



VAYU Duration June 10 to 17 Intensity Very severe cyclonic storm Wind speed 150km per hour Central pressure (eye of storm) 970hPa Damage Loss of property worth \$140,000, affected parts of northern Maldives, India, south Pakistan & east Oman	HIKAA Duration September 22 to 25 Intensity Very severe cyclonic storm Wind speed 140km per hour Central pressure 972hPa Damage Not quantified, 6 people lost their lives, affected western India, Oman, Saudi Arabia & Yemen	KYARR Duration October 24 to November 1 Intensity Super cyclonic storm Wind speed 250km per hour Central pressure 915hPa Damage Minor and no lives lost, affected western India, Oman, Yemen & Somalia	MAHA Duration October 30 to November 7 Intensity Extremely severe cyclonic storm Wind speed 185km per hour Central pressure 956hPa Damage Minor damage, affected Sri Lanka, southern India, Maldives, western India & Oman	PAWAN Duration December 2 to 7 Intensity Cyclonic storm Wind speed 75km per hour Central pressure 999hPa Damage Not quantified, one person died; affected Somalia
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2019: THE YEAR OF CYCLONES

Wind and water are likely to create havoc due to climate change and global warming. Cyclones – a chain of five this year in the last six months – have already sounded the alarm bell, showing their potential



Categories

Paul Fernandes

Global warming is inducing and fuelling calamitous weather phenomena. Temperatures are swinging to the extreme, creating discomfort and ill health, increasingly driving cyclonic winds and triggering overall wind and water-related disasters. This year, the frequency and intensity of extreme weather events, especially cyclones, became alarmingly noticeable.

The Arabian Sea, which was earlier less affected by cyclonic events, has seen them with increasing frequency in the last four years with a total of 10 raging and ripping our western coastline and adjoining regions, taking the tally to 15 cyclones in five years.

This year itself saw an amazing chain of five cyclones, including twins delivered in the space of a few days, as the Arabian Sea literally became a launch pad for the wind-driven phenomena.

Scientists say it was favourable conditions that spawned five cyclones in less than six months in 2019.

"The frequency of cyclones in the Arabian Sea has increased and, in the rarest of rare occurrences, we even had two cyclones, Kyarr and Maha, simultaneously appearing over the Arabian Sea or their genesis occurring almost closely," retired meteorologist from the National Institute of Oceanography (NIO), Dona Paula, M R Ramesh Kumar says.

Cyclones and monsoon

HOW CYCLONE FORMS

> Cyclone formation commences with a low pressure area, deep depression, cyclonic storm, severe cyclonic and very severe cyclonic storm. On some occasions, it turns into a super cyclone

> Tropical cyclones vary in size from 100km to 1,000km, with the largest cyclone occurring in northwest Pacific Ocean basin. The smallest occurring in northeast Pacific Ocean basin. In height, they range from 15 to 18km

> The eye of the cyclone or its centre is usually calm with a diameter of about 15 to 20km

being two important meteorological phenomena in the Indian sub-continent, climate change is creating tailor-made requirements for both. This year, Goa was under a deluge not witnessed in 130 years and even the

period of cyclones appears to be changing.

Scientists are beginning to veer toward the presence of a large warm pool in the western Pacific region and eastern Indian ocean as a trigger to an increase in extreme weather events.

A recent study by climate scientist Romy Mathew Koll of the Indian Institute of Tropical Meteorology (IITM) at Pune and others has indicated that a warm

pool between eastern Indian ocean and Pacific ocean has grown sizably to nearly double its size in less than four decades.

From an area of about 22 million sqkm between 1900 and 1960, the Indo-Pacific warm pool has grown phenomenally to 40 million sqkm between 1981 to 2018, the study states.

Cyclones have a bi-modal distribution over north Indian

Ocean, as they form during the pre-monsoon phase of May and post-monsoon period of November. Cyclones in December are quite rare. But, in 2019, Pawan seemed to have broken the period barrier, appearing in the first week of the last month.

"This was an anomaly, though it didn't have much impact," retired chief scientist Kumar says.

During a strong positive Indian ocean dipole (IOD) year, we have warm sea surface temperatures in the southern parts of Arabian Sea and western equatorial Indian ocean, which are conducive for cyclogenesis.

"During this IOD phase, cool temperatures prevail in eastern equatorial Indian ocean and warm sea surface temperatures over the western equatorial region, which results in rise in sea surface temperature to more than 27 degrees Celsius conducive for cyclones over Arabian Sea," Kumar says.

Director India Meteorological Department (IMD), Panaji, Krishnamurthy Padgalwar says the frequency of cyclones has increased during the last five years. "In 2014, there were two cyclones, three in 2015, one each in 2016 and 2017, but four in 2018 and five in 2019," he says.

