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Small rise in temperatures may cause heavy rain, heat waves

The hottest summer temperatures increased by more than 1 degree Celsius across a quarter of Earth's land areas, while the coldest winter temperatures warmed by more than 2.5 degree Celsius, researchers said



The hottest summer temperatures increased by more than 1 degree Celsius across a quarter of Earth's land areas (Representational Image)

Even a slight rise in global temperatures may lead to extreme weather conditions, say scientists who found that just half a degree Celsius of warming has led to an increase in heat waves and heavy rains across the planet. Researchers compared two 20-year periods 1960-79 and 1991-2010 between which average global temperatures jumped 0.5 Celsius. They found that several kinds of extreme weather gained in duration and intensity.

The hottest summer temperatures increased by more than 1 degree Celsius across a quarter of Earth's land areas, while the coldest winter temperatures warmed by more than 2.5 degree Celsius, researchers said. Researchers also found that the intensity of extreme precipitation grew nearly 10 per cent across a quarter of all land masses, and the duration of hot spells which can fuel devastating forest fires-lengthened by a week in half of land areas.

“We have to rely on climate models to predict the future,” said lead author Carl-Friedrich Schleussner, a researcher at the Potsdam Institute of Climate Impact Research in Germany. “But given that we now have observational evidence of around one degrees Celsius warming, we can also look at the real-life impacts this warming has brought,” he added.

Global warming caused mostly by the burning of fossil fuels began slowly in the early 19th century with the onset of industrialisation, but has accelerated rapidly over the last 50 or 60 years. “With the warming the world has already experienced, we can see very clearly that a difference of 0.5 degrees Celsius really does matter,” said Erich Fischer, a scientist at Swiss Federal Institute of Technology in Switzerland.

Earlier researches had also concluded that two degree Celsius of warming would – compared to 1.5 Celsius – double the severity of crop failures, water shortages and heat waves in many regions of the world. It also found that holding the rise in temperature to 1.5 degrees Celsius would give coral reefs—the cornerstone of ecosystems that sustain half-a-billion people and a quarter of marine wildlife – a fighting chance of adapting to warmer and more acidic seas. The study was published in the journal Nature Climate Change.

Sowing in Maharashtra: Tur cultivation appears unaffected by glut and price crash last season

Sowing has taken place on 32.1% of land compared to 27.4% last year



punjab farmers, punjab farmers organisation, punjab farmers protest, loan waivers, mandsaar protest, farmers loan

DESPITE TUR daal (pigeon pea) glutting markets last season and the subsequent crash in its prices, sowing of the crop remains high this kharif season too. According to data from the agriculture department, tur has been sown on 4.25 lakh hectares till now, amounting to 34.3 per cent of the total land under its cultivation. During the same period last year, sowing of tur was 34.1 per cent, indicating that there may be almost no change in the crop production this year.

Last season, prices of tur had fallen drastically due to bumper production. Farmers were unable to realise even the MSP of Rs 5,100 per quintal, with thousands selling at as little as Rs 2,800- Rs 3,000 per quintal. The agitation for the continued state purchase of tur was the precursor to the wider farmers’ agitation that took the state by storm.

Meanwhile, amid the protests and the confusion over who qualifies for the farm loan waiver, sowing in the state seems to be going on unaffected. Against the backdrop of a good monsoon, where four of Maharashtra's revenue divisions have received more than their average monthly rainfall, 48.82 lakh hectares of land has been sown till July 3.

