

# 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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Punjab - Causes and Concerns

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Farmers in the Cauvery Delta

**Alert 3** – Problems and Challenges  
of Organic Farming in Sikkim

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## Alert 1: Paddy Yield Losses in Punjab - Causes and Concerns

### Key highlights

- Media reports have recently highlighted the reduction in paddy yield by about 15 percent in Punjab.
- The State Agriculture Department has reiterated the same and revised the production target to 185 lakh tonnes during the ongoing Kharif season as against the original target of 200 lakh tonnes in August, 2018.
- During the current Kharif season, market arrival of rice has been noted to be about 108 lakh tonnes against last year's procurement of more than 118 lakh tonnes.
- The present productivity and production scenario pose a threat to the food security of the country, as Punjab is an important contributor to the central pool (31 percent of the total paddy procured by the Food Corporation of India last year was from Punjab).
- In a special survey, sample respondents in the state indicated that the yield has declined to 28.37 quintals/acre during the current Kharif season as against the yield of 32.5 quintals/acre last year, a decline of 12.71 percent (Table 1).
- According to the farmers, one of the main reasons for this decline was heavy rainfall at the grain formation stage.

**Figure 1: Destroyed Paddy Due to Unseasonal Rainfall**



**Source:** [www.topnewswood.com](http://www.topnewswood.com); [www.punjabtoday.in](http://www.punjabtoday.in)

### Observations

- To check the extent and causes of decline in paddy yield and the reality of media reports at the ground level, a quick survey was conducted in the state by taking a total random sample of 248 paddy growers from three leading grain markets in the district of Bathinda.
- It was reported that the spell of rainfall coincided with the grain formation stage of paddy resulting into the lower grain formation which resulted in lower yield of paddy during the current year.
- It was found that more than normal intensity of rainfall along with untimely/erratic rainfall was the main reason behind the current decline in paddy yield.
- It was further reported that because of the incessant rainfall in the state, temperature in the daytime remained relatively lower than required for grains to be turned into yellow at harvesting stage.



- The moisture content of paddy was also observed to be higher than the average this year. In order to keep the optimum level of moisture, the farmers were forced to let their crop stand in the fields, which further delayed the harvesting.
- Besides, it was observed that most of the current paddy varieties in the study area were of long duration maturing between 140 to 150 days. To reduce the over exploitation of underground water resources, the state government had delayed the paddy transplantation from June 10<sup>th</sup> to June 20<sup>th</sup> this year. Owing to the late sowing of paddy, the crop could not find optimum temperature for maturity at the ripening stage.
- Further, a few farmers reported the emergence of insects, pests and diseases as other reasons for the decline in productivity.

**Table 1: Production Scenario of Paddy Crop during 2017-18 and 2018-19, (N=248)**

Particulars	Units of measurement	Period		Change	
		2018-19	2017-18	Absolute	Percentage
Area	Acres/farm	16.00	16.02	-0.02	-0.12
Productivity	Quintals/acre	28.37	32.50	-4.13	-12.71
Production	Quintals/farm	453.92	520.65	-66.73	-12.82
Quantity sold	Quintals/farm	453.45	520.18	-66.73	-12.83

Source: AERC Ludhiana

### Actions suggested

- Better weather advisory systems must be instituted, including an all-weather channel so that farmers are forewarned.
- A relaxation in moisture content beyond the normal cut-off of 17 percent could be allowed at such times to enable higher procurement.
- Paddy varieties which can better withstand this type of adverse weather conditions should be developed.

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### Information sources:

Media reports, field visits and farmers' surveys.

(Cover Photo: Daily Post, July 10, 2018)

## Alert 2: Cyclone Gaja Hits Coconut Farmers in the Cauvery Delta

### Key highlights

- The delta region of Tamil Nadu has witnessed heavy destruction during November, caused by Gaja cyclone especially in the districts of Nagapattinam, Thanjavur, Tiruvarur, Pudukkottai, Dindigul, Trichy, Karur, Sivaganga, Ramanathapuram, Cuddalore in Tamil Nadu and Karaikal in the Union territory of Pondicherry.
- The cyclone has affected several districts of

Tamil Nadu, claimed about 46 human lives and directly or indirectly affected nearly 2,51,600 people. According to the official estimates of the state government, the cyclone has resulted in the uprooting of 1,70,454 trees, around 39,938 electric poles and killing of over 100 cattle and 600 goats.