WHAT'S IN A NAME?

> The World Meteorological Organisation (WMO), Economic and Social Commission for Asia and the Pacific (ESCAP), and Panel on Tropical Cyclones (PTC) together forms an inter-governmental regional body

> It was jointly established by the World Meteorological Organisation and the United Nations ESCAP. It is associated with the Tropical Cyclone Programme of WMO. It has eight member countries – Bangladesh, India, Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand

2000

At the 27th WMO/ESCAP PTC, it was agreed to assign names to the tropical cyclones in the Bay of Bengal and the Arabian Sea

Sept 2004

Naming of tropical cyclones over north Indian Ocean began

Why naming matters?

It is easier and less confusing to remember a name than a number or the storm's longitude and latitude

HOW DID IT START

> Practice of naming storms started in the United States

> Earlier, storm would be named after the coast hit. But the mid-1900s saw feminine names being used

> Later, meteorologists chose names for storms from an alphabetically-arranged list

> Eventually, forecasters started using male names for those forming in the Southern Hemisphere

> Since 1953, Atlantic tropical storms have been named from lists originated by the National Hurricane Centre

> They are now maintained and updated by an international committee of the World Meteorological Organisation

> Names of some storms that

GIVING THEM AN IDENTITY

Tropical storms are referred to by different names various ocean basins

CYCLONE | South Pacific and Indian Ocean

HURRICANE | North Atlantic, central North Pacific, and eastern North Pacific

TYPHOON | Northwest Pacific

cause widespread damage and deaths are usually retired, at least for 10 years, as a mark of respect for the dead

> These names are replaced with new names of the same gender and beginning with the same letter

> However, there are a number of variations, for example, Hurricane Mark and Hurricane Marc

METRO DIGEST

Restricted water on Jan 4 & 5 to Bardez, Bicholim

There will be restricted water supply to Bardez taluka and parts of Bicholim taluka on January 4 and 5. Traffic playing from Panaji to Pernem and Bicholim will also be diverted via Vrundavan Hospital to facilitate repair work at Karaswada junction.

No need to fear: CM tells Muslim community

Chief minister Pramod Sawant recently met the representatives of the state's Muslim community at his Altinho residence. Sawant was told about fear and apprehension in minds of Muslims over the Citizenship Amendment Act (CAA) and the National Population Register (NPR). In response, Sawant told the gathering not to panic over the CAA as it will not affect them. He urged them not to resort to agitation or indulge in unproductive activities.

Urvi Masurkar is new Mayem sarpanch

Urvi Masurkar has been elected sarpanch of Mayem panchayat. Masurkar won with seven votes against four votes to her contemporary Premendra Shet.

WEATHER

Max 33°C / Min 25°C
Sunset: Tuesday - 6:36pm
Forecast: Wednesday - 7:08am
Sunrise: Wednesday - 7:08am
Forecast: Partly cloudy/sky
Maximum temperature on Tuesday will be around 33°C while the minimum temperature will be around 25°C.
Humidity (Monday): 8:30 am - 92% / 5:30pm - 72%

Goa Dairy milk to cost ₹4 more from tomorrow

TIMES NEWS NETWORK

Ponda: Goa Dairy's hike in the rates of standardised and cow milk variant's by up to Rs 4 per litre, will come in effect from Wednesday morning. The last hike was effected on March 12, 2017.

Shakti (standardised) milk will now be priced at Rs 25 per half litre while cow milk will be sold at Rs 22 per half litre. There is no change in two variants, full cream milk which is sold at Rs 55 per litre and cold gold which is sold at Rs 20 per half litre.

Goa Dairy administrator Arvind Khuntkar said that the decision to increase prices was mooted as the dairy has been facing a loss worth around Rs 1.7 lakh per day on operating costs since July.

'Scam in procurement of milk from Karnataka'

Maraim MLA Ramkrishna Dhavalikar has alleged a scam in procurement of milk from outside the state. Goa Dairy procures around 60,000 liter of milk from local farmers at Rs 33 per liter and a tanker of around 12,000 liter of milk from Karnataka at Rs 36 per liter while milk from Maharashtra is available at Rs 30 per liter. "Where is this Rs 6 per liter going?" he questioned.

the year.

The dairy has increased procurement rates of buffalo milk by Rs 7 a liter from July and Rs 2 on cow milk from August this year. This has raised cost by over Rs 1lakh per day.

2020: On A Knife's Edge?

