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## THE HINDU BusinessLine

### Tea Board to help Darjeeling growers



**Special Arrangement** Losing flavour: Overgrown tea bushes in the Darjeeling Tea Estates  
Will help assess loss, draw up recovery package for planters hit by Gorkhaland agitation

Darjeeling tea growers affected by the on-going Gorkhaland agitation will get help from the Tea Board to assess loss and work out a recovery package.

“The tea growers’ associations informed us that they were not in a position to come up with pointed demands for help from the Centre as they were too disturbed by the continuing violence and needed assistance. We have asked the Tea Board officials to sit with them and work out an assistance plan,” a Commerce Ministry official told *BusinessLine*.

Last month, when industry associations, including the Darjeeling Tea Association and the Indian Tea Association, had sought help from the Centre, they were asked to frame specific proposals which could be taken up with the Finance Ministry.

“The industry has been unable to come up with proposals yet but we are sure that with the Tea Board stepping in, the matter would be sorted out soon,” the official said.

The Commerce Ministry is of the opinion that cash compensation alone cannot help the industry that is staring at loss of ₹400 crore.

“The mid-term and long-term recovery plans could include different mechanisms such as arranging working capital, giving interest subvention for the working capital and increasing the moratorium period on long-term loans,” the official said.

It is not just the second flush of tea, grown between June and August, that got destroyed due to the strike. The third flush, too, is likely to be lost as the required pruning of bushes after the rains could not be carried out.

“The attempt will be to come up with a proposed package as soon as possible so that it can be discussed with the Finance Ministry and finalised,” he added.

### **Export market**

The Darjeeling tea industry needs to be back on its feet as soon as possible as it is apprehensive of losing its export market to competitors if it can’t restore supplies soon.

Of the total 8 million kg of Darjeeling tea annually produced across 87 estates, about half gets exported.

(This article was published on September 10, 2017)

### **Cottonseed sales surge as farmers make a comeback**



The last three years had not been so good for the seed industry.

Good rains, crash in prices of chilli and pulses encourage them to take up fibre crop

After a gap of three years, the cottonseed industry has registered good sales to reach an average of 4.5-crore packets. This is nearly 20 per cent more than last year's 3.6-3.75-crore packets sold last year.

The last three years had not been so good for the seed industry, as farmers in several cotton-growing areas had shifted to alternative crops due to poor prices, lack of rains, and good prices for pulses, chillis and soya. Farm distress in the cotton-growing States, too, played a role in the reduction of the area in the last two years.

The cotton acreage in the country this kharif has gone up by about 20-lakh hectares to 112-lakh hectares from 92-lakh hectares last year.

The cotton acreage in Telangana, one of the key cotton-growing States in the country, has shot up to nearly 19-lakh hectares against 16-lakh hectares.

Andhra Pradesh pegs a normal acreage of 6-lakh hectares this season. Maharashtra, too, saw a rise in the area.

“Despite a negative sentiment last year, farmers have decided to come back to cotton because of good rains and crash of chilli and pulses prices. Unlike other crops, cotton gives a minimum return.

For example, chilli farmers had suffered a lot in Andhra Pradesh and Telangana last year. Prices had plummeted to ₹1,500 a quintal at one point against ₹13,000-14,000 a quintal in the previous year,” said a top executive with a seed firm.

### **Highest sales recorded**

The industry witnessed highest sales of about 5.5 crore packets three years ago against the average of 4.30 crore-4.60 crore packets. A packet contains 450 gm of seeds.

Cotton acreage in Telangana dropped significantly in the last two years after the State government had taken up a campaign asking farmers to reduce exposure to cotton citing falling global demand and drop in prices.

The farmers cut down on cotton area and diversified into soya, maize and pulses. After suffering heavily in cotton, most farmers returned to cotton.

(This article was published on September 8, 2017)



## Giant African snail brews trouble for Karnataka coffee growers



The infestation of giant African snail in the key coffee-growing areas of Coorg, Chikmagalur and Hassan has triggered concerns among coffee and pepper growers in the region, where the pest has surfaced over an estimated 1,500 acres this year.

