in the Islands is now suffering from massive attack of rodents.
- In the 'West Coast' variety of coconut, a level of 28.5 percent damage by rodents was calculated and in the 'Laccadive' variety the damage ranged from 10.2 to 20.5 percent. The house rat also called 'Rattus rattus' was found to be the predominant rodent species.
- In Lakshadweep, around 6 million coconuts worth 35 lakh rupees are damaged per year. The estimated loss to coconut crop is about 55 percent in the Island of Minicoy alone.
- Placing rat cake over the crown was recommended by the Indian Council of Agricultural Research (ICAR) – Central Plantation Crops Research Institute (CPCRI) and farmers found it to be very helpful. However, this means of rat control has now been banned by the Island authority as the

Territory as a whole is in consideration for Organic Cultivation Certification, which has made it extremely difficult for the farmers to manage the rats.

Observations

- An average of 400-500 coconut trees are grown in one hectare of land as against 170-200 normally recommended for optimum yield. This practice has resulted in a very low yield even in the absence of any major diseases.
- It is estimated that rodent attack causes 33-44 percent damage to coconut palms in the Islands.
- Major reasons attributed for the increased rat damage are higher density of coconut palms, inadequate crown cleaning, delayed harvest of nuts, heaping fallen fronds in the farm and the absence of predators like snakes and owls in the islands.
- Since the planting density is excessively high in Lakshadweep, physical barriers such as metal bands on the trunk are ineffective. The proximity of the palms allows the rats to transit easily among adjacent trees on overlapping fronds. Rodents use the crown of the palm for feeding and nesting and in this way they never have to come down to the ground.
- The damage caused by rats includes gnawing of the husk to reach the soft shell or inner shell and feeding on the coconut water. Approximately a week after penetration of the husk, the nut falls prematurely and is highly unsuitable for commercial purpose.

Figure 1: The damage caused by rats to the coconut



Source: AERC, Chennai

Actions suggested

- Coconut plantations should be thinned by the removal of unthrifty senile/uneconomical old palms.
- Extensive intercrop management needs to be popularized by cultivating crops other than coconut, adaptable to the agro-climatic conditions of the territory in the interspaces of the coconut plantation such as papaya, fruits, vegetables, pulses, vanilla and tuber crops.
- Continuous investigations should be made to obtain the characteristics of this damage and the actions must be taken for reducing it or for compensating the farmers' loss.
- Traditional control measures such as crown baiting should be undertaken through continuous training, which is recommended during late summer on a community and area basis.
- Timely cleaning of coconut crown could reduce the chances of rat settlement and breeding over crown of the palms considerably.
- In connection with the adoption of traditional control mechanisms, periodic inspections should be conducted to measure the reach and effectiveness of the control programs.
- Rat control by bringing owls to the Island (as a means of non-toxic rodent control) could be experimented, subject to the preservation of the Islands' exclusive biodiversity.
- Agricultural research institutes should take initiatives to find an organic substitute for the previously used rat cake (by CPCRI), since it was the most effective measure.

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Information sources:

Secondary research as well as consultations with agricultural officers, field visits and interactions with farmers in Lakshadweep.

Alert 3: Problems in the Implementation of GST on Selected Agricultural Inputs in Gujarat

Key highlights

- Value Added Tax (VAT), excise duties and other indirect taxes were replaced by Goods and Services Tax (GST) in all the Indian states including Gujarat effectively, in July 2017.
- GST was announced on some agricultural inputs too, including on some subsidized items, such as fertilizers.
- After being introduced in July 2017, GST rates were revised on September 9, 2017; November 10, 2017 and January 18, 2018.
- Various stakeholders associated with agriculture like wholesalers and retailers lack clarity regarding GST rates and the implementation of the same.
- Lack of internet connectivity, slow speed and sometimes disrupted access to the GST portal due to server issues has made it difficult for certain vendors to complete their details in time in the new GST regime, particularly in rural areas. As a consequence, they are forced to pay the penalty on per day basis for the delay in GST compliance.