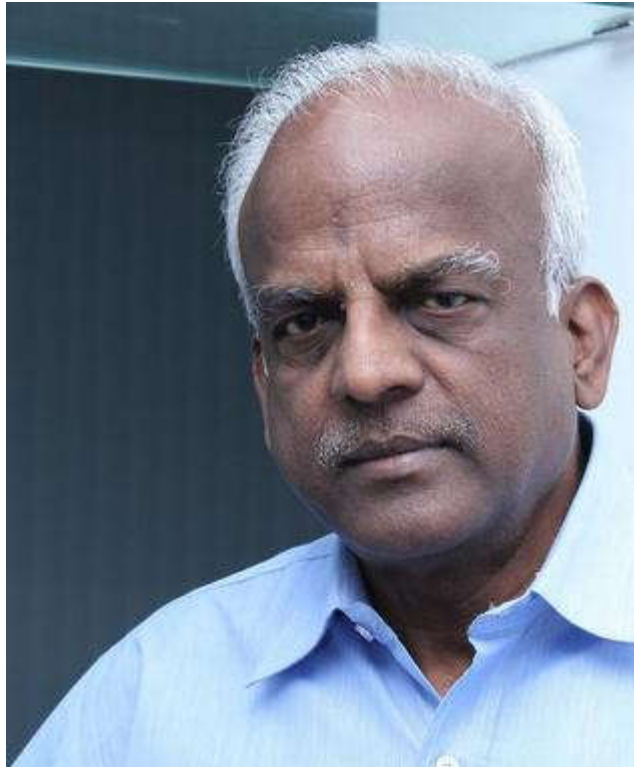
During the kharif season, the area to be sown under principal crops stands at 1.52 crore hectares in Maharashtra. Till July 3, 32.1 per cent of the total area has been sown. Interestingly, the figure for the same period last year stood at 27.4 per cent, with only 41.70 lakh hectares of land sown. The state agriculture department has set a target of sowing on 1.42 crore hectares of land for this season.

Sowing has been the highest for cotton — on 18.87 lakh hectares — which is 45.6 per cent of the total land on which cotton is grown. It has been the least for cereals at 19.1 per cent, with only 6.84 lakh hectares sown. Of the many sops announced by the state for the farmers this year is the direction to all all national, commercial and district central cooperative banks to disburse Rs 10,000 as loan to facilitate sowing of Kharif crops before June 30.

In a clear departure from norms followed in the past, when banks extended loans after ascertaining the eligibility of each individual farmer, they are now accepting self-declaration forms from farmers to issue the loan. The sowing has also taken place in the backdrop of a strong monsoon so far. The state on an average gets 223.3 mm of rain in June. It received 218.5 mm this time, which is 97.9 per of the normal rainfall in June. Four revenue divisions of the state — Konkan, Marathwada, Nashik and Pune — have received more than their average share of rainfall in June. Only Amravati at 89.2 per cent and Nagpur at 62.1 per cent have received normal rainfall.

“These are early days so far. We need to see if this pace sustains over the next few months. Moreover, sowing is not the parameter of the success of a season. Everything may be lost without adequate rainfall,” agricultural activist D Giridhar Patil said. “Healthy rain so far had precipitated the rate of sowing. By the looks of it, this rate will be maintained, but it also depends on the rain in the coming month. The spike in sowing of cotton is because of an early entry of monsoon into the region,” Ganesh Borgave, an agricultural activist from Nanded, said.

TN Dairy Minister's comments are hurting farmers and the dairy industry: Hatsun CMD



RG CHANDRAMOGAN, CMD, Hatsun Agro Products Ltd,

As Tamil Nadu reels under a drought, dairies are helping farmers with a steady income, says RG Chandramogan, Chairman and Managing Director, Hatsun Agro Products Ltd, India's largest private dairy. In an interview with *BusinessLine*, he spoke on a range of issues, including the possible fallout of controversial comments by the State Dairy Minister on private dairies. Here are the excerpts.

How has the extended dry spell affected the dairy sector?

Drought in recent years has hit agricultural output but dairy has done well.

When crops fail, milch cows help farmers generate cash flow. So, farmers will focus their resources, including water and feed on livestock. Dairy farming weathers drought better than crops.

But dairying is still a supplemental activity for farmers. How much of a support is it?

Milk production in Tamil Nadu is about two crore litres daily. Of this, about 80 lakh litres, or 40 per cent, is organised under the State-run cooperative, Aavin, and the corporate sector.

Look at what this means. Over 50-55 crore daily or 18,250 crore a year cash flows to farmers. This is bigger than major crops, and is steady income as milk prices are stable, the market is assured and payments are made once in 10 days. This is true of the entire dairy sector.

What are the relative roles of cooperative and corporate sector players such as yourself?

The private sector entered the Indian dairy scene just two decades back, while cooperatives have been around for over 70 years. Now, the corporate sector accounts for 52 per cent and cooperatives for 48 per cent. Just two cooperatives, Amul in Gujarat, and Nandini, Karnataka, account for more than half the cooperatives' share.