CITY CITY BANG BANG
SANTOSH DESAI

Talk about a cliffhanger finish. 2019 has ended in turmoil. A host of questions and possibilities have been thrown by the events of this year, with variables multiplying as the year dragged its dying carcass to the finish line. How will the CAA/NRC/NPR issue pan out? Will the government be able to ram its agenda through or will it retreat to fight another day? Will more decisive steps be taken on the journey to a full-fledged Hindu Rashtra? Will the new-found voice of protest that has sprung up all over the country be able to convert itself into something more lasting and meaningful? Will the judiciary intervene decisively or will run shy of confronting thorny issues? What will happen to the economy? Will the government begin to give it the priority it so badly needs? Will the media rediscover its spine? Barring the last question, the answer to which is a foregone conclusion, all the other questions have no clear answers.

In many ways, 2019 was the first year when the BJP government truly acted like a BJP government. Having per-

haps decided that the first year of its term gave it the best opportunity to bring about the changes it truly desired, it has gone about executing its cultural agenda with speed and great resolve. The criminalisation of Triple Talaq, the virtual abrogation of Article 370 in Kashmir, and the passing of the CAA are all pieces that fit together and outline a clear trajectory of its intentions. If one could extrapolate from its current path, it would not be too difficult to foresee its script for 2020. The NPR/NRC, the Uniform Civil Code, and the construction of the Ram Janmabhoomi temple are some of the other likely milestones.

In following this path, it has simultaneously shown a level of disregard for the state of the economy that is difficult to understand. Barring a few superficial moves, it has allowed the economy to drift into a state of decline, and made its task that much harder for the rest of its term. Given that a lot of Modi's personal cachet has been built on the back of his reputation as an active agent of development, this disinterest in the economy has been particularly distressing for business, the constituency most optimistic about his tenure at one time. If the government's disproportionate focus on its cultural agenda to the detriment of the economy has been a surprise, so has the scale and

intensity of the protests that have sprung up all over the country. In the past, none of the government's actions have been seriously challenged. The large mandate enjoyed by the government coupled with the absence of any meaningful opposition had created a sense that it could do whatever it wanted. The profile of the people protesting went well beyond the usual smattering of well-meaning activists, and cut across class, town size and significantly religion. This was not a Muslim-only protest movement, and the active leadership of the young, both in several towns as well as in campuses across the country, was again something that was against the run of play.

The government's response has been two-fold. On the ground, it has come down heavily on the protesters, particularly in Muslim-dominated areas, while on air it has made vague and not entirely comprehensible sounds suggesting a backdown. Police action has often been brutal and any number of videos documenting this are doing the rounds. It is clear that police have been given the mandate to send a message and they are doing just that. Allegations of violence from the protesters' side may well have a grain of truth in them, but the police response has been in line with what Yogendra Adityanath termed as a

desire for "revenge". Besides the state has discovered a newfound respect for public property, one that has been sorely absent in previous agitation.

The way forward looks murky. If BJP believes the tests will die down in a while and that it can go ahead with its plans without too much disruption, then it may be in for a surprise. The stakes here are deeply asymmetrical. For one side, it is a matter of existence and freedom and for the other an underlining of a symbolic distinction. Even if the protests were to become quiescent when the actual NRC is called out, the situation is almost certain to become highly volatile.

2020 is set up intriguingly menacingly even. The gradual stifling of democratic institutions, in evidence over the last many years, might reach a decisive point. The subjugation of the Muslim in India might become more official. Spurred by disagreement and dissent might shrink more. Alternatively the countervailing spirit of resistance might halt the government in its tracks. More practically, its lack of success in state politics and its inability to carry state governments along might slow down the government's plans to push ahead with its cultural agenda. 2020 will determine the future direction this country will take. One way or another.

NOTICE

Board Meeting to consider the unaudited quarterly financial results for the quarter ended 31st December, 2019 will be held on Friday, 10th January, 2020.

For **Kore Foods Limited**
Puja Joshi
Company Secretary-cum
-Compliance Officer

Vision House, Tvim Industrial Estate, Mapusa, Goa 403 526.
Dated: 31/12/2019

OFFICE OF THE EXECUTIVE ENGINEER (WB)-I

DELHI JAL BOARD: GOVT. OF N.C.T. OF DELHI
JAL SADAN: LAJPAT NAGAR: NEW DELHI-110024
N.L.T. No. 24/EE(WB)-I(2019-20)

Press Tender

S. No.	Name of Work	Reserve price	Date of release of tender in e-procurement solution	Last date and time for download & RTGS through e-procurement solution
1.	Rejuvenation of Salsoda lake opposite District Court Saket on DBO Basis Under EE (WB)-I	Item rate	2019. DUB 186343, 1 24,12,2019 onward	27.1.2020 upto 3.00 PM

Further details in this regard can be seen at govtprocurement.delhi.gov.in
ISSUED BY P.R.O. (WATER)
Adv. No. J.S.K. 733/2019-20