- According to vendors, net impact on farmers is largely negligible since prices did not vary much after GST as compared to the previous Maximum Retail Price (MRP). Therefore, in their opinion the net monetary impact on farmers is negligible for seeds, pesticides, and fertilizers.
- Largely, vendors felt that the GST system is better than the previous system as it induces more transparency.

Observations

- GST on seeds for sowing comes under the NIL category and hence attracts no GST. While GST is charged on fertilizers.
- Suppliers of fertilizers are different from billing agencies and hence the bills arrive after some time lag creating inconvenience in billing for the vendors.
- While the old stock (stock purchased prior to July 1st) was to be cleared within stipulated time after the introduction of GST, it was difficult in the case of agricultural inputs as the use of inputs is largely seasonal, restricting

the purchases to specific season only.

- The producers are largely accommodating the increase in the rate of GST on tractors that are higher than the pre-GST rates, by cutting the franchisee income or by adjusting within the existing prices.
- Certain tractor vendors were reported to have stopped their businesses. Some vendors observed that the positive impact of the GST was that some small and unorganized vendors have closed their shops and businesses.
- Various spare parts attract different rates of GST – 6 percent, 12 percent, 18 percent and 28 percent. This creates confusion both for vendors and farmers in the identification of the product and the rate being charged.
- Servicing of tractors has become expensive from around Rs. 2,300 pre-GST rates to Rs. 2,900 post-GST rates. It might result in an increase in the rent of tractors.
- The lubricant prices are observed to be lesser after the introduction of GST. Earlier, lubricants attracted 14 percent excise and 15 percent VAT (a total of 29 percent in Gujarat) as against 18 percent GST.
- A particular product of micronutrients is charged 12 percent GST in powder form and 18 percent in liquid form. Therefore, most vendors stopped selling the liquid form to reduce the confusion while preparing the bill.
- Similarly, sales and production of certain products has been affected due to cumbersome processes performed by the vendors while preparing the GST compliant bills.
- Vendors face difficulties in determining the amount of discount that they can offer to the farmers due to the uncertainty in the GST rates and also due to the lack of confidence in whether they were calculating GST appropriately.
- Vendors complained that the process of preparing bills is highly time consuming and required additional skilled manpower like accountants only for billing and updating GST during month end so that one person can address the customers' demand in a focused manner.
- Vendors who install GST compatible software like Tally, face lesser operational issues while preparing bills. An installation charge of a licensed Tally version is about Rs. 17,000 whereas an annual renewal charge is about Rs. 10,000. The professional and legal fees charged by the accountants with regards to the compliance with GST are now higher.
- Before GST implementation, vendors could replace the product with the one with which the farmer was more satisfied and could also comfortably resale it at their convenience. Now, the vendors find it difficult to extend such facilities to the farmers.
- Certified seeds related claims are expected to be more difficult to be resolved in case of crop failure since the procedure of taking back the sold goods by paying reverse charges increase complications and procedures in an already confusing scenario.
- Since the reporting of GST is now done three times a month (GST 1, 2 and 3), it is very tiring for the vendors to complete the formalities every 10 days in a month. This spreads the burden of annual year-end completion of tax formalities in March to three times every month. However, the vendors did not find financial year ending in March, hectic and stressful but the professional and legal charges of accounts and bookkeeping have increased.

Actions suggested

- Vendors suggested that month-end GST should be relaxed to be submitted at quarter-end. In contrast, certain vendors are also of the opinion that paying GST three times a month (GST 1, 2, and 3) induces more disciplined and timely payment.
- Frequent GST rate changes should be avoided in order to assure that confusion is minimized and the billing is made less cumbersome for small vendors, especially the ones not using the software.
- Introduction of GST is also being suggested for petrol and diesel (with an expectation of reduction in prices), which is likely to be more influential in purchase of all agricultural inputs in general and use of tractors in particular.
- Propagation of information related to GST

rates and its implementation should be more extensively done so that all the stakeholders like farmers, agricultural inputs' producers and vendors are aware of the same without any confusion.

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Information sources:

Observations are based on the discussion with agricultural input traders followed by a series of detailed observations of farmers and producers.



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