In Tamil Nadu, Aavin's capacity is about 30 lakh litres per day at the most. Corporates handle about 50 lakh litres a day, a part of which goes to meet half of Kerala's needs. Hatsun Agro alone handles between 28 to 33 lakh litres daily.

Has the corporate sector grown at the cost of cooperatives?

No. The private players helped expand organised dairy farming by drawing farmers from the unorganised sector. India's organised dairy sector is about 35 per cent and in Tamil Nadu it is 40 per cent. The government had no role in the growth of the private dairy segment except for the initial policy to free the industry.

Hatsun has emerged the largest private sector dairy...

By the year end our capacity will be about 45 lakh litres a day...

That will make you one and a half times the size of Aavin...

Yes. It will.

What are the factors that have contributed to your growth?

Hatsun Agro works closely with farmers, and has built modern infrastructure for procurement, processing and marketing to ensure superior quality of milk and products.

A feature unique of Hatsun is that it procures milk directly from farmers. Over four lakh farmers get paid directly through their bank accounts. So, they cannot be exploited by middlemen financially, or be shortchanged on quantity or quality.

We worked with Tamil Nadu Agriculture University to develop fodder crops such as CO3, CO4 and CO5. The company also supplies balanced cattle feed made at its own 900-tonne-a-day plant. A dedicated veterinary team helps with animal care and educates farmers on hygienic practices.

What is the employment generated in this sector?

Hatsun Agro alone supports 8,000 jobs. If you include its 10,000 milk procurement centres, each of which needs one full-time and one part-time assistant and 3,500 selling centres, it adds up to 50,000 jobs directly or indirectly.

The other private sector players in the State will together account for over 30,000 jobs.

The replacement cost of private investments in dairy infrastructure in Tamil Nadu will be over 6,000 crore.

In this context, are the recent accusations by State Dairy Development Minister Rajenthra Bhalaji a concern?

The unsubstantiated comments by the Minister are very unfortunate considering he handles the dairy development portfolio. Maybe those working for him have misguided him. First he generalised that private brands sell adulterated milk, then he said barring a few, the rest adulterate, and then he again said a few adulterate. He also claimed results of milk tests are awaited from a Pune Lab. But later reports indicated samples had not been sent after 2016.

Even the Health Secretary's report submitted to the High Court in this context has clarified that packaged milk from the organised private sector is not adulterated.

Does that mean that there is no adulteration in Tamil Nadu?

Cold chain infrastructure is the lifeline for milk. Once milk is procured it has to be chilled in 4–6 hours, and again on the sales side, temperature control is critical. Tamil Nadu's organised milk sector has adequate infrastructure for milk. Some complaints occur in loose milk sales and in States where infrastructure is weak.

But in packaged milk such occurrences are rare. Some unscrupulous elements may always be present in any State.

Speaking for ourselves, Hatsun Agro introduced refrigerated trucks much before other cooperatives or corporate players. This ensures excellent quality when milk reaches customers.

How have the Dairy Minister's comments affected the industry?

The Minister's comments are against the interests of the State. He has passed very general comments accusing the private sector. It hurts consumers, private processors and farmers alike. Consumers are confused on who is wrong. Excess milk from Tamil Nadu goes to Kerala, will they not be worried?

The Minister is shooting himself in the foot. He can disrupt the growth momentum of the only agricultural commodity that is supporting farmers in the State, hurt customer sentiment and threaten investments.

Look at adjacent Andhra Pradesh and Telangana, which give a red carpet welcome to industries. Even in Andhra Pradesh, where Chief Minister Chandrababu Naidu's family is in

the dairy business, all industries, including competitors, are welcomed and encouraged. This spirit is missing here. If the government cannot help, it should at least not undermine development.

Why is the industry not responding?

Unfortunately, the Dairy Development Minister is not only a competitor, as he controls Aavin, but is also the regulator. Most companies are naturally scared to give a statement against the competitor and regulator. There is a conflict of interest in the competitor being a regulator. That has to be corrected.

Can Aavin cater to the entire State as the Minister said?