### Higher costs

Though the infestation may not directly impact the coffee output this year, growers said the management of the pest has led to higher cultivation costs, impacting their earnings at a time when the prices of both coffee and pepper have hit a downward trend in recent months.

The Central Coffee Research Institute, which had done a survey of the infested region, estimates the infected area at around 1,500 acres. “The pest had initially surfaced in North Coorg two years ago. It has now spread to even some estates in Hassan and Chikmagalur districts this year,” said Y Raghuramulu, Director, CCRI. The African snail that surfaces only during the rainy season is not just creating nuisance to the coffee growers but is also affecting other crops such as pepper in the region, said Raghuramulu. The tender plants of coffee, pepper vines and papaya, among others, have been damaged by the pests in the regions.

Admitting that the giant African snail has been wreaking havoc in Kodagu over the past one month, Karnataka Horticulture Commissioner, Prabash Chandra Ray, said that his department would be collaborating with the Coffee Board in dealing with the menace.

“The infested area has been rising every year over the past three years since the pest has surfaced in the region,” said Pradeep, a coffee grower in Ballarahalli, near Shanivarsanthe, the main infested region.

### **Nocturnal pest**

Since the African snail is a nocturnal pest, the management of the insect has become a big challenge, Pradeep said, adding that growers are being forced to spend on chemicals such as metaldehyde to kill the snails and bury them in the soil. “We expect our cultivation costs to go up by ₹10,000-15,000 per acre, as we have to spend not only on the chemicals but also on the additional labour. We have already spent ₹2 lakh in dealing with this pest so far, this year,” said Pradeep, who is a medium-sized grower with about 40 acres.

Further, the pest is affecting the replanting of coffee plants and pepper vines. “We are unable to establish pepper because of this pest,” he adds.

Growers are also being advised to use the bait made using a mixture of larvin, rice bran, castor oil and jaggery to kill the pest. Pradeep also said the measures taken by an individual grower in his estate is not enough to tackle the menace, as the pest could re-surface again from the neighbouring estates or fields or forest areas. “There is a need for collective fight against the pest and the government should come to the rescue of the growers,” he added.

Karnataka accounts for about two thirds of India’s coffee output estimated at around 3-lakh tonnes.

(This article was published on September 8, 2017)

### **Paddy cultivation area down**



<b>Kharif acreage</b>		
<b>(In lakh ha as on Sept 8)</b>		
	<b>This year</b>	<b>Last year</b>
<b>Rice</b>	<b>371.46</b>	<b>376.49</b>
<b>Pulses</b>	<b>139.17</b>	<b>144.84</b>
<b>Coarse cereals</b>	<b>183.43</b>	<b>186.06</b>
<b>Oilseeds</b>	<b>169.20</b>	<b>187.16</b>
<b>Sugarcane</b>	<b>49.88</b>	<b>45.64</b>
<b>Jute &amp; Mesta</b>	<b>7.05</b>	<b>7.56</b>
<b>Cotton</b>	<b>120.98</b>	<b>101.72</b>
<b>Total</b>	<b>1,041.17</b>	<b>1,049.87</b>

The area under paddy cultivation is down by half-a-million hectares, compared to the previous kharif season, according to data released by the Agriculture Ministry on Friday.

Rice has been sown in 371.46 lakh hectares (ha), which is 1.44 per cent lower than 376.89 lakh ha covered during the corresponding period last year, mainly because of lesser sowing in the drought-hit Karnataka and flood-affected Assam. The total acreage under kharif cultivation, too, shrank to 1,041.17-lakh ha against 1,049.87-lakh ha in the same period last year.

### **Worst affected**

Oilseeds are the worst hit with acreage down by almost 10 per cent to 169.20-lakh ha, whereas the area under cotton cultivation went up by 18.94 per cent to 120.98-lakh ha in the same period.