- The impact of the cyclone on the agricultural sector of the state has been significant.
- The cyclone has impacted several crops awaiting harvest. Some of the major crops that were hit include rice (term crop), banana,

sugarcane (annual crop) and coconut (perennial crop). Some other crops that were destroyed are cashew, mango, jackfruit, casuarina, betelvine, eucalyptus and teak.

- Among all the crop losses, coconut farmers have been affected the most because 80 percent of the trees which were more than 20 years old have collapsed down.
- The losses have forced many farmers to take loans at very high interest rates pushing them into unviable credit cycles.

**Figure 2: Destruction Caused by Cyclone Gaja in Tamil Nadu**



Source: [www.thenewsminute.com](http://www.thenewsminute.com)

### Observations

- Tamil Nadu is the third major coconut producing state in the country with 27 percent of the total coconut production in the nation, just behind Kerala (31 percent) and Karnataka (28 percent).
- As shown in Table 2, the delta region districts in Tamil Nadu make a large chunk of coconut production in Tamil Nadu and Thanjavur district alone constitutes 10 percent of the state product.
- Notably, coconut productivity of Tamil Nadu (14281/hectare) is much higher than that of the top ranked states – Kerala (9664/hectare) and Karnataka (13181/hectare). There is an estimated loss of 18,100 hectares coconut palms (approximately 75 lakh trees) in the region (Coconut Development Board estimation).
- Coconut not being a seasonal crop is not covered under any insurance.

**Table 2: Coconut Production in India and Major Coconut Producing States (2016-17)**

Delta Districts	Area (Hectare)	Production (Nuts) (MT)	Productivity (Nuts/Hectare)	Production (Nuts) (%)
India	2082000	23904	11481	100
Kerala	771000	7449	9664	31.16
Karnataka	514000	6773	13181	28.33
Tamil Nadu (State Total)	435673	6571	14281	27.49
Other States	361327	3111	8610	13.01
<b>Tamil Nadu Delta Districts (Total)</b>	<b>62840</b>	<b>1018.3</b>	<b>16205</b>	<b>4.26</b>
Thanjavur	36136	663.9	18372	2.78
Nagapattinam	3823	65.4	17107	0.27
Tiruvarur	4718	87	18440	0.36
Pudukkottai	9456	112.1	11855	0.47
Trichy	6070	46.5	7661	0.19
Perumanallur	693	1.9	2742	0.01
Ariyalur	304	3.4	11184	0.01
Cuddalore	1640	38.1	23232	0.16

Source: Coconut Development Board Statistics

### Actions suggested

- There is an immediate need to evaluate the scope of replanting/transplanting the fallen palms. Concerned institutions such as Tamil Nadu Agricultural University/Coconut Development Board should initiate and coordinate necessary research in the area, at the earliest.
- The government should increase financial assistance to revive the agricultural sector in the Delta region in the aftermath of cyclone Gaja.
- The Coconut Development Board should also aim to support coconut farmers technically and financially.
- Perennial crops should be brought under crop insurance schemes.

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### Information sources:

Consultation with farmers, volunteers and NGOs from cyclone affected delta region, various newspaper reports on Gaja cyclone and effects, Agrometeorology & Cropping Pattern of Cauvery Delta Zone, Tamil Nadu Agricultural University, Coimbatore.

## Alert 3: Problems and Challenges of Organic Farming in Sikkim

### Key highlights

- Sikkim is one of the smallest states in India with a population of 6.08 lakhs, out of which 65 percent is dependent on agriculture for their livelihood.
- During 2016, Sikkim was declared India's first fully organic state. In 2018, Sikkim received world's first Organic State Gold Award, among 51 nominations from 25 different countries.
- In spite of the State Government's efforts towards bringing fully organic agriculture to Sikkim, farmers and customers have not reaped the full benefits of organic farming yet.
- Most organic farmers are struggling due to inadequate policy support, rising input costs and a limited market. The organic certification procedure is difficult, expensive and time consuming for the farmers.
- Most of the farmers reported that their production reduced by half after the adoption of organic cultivation partly due to ignorance of proper package of practices. Further, whiteflies, cutworms and stink bugs, along

with powdery mildew fungal disease caused major damage to the vegetable crops.

### Observations

- Production of all the food grains (except maize) has been declining after the adoption of organic cultivation techniques.
- Sikkim has long been a food-deficit state. The present food production meets only 30 percent of the local population's dietary needs and the rest is imported from the neighboring states or countries such as West Bengal and Nepal.
- During 2017-18, Sikkim produced 80,000 metric tonnes of organic vegetables with a shortfall of 40,000 metric tonnes.
- Gross cropped area of the State is 1.47 lakh hectares. Of the total net cropped area, 76,392 hectares of the area is covered under organic farming.
- The State produced 19,680 tonnes of rice, 5,380 tonnes of pulses and 350 tonnes of wheat in 2015-16 as against the requirement of 1,00,000 tonnes, 11,700 tonnes and 21,600 tonnes respectively.