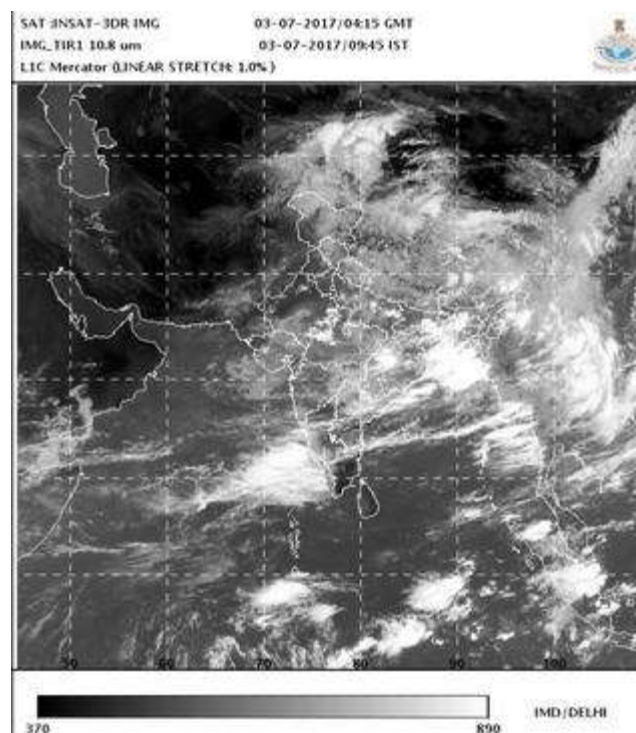
Aavin's milk sales are an estimated 22 lakh litres per day, with peak procurement at 31 lakh litres and an average of 28 lakh litres. The balance 6 lakh litres is converted to milk powder, ghee and other products. It cannot in any way replace 50 lakh litres managed by private sector as of now.

On the quality front, I can speak for Hatsun Agro's milk Arokya. Its quality is of international standards. Let reputed institutions such as the National Dairy Research Institute, Karnal, or an independent panel of experts assess its quality. Arokya will outmatch any brand, including Aavin.

Hatsun's products are exported to 38 countries including Singapore and Canada which have strict quality norms.

(This article was published on July 3, 2017)

Active monsoon makes good mid-June drag over Central India



The monsoon has all but made good the fortnight-long mid-June lag over Central India and entered more parts of Himachal Pradesh as well as Rajasthan, the western-most state and its final destination.

It has covered Madhya Pradesh, Uttar Pradesh, Uttarakhand, the entire National Capital Region, and some parts of Haryana on its way to the border state of Rajasthan.

PUNJAB OFF LIMIT

As on Monday, its northern limit had reached an alignment which it would normally reach by July 1, slightly delayed over interiors of Rajasthan, Haryana, Himachal Pradesh and Jammu & Kashmir.

Punjab is the lone state where the monsoon has not managed to make a presence as on date, the monsoon coverage graphic provided by the India Met Department (IMD) on Monday shows.

A small arc linking Central and North-West Rajasthan, entire Punjab, and parts of Haryana, Himachal Pradesh and Jammu & Kashmir is all what is left for the rains to cover by July 15, the timeline that normally represents coverage of the entire landscape in the onset phase.

Meanwhile, a fresh wave of heavy to very heavy rainfall has been unleashed over the East and North-East India with the Bay of Bengal becoming active yet again.

MORE RAIN FORECAST

This phase of the monsoon will also bring heavy rain to parts of the West Coast, including Coastal and South Interior Karnataka, Bihar, East Uttar Pradesh, Chhattisgarh, and East Madhya Pradesh.

The US Climate Prediction Centre's weather tracker estimated that North India would continue to be under the grip of heavy rain for close to another fortnight.

It sees helpful circulations/ occasional low-pressure area from the Bay heading to East India and North-West India, and even touching off activity over West India, especially Gujarat.

The European Centre for Medium-Range Weather Forecasts seemed to agree, pointing to the possibility of extended churn in the Bay of Bengal for the next week or so.