### **Pulses cultivation**

There is nearly 4 per cent drop in area under pulses cultivation, with acreage under arhar and moong coming down by 18 per cent and 8 per cent to 42.81-lakh ha and 31.48-lakh ha respectively. Urad cultivation on the other hand is up by 21 per cent and now has covered a total area of 42.15-lakh ha compared to 34.83-lakh ha in the same period last year. Lesser sowing for pulses was mainly reported from Karnataka, Maharashtra and Andhra Pradesh. The total area under pulses cultivation is 139.17-lakh ha.

The sowing of coarse cereals, on the other hand, recovered slightly compared to last week, with ragi sowing picking up momentum in Karnataka. There is also improvement in the acreage under bajra cultivation by nearly 4 per cent to 71.38-lakh ha.



With most parts of the country receiving good showers, there is substantial improvement in water levels in reservoirs across the country. The cumulative water levels in 91 monitored reservoirs have increased to 58 per cent of the storage capacity to 91.2-billion cubic metres.

(This article was published on September 8, 2017)



### **More carbon dioxide in atmosphere produces food crops shorn of nutrients**

Atmospheric CO<sub>2</sub> levels of 550 parts per million (ppm), expected to become the global norm by 2050, will shrink the protein, iron and zinc content in wheat and rice, putting 50 million more Indians at risk of deficiency.



A farmer plants paddy seedlings in a field near Amritsar. Studies have found that lack of nutrients that lead to deficiency is causing a host of diseases in India. (HT file photo)

Successive generations of Indians have quibbled about the sliding quality of dana-pani (food-drink) and hawa-pani (air-water). Now, US-based scientists have proven that more carbon dioxide (CO<sub>2</sub>) in the atmosphere is indeed sapping the nutrient content of staple foods, leaving people less healthy. And they expect this situation to worsen.

India's atmospheric CO<sub>2</sub> level was recorded at 399 parts per million (ppm) in 2015, 14% higher than the 350 ppm threshold likely to trigger widespread climate change. By 2025, worldwide atmospheric CO<sub>2</sub> levels of 550 ppm are expected to become the norm.

Such high levels will strip wheat and rice of their protein, iron and zinc content, increasing the number of people at risk of micronutrient deficiencies, according to studies led by Samuel Myers, senior research scientist at the Harvard TH Chan School of Public Health, US.

The 5.3% drop in the protein content of wheat and rice expected by 2050 will put 53.4 million additional Indians at risk of protein deficiency, according to Myers' newest study published in August 2017 in the journal Environmental Research Letters.

### **Micronutrient deficiencies**

In India and globally, poor people who rely on cereals for their protein intake will face the biggest risk. Roughly 60% of the protein content in the average Indian diet comes from cereals.

Protein is a macronutrient comprised of different amino acids; its deficiency causes a host of diseases already common in India, ranging from stunting in children to cardiovascular disease in adults.

Another new paper from Myers, published in GeoHealth, predicts that less iron in wheat and rice grown in in India — which modelling studies show will diminish by 4.8% by 2050 — will exacerbate iron deficiency in Indian children aged 1 to 5 years and women of childbearing age (15 to 49 years).

Insufficient iron is the most common micronutrient deficiency in the world. Already, almost six in 10 Indians are anaemic, according to the World Health Organisation. A similar number depend on wheat and rice for their iron intake.

Expected Fall In Nutrient Level By 2050				
Crop	Wheat	Rice	Modelled for	Number of Indians to be impacted
Zinc	9.10%	3.10%	Globally	48 million
Protein	5.30%	5.30%	India	53.4 million
Iron	4.80%	4.80%	India	6 in 10 Indians anaemic, to worsen

Source: Studies of Samuel Myers, others

Globally, anthropogenic CO<sub>2</sub> emissions are also expected to shave off 9.1% and 3.1% of the zinc content of wheat and rice, respectively. In India, this will put nearly 48 million more Indians at risk of zinc deficiency, Myers concluded in his 2015 study.

More than one-third of the Indian population is zinc-deprived; seven in 10 Indians rely on wheat and rice for their zinc intake.