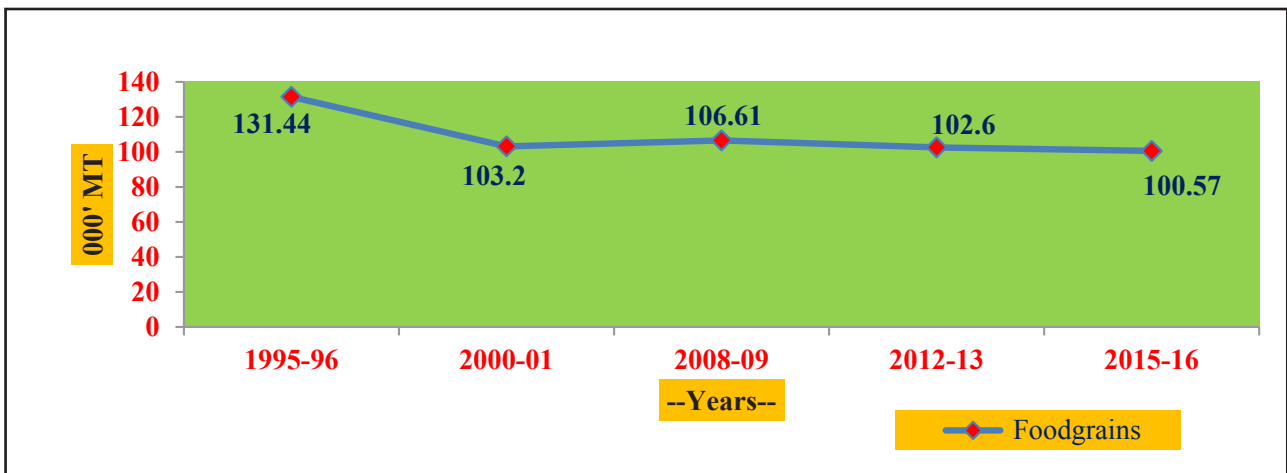
**Table 3: Fall in Food Grain Production in Sikkim (000'MT)**

Crops	1995-96	2000-01	2008-09	2012-13	2015-16
Rice	25.3	21.36	22.23	21.34	19.68
<b>Wheat</b>	<b>21.6</b>	<b>10.1</b>	<b>3.5</b>	<b>0.55</b>	<b>0.35</b>
Maize	58.81	59.61	65.74	67.95	68.31
Barley	2.86	1.21	0.47	0.59	0.47
Buck Wheat	0.54	1.53	5.35	3.38	3.47
Finger Millet	7.31	4.23	3.53	2.96	2.91
Pulses	15.02	5.16	5.79	5.83	5.38
Total Food grains	131.44	103.2	106.61	102.6	100.57

Source: Agriculture- ENVIS Sikkim



**Figure 3: Trend of Food Grain Production in Sikkim**



Source: AERC Assam

- It was found that there was an acute shortage of organic seeds, bio-fertilizers and organic pest control measures for boosting organic production of crops.
  - Roads linking the main markets and the rest of the region are very poor. It is very difficult to deal in fresh produce, especially when the state is landlocked and has no rail or airport connectivity.
  - Storage facilities were found to be inadequate.
- There were no cold storages in the local vicinity. Even the packaging material was procured from other states. All these factors make transportation cost very expensive and small farmers find it very difficult in realizing their production costs.
- Farmers are unable to get fair price for organic vegetables, because they are costly and economic condition of most of the customers is not so sound to afford those.

**Figure 4: Organic Cultivation in Sikkim**



Source: [www.static.businessworld.in](http://www.static.businessworld.in)

### Actions suggested

- Some initial subsidy for organic seeds, bio-fertilizers & bio-pesticides should be provided.
- Support for infrastructure such as cold-storage facilities should be provided.
- Concerned authorities should make the process of organic certification easier.
- To ensure marketing and export of organic produce, connecting farmers with the domestic and global supply chain is extremely important and hence, road, rail and air connectivity should be developed.
- More bio-fertilizer production units should be established and local unemployed youth

should be encouraged with financial and technical support.

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### Information sources:

Various published sources and telephonic discussions with the field staff, and organic farmers of Sikkim.



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