(This article was published on July 3, 2017)

Why cotton sowing is surging in Haryana



Chandrabhan (left) and Ram Singh inspect their cotton field in Fatehabad district (Haryana).
RAMESH SHARMA

Expenses incurred by a tenant farmer per acre in Fatehabad dist

Seeds	₹1,700
Fertiliser	₹1,100
Pesticide (6 sprays)	₹6,000
Tractor	₹4,000
Manual labour	₹2,200
Tractor spraying	₹1,000
Plucking	₹4,000
Irrigation	₹1,500
Rent for land	₹20,000

The National Highway 9 (NH-10 by old numbering), which connects Delhi to the border town of Fazilka in Punjab, has a lesser-known distinction. The 403-kilometre-long carriageway, which cuts through four major districts of Haryana — namely, Rohtak, Hisar,

Fatehabad and Sirsa — bifurcates the region broadly into two in terms of agricultural practices.

While fields on one side of the NH-9 grow mainly paddy, those on the other are known more for growing cotton. “Over the years, there may be some changes with increased water availability, but this has broadly been the trend,” says a farmer leader based in Fatehabad.

Record cotton sowing

The region, known as the cotton belt of Haryana, has assumed significance this year, as there has been a record sowing of cotton, on 6.3 lakh hectares, which is over a quarter more than the 5 lakh ha in the corresponding period last year.

“More and more farmers are going for cotton this year and the official estimates project that the total area of cultivation would come to 6.53 lakh ha as against 5.7 lakh ha in 2016-17,” says Roshan Lal, a former professor of entomology at the Chaudhary Charan Singh Haryana Agricultural University, Hisar.

“Many farmers who grew pulses, such as pigeonpea, and green gram or oilseeds, such as groundnut, are going for cotton as the cash crop fetched a good price last year,” he says.

In 2016, Haryana’s cotton growers had a bountiful yield after white fly attacks for three years in a row led to dwindling of the yield.

“Farmers in the region were left with limited choice as many areas suffer from water scarcity and hence were not suitable for paddy,” says Chandrabhan, who grows cotton in Buthan Kalan village of Fatehabad district.

According to statistics available from Fatehabad district officials, cotton is grown on over 72,500 ha out of 2.5 lakh ha of cultivable land.

“For them, it is nothing but a roll of dice. The crop has become less and less remunerative over the years. They still do it because they know nothing but farming,” says Chandrabhan who is also a lawyer. While prices of seeds and inputs have gone up significantly, the price that a farmer gets has either stayed at what it was some 15 years ago or come down. For instance, he says, a quintal of cotton was priced around 5,500 in 2001, the best price available to a farmer last year was 5,000 per quintal.

High costs

Even at a price of 5,000 per quintal, a tenant farmer sustains losses, he argues. He says a tenant farmer has to shell out 41,000 as rent, input costs, and labour charges. The best yield of 8 quintal per acre gets him only 40,000.

Vijay Dukda, a cotton farmer in Dukda village, 18 km from Sirsa town, has another concern. He says he wanted to go for non-Bt cotton this time, but can’t get the seeds.

“I wanted to go for it as Bt cotton growing was affecting the productivity of the wheat crop I grow following the cotton harvest,” he says.

The country-wide kharif crop sowing data released by the Agriculture Ministry on June 30 actually shows that of a total area of 6.3 lakh ha under cotton cultivation, less than 1 per cent is growing non-Bt cotton.

(This article was published on July 3, 2017)

Fertiliser companies allowed to print MRP with new GST on unsold stock



The government has allowed fertiliser companies to print the revised maximum retail price (MRP) by including the new GST rate on existing unsold stocks of about 10 lakh tonnes, with some riders.

The companies have been given three months till September to clear the unsold stocks by stamping or printing the new retail price.

Last week, the [Goods and Services Tax \(GST\) on fertilisers was reduced to 5 per cent](#) from 12 per cent in the interest of farmers. The lower GST will bring down retail prices.

“The Consumer Affairs Ministry has given exemption to fertiliser companies to print or stamp the MRP on unsold stock by incorporating the new GST rate,” a senior Fertiliser Ministry official told PTI.

The companies have been asked to declare revised MRP by way of stamping or putting a sticker or online printing, as the case may be, after complying with some conditions, he said.

Among the conditions specified, the companies have been asked not to overwrite the revised price on the existing MRP, which should continue to be displayed.

That apart, the difference between the retail price originally printed on the package and the revised price should not be higher than the extent of increase in the tax or in the case of imposition of fresh tax on account of implementation of GST tax and Rules, the official added.