“Silent hunger” is how Myers described this impending micronutrient deficiency to IndiaSpend. “People are aware when their caloric intake drops because they feel hungry,” Myers said. “But they are not aware when their micronutrient intake drops because they are still eating the same amount of food and calories.”



To safeguard the millions of Indians who depend on wheat and rice for their micronutrient intake, India must, at the very least, “step up dietary surveillance efforts to identify sub-populations who are not meeting their nutritional needs, and address culturally appropriate interventions to ensuring nutritional adequacy”, Myers said.

### **Hardier alternatives**

Wheat and rice, classified as C3 grasses — C3 denotes the pathway the plant uses to capture CO2 for photosynthesis — are among the crops most sensitive to environmental CO2.

Higher heat from CO2 emissions-driven climate warming hastens wheat ageing or senescence, which can reduce the crop yield by up to 20%, as per a study led by Stanford University scientist David Lobell and published in the journal *Nature Climate Change*.

Myers admitted not knowing the reason why environmental CO2 zaps protein and other nutrients in plants: “All we know for certain is that since crop nutrients have a symbiotic association, such as zinc aids protein synthesis, a fall in any one nutrient impacts the bioavailability of another and so on.”

### **Ads by ZINC**

Myers’ work presupposes an atmospheric CO2 level of 550 ppm by 2050. In 2015, India’s level was 399 ppm as against the global average of 400 ppm.

“Reducing CO2 emissions is the most basic thing we could do to address the problem,” said Myers. “Breeding crops that are less sensitive to the harmful effects of CO2 would help, and biofortification to produce crops that are richer in nutrients is also possible.”

Traditional grains that were a larger part of the Indian diet may be richer in nutrients and could be revived, Myers said.

Ragi (finger millet), bajra (pearl millet) and jowar (sorghum) are native to India and were widely consumed in the past.

In open field experiments at three locations spanning a decade, Myers found that sorghum displayed no effect when exposed to higher concentrations of CO2 even as C3 grasses, legumes and maize showed significant iron loss.

“Millets tend to be C4 grains, which use CO2 more efficiently than C3 grasses, making them less vulnerable to rising CO2,” Myers said, adding, “More diverse diets, less reliant on wheat and rice for key nutrients would be the best thing for India’s population, particularly for the poor.”

For this, the focus of public health and agriculture policy-making must change, as must farmer education.

## Promoting dietary diversification

Cereal-based diets and cereal-focused food subsidy programmes offer low-quality protein, and the percentage of Indians at risk of quality protein deficiency is estimated to vary between 4% and 26% among different age groups and between the urban or rural areas.

By incorporating millets and other protein-rich foods such as pulses in the three main public food distribution programmes – the Public Distribution System (PDS) through which the government provides subsidy on 5kg of cereal each month to millions of eligible persons; the Mid-Day Meal programme for primary and upper-primary students in government and government-supported schools; and the Integrated Child Development Services programme for improving nutrition among children up to six years of age—the government could enable more people to consume quality protein.

By creating steady demand, this would also give a fillip to farmers' efforts to diversify towards millets and pulses.

Although the National Food Security Mission attempted to include millets in the PDS in 2014, apart from Karnataka and Andhra Pradesh, states are yet to comply with its directions, IndiaSpend reported in August 2016.

“The consumption of millets is lower down on the agenda of policy makers as well as the community,” Sheila Vir, founder director of the Public Health Nutrition and Development Centre, New Delhi, and a former consultant with UNICEF India, told IndiaSpend. “Wheat has become popular because it is easy to cook, it requires comparatively less time and energy. Now we possibly need campaigns to make millets popular again.”

Distributing pulses through the PDS would also help poor people eat better. So far, only Himachal Pradesh and Tamil Nadu have gone beyond distributing cereals, Vir said. In Himachal, families get legumes, edible oil and iodised salt in addition to wheat and rice, while Tamil Nadu additionally distributes pulses, edible oil and sugar.

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