Manufacturers and importers should create awareness among farmers of this change in the newspapers by publishing the revised rate on unsold stock.

The retail price of urea, which is fixed by the government, is Rs. 5,360 per tonne now. The prices of DAP and potash, fixed by private companies, are at Rs. 22,000 and Rs. 11,000 per tonne, respectively. With the GST rate kept lower, the prices of these soil nutrients will come down.

The country produces 24-25 million tonnes of urea, widely used as fertiliser, and imports 7 million tonnes to meet the shortage.

(This article was published on July 3, 2017)

Business Standard

Vegetable prices rise up to 87% in two weeks

Monsoon spoilage, diversion to Madhya Pradesh and Delhi reduce supply to Maharashtra

Vegetables have become up to 87 per cent costlier over the past two weeks in the Agricultural Produce Market Committee (APMC), Vashi, near here due to supply disruptions following heavy rain.

Prices of tomato (hybrid) have risen by 87 per cent since June 19 to trade currently at Rs 28 a kg at the Vashi *mandi*.

In the Kolkata and Bengaluru wholesale markets, tomato (hybrid) is quoted at Rs 51 a kg and Rs 45 a kg, respectively, according to the National Horticulture Board (NHB). In both markets, tomato prices have risen by 60 per cent over the last week.

While a price rise during the first spell of the monsoon rainfall is usual, the spurt this year is abnormal.

“Stockists in Maharashtra are supplying vegetables to *mandis* in Madhya Pradesh and Delhi for better realisation. This has reduced vegetables supply to Vashi. Since the government allowed free movement of fruits and vegetable from the production centre to

any *mandi* across India, prices are moving up across the country,” said Vasudev Gupta, a Vashi-based vegetable stockist. Last year, the government delisted fruits and vegetables from APMCs, which allowed farmers to sell their produce in markets of their choice. While the government’s aim was to benefit farmers, they continue to sell their output to stockists, who sell the produce in markets of their choice.

Protests in early June for farm loan waivers resulted in tonnes of fruits and vegetables being dumped on roads. This was followed by monsoon spoilage. Now, diversion to *mandis* further afield has reduced supply to local markets.



Prices of cabbage have jumped by 80 per cent over the last two weeks to trade currently at Rs 18 a kg. Brinjal (round) and cauliflower also moved in tandem to Rs 22 a kg and Rs 20 a kg now from Rs 10 a kg and Rs 14 a kg, respectively, two weeks ago. An APMC functionary also pointed to a sudden increase in export demand from West Asia after Ramzan. Arrivals of peas (watana) have been low due to reduced supply from producing regions.

After the initial burst, rainfall has declined in Aurangabad, Jalgaon and other vegetable-growing regions in Maharashtra. “Farmers may need to re-sow seeds if rain does not resume within a week and the cost of production will go up,” the APMC functionary said.

WHOLESALE PRICE TRACKER

(in ₹ qtl)

	Mumbai			Delhi		
	Jun 19, 17	Jul 3, '17	%Change	Jun 19, 17	Jul 3, '17	%Change
Bitter gourd	2,400	2,800	16.7	1,100	1,100	0.0
Brinjal round	1,500	2,200	46.7	825	1,550	87.9
Cabbage	1,000	1,800	80.0	475	400	-15.8
Cauliflower	1,400	2,000	42.9	1,375	1,125	-18.2
Garlic	3,700	3,000	-18.9	5,250	5,000	-4.8
Ginger	3,100	3,000	-3.2	4,000	3,500	-12.5
Chilly	5,500	6,200	12.7	2,100	2,600	23.8
Okra	2,800	2,250	-19.6	1,275	1,175	-7.8
Onion	700	725	3.6	875	700	-20.0
Peas	5,000	1,100	-78.0	4,750	4,950	4.2
Potato store	900	825	-8.3	625	550	-12.0
Tom ato hybrid	1,500	2,800	86.7	1,200	0	NA

Source: NHB

Compiled by BS Research Bureau

NMCE to merge with ICEX, create third-largest commodity exchange

Combined entity to be the first in the world to offer diamond futures



The National Multi-Commodity Exchange (NMCE) has decided to merge with the Indian Commodity Exchange (ICEX), creating the third-largest commodity exchange in the country.

The merger — discussions for which had been going on for the past few months — was jointly announced on Monday by the two exchanges after the proposal was approved by the boards of both exchanges.

The merged entity will have a net worth of around Rs 200 crore, while its total capital base will be Rs 553 crore. It will offer a wide range of contracts, including bullion, oil and rubber, besides the world's first diamond futures contract, which has already received in-principle approval from the markets regulator.

The country's largest exchange by volume is the Multi Commodity Exchange, or MCX, followed by the National Commodity and Derivatives Exchange (NCDEX).

ICEX shareholders will hold a 62.8 per cent stake in the merged entity, while NMCE shareholders will own the rest, a release issued by the ICEX said.

According to the agreement, one NMCE share will be issued against 10 ICEX shares, sources said.

Reliance capital has emerged as the largest shareholder in the merged entity with around 19 per cent stake. However, according to the Securities and Exchange Board of India (Sebi) norms, it will have to reduce its stake to 5 per cent, for which it has got two years.

“The merger will result in greater financial strength, the consolidation of clients and members, an enhanced product basket and higher operational synergies, which will help the ICEX to further strengthen its position in the country's fast-growing commodity derivatives market,” said Sanjit Prasad, managing director and chief executive officer, ICEX.

The merger proposal is being sent to Sebi for approval, after which both exchanges will move to the National Company Law Tribunal (NCLT) for its nod. After the merger is approved, the board of the new entity will be expanded, sources said.

Following the imposition of the commodity transaction tax from July 2013, the ICEX had suspended trading in 2014 as its volumes dipped to a level that made it unviable to continue business. It got permission to re-launch its operations after it raised its net worth again.

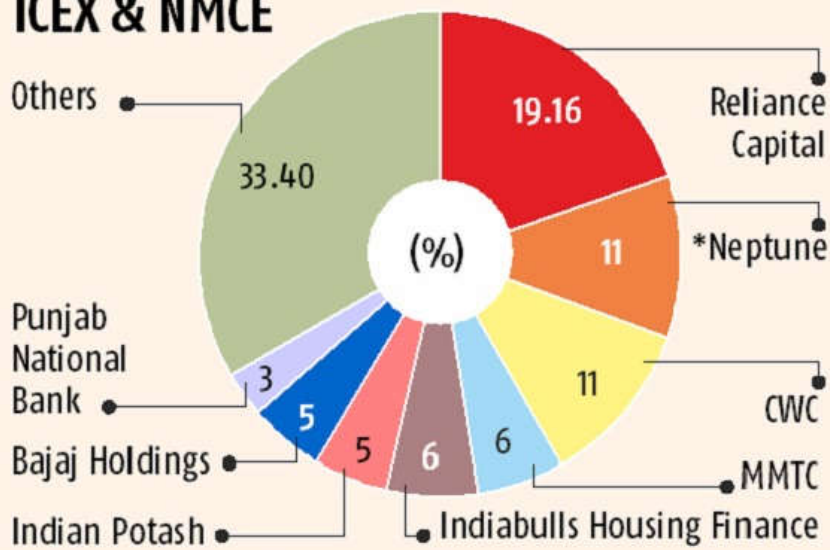
“The merged entity will have vibrant rubber contract, which is an aggregation model where small and marginal farmers have been able to get best price on the exchange's platform despite a strong buyers lobby. The merged exchange shall capitalise on this,” said Anil Mishra, MD & CEO, NMCE. Mishra, who has been CEO of the exchange since 2008, is credited with developing vibrant rubber contracts.

He also said, “The large base of the Central Warehousing Corporation's warehousing facilities, with storage capacity of 9.89 million tonnes, will become available to the combined entity across India, which will help generate more liquidity due to wider participation of the larger base of active members of the combined entity.”

The NMCE has 45 active members. The ICEX is yet to go live, but it already has 50 members. NMCE's daily average turnover in 2017 is Rs 260 crore.

“The merger is expected to be completed by December 2017, subject to regulatory approvals,” said the release issued by the ICEX.

SHAREHOLDING OF MERGED ENTITY ICEX & NMCE



*disputed— original promoter Kailash Gupta's stake was 28 per cent of which 20 per cent was seized by ED and the rest is with him; Compiled by BS Research Bureau