

World's richest emit 50% of CO₂: Report

LE BOURGET (FRANCE), DEC 2

The richest 10 per cent of people produce half of Earth's climate-harming fossil-fuel emissions, while the poorest half contribute a mere 10 per cent, British charity Oxfam said in a study released today.

Oxfam published the numbers as negotiators from 195 countries met in Paris to wrangle over a climate rescue pact. Disputes over how to share responsibility for curbing greenhouse-gas emissions and aiding climate-vulnerable countries are among the thorniest and longest-running issues in the 25-year-old UN climate process.

"Rich, high emitters should be held accountable for their emissions, no matter where they live," Oxfam climate policy head Tim Gore said in a statement. "But it's easy to forget that rapidly developing economies are also home to the majority of the world's very poorest people and while they have to do their fair share, it is rich countries that should still lead the way." —PTI

Rich-poor divide mars Paris talks

LE BOURGET (FRANCE), DEC 2

The rich-poor divide dominated climate talks today with BASIC countries, including India, asking developed nations to define a clear roadmap for providing \$100 billion by 2020 to tackle climate change and green groups calling for high emitters to be held accountable.

A statement issued by China in the climate summit plenary on behalf of BASIC countries, a bloc of four large newly industrialised countries — Brazil, South Africa, India and China, extended support

Obama wants a legally binding deal



Although the targets (on reducing emissions) themselves may not have the force of treaties, the process, the procedures that ensure transparency and periodic reviews, that needs to be legally binding and that's going to be critical.

Barack Obama, US PRESIDENT

for a transparent and party driven process at the 12-day conference.

The statement said BASIC would work pragmatically with all other parties for an equitable and balanced climate agreement.

It said the agreement should be as per all principles and provisions of the UN Framework Convention on Climate Change especially equity and common but differentiated responsibilities (CBDR). It asserted that differentiation should be there in each element of the Paris agreement. —PTI

Hindustan Times

Statesman

The Times of India (N.D.)

Indian Express

Tribune

Hindustan (Hindi)

Nav Bharat Times (Hindi)

Punjab Keshari (Hindi)

The Hindu

Rajasthan Patrika (Hindi)

Deccan Chronicle

Deccan Herald

M.P.Chronicle

A a j (Hindi)

Indian Nation

Nai Duniya (Hindi)

The Times of India (A)

Blitz

and documented at Bhagirath(English)& Publicity Section, CWC.

Chennai drowns in flood misery, more rain likely

CITY CRIPPLED Rain predicted for the next four days, key services hit

KV Lakshmana

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CHENNAI: The heaviest rainfall in a century brought India's fourth most populous metropolis to its knees on Wednesday as widespread flooding shut down the airport and factories of top automobile companies, and stopped trains packed with passengers on submerged tracks.

The Indian Navy's air base at Arakkonam — 70 km west of Chennai — was readied for commercial flights to evacuate hundreds of passengers stranded at the civil airport, which has been shut till December 6.

The navy facilitated the landing of an Air India Airbus A320 jet at the base, INS Rajali, on Wednesday evening, officials said adding that this will provide momentum to relief and rescue operations in the capital of Tamil Nadu.

People formed human chains to traverse treacherous stretches of roads many of which developed sinkholes, sought and found help on social media and dug in at some areas where the water level reached the second floor of apartment buildings.

The authorities deployed men and machine of the army, air force and navy for one of the biggest peacetime operations in the country to rescue thousands of people from homes and workplaces in the city of more than six million people.

"Only crows are coming and no helicopters. None of us have had any food for the past two days...", said K Srinu, a 35-year-old carpenter stranded in the heart of the city, as he waited for rescue teams to evacuate his father, a heart patient.

CONTINUED ON PAGE 8



■ People take a boat as they move to safer places through a flooded road in Chennai on Wednesday.

REUTERS PHOTO

more stories

Chennai powerless, many people still stranded

Most parts of the city have been without power for two days, many people are still stranded and ATMs are running out of cash. » P10

Flooded Chennai a talking point at Paris climate meet

Chennai's worst rain in almost 100 years being highlighted as an example of India's vulnerability to climate change. » P10

Chennai drowns in flood misery, more rain likely

It was a plight shared by many across the city as rescue teams, including personnel of the National Disaster Response Force (NDRF), moved from one locality to another, helping women, children and the infirm first.

More than 200 people were injured over the past 24 hours, a senior home ministry official said.

Though there were no showers for the better part of Wednesday, the weatherman predicted rain for at least four more days albeit with reduced intensity in Chennai and four neighboring districts which have also been paralysed by the extreme weather.

Stocks of major carmakers took a tumble because of the deluge in the area outside Chennai, known as India's Detroit for its concentration of automakers besides IT companies.

Most neighbourhoods were without electricity as power was switched off to prevent accidents.

The few shops that remained open in Chennai were virtually raided by customers, with people resorting to panic buying. Many shops ran out of bread, milk and vegetables.

Many ATMs were closed as there was no power and the few that did function, had long queues of people.

Earlier in the day, Prime Minister Narendra Modi blamed climate change for the deluge, injecting urgency into the debate at the global climate talks in Paris and highlighting the vulnerability of tropical nations like India to extreme weather.

Modi, who had spoken to chief minister J Jayalalithaa and assured full support from the Centre, met senior cabinet colleagues Rajnath Singh, Arun Jaitley, Sushma Swaraj and Venkaiah Naidu in Delhi to soar up emergency measures.

The National Crisis Management Committee (NCMC), headed by cabinet secretary PK Sinha, met in Delhi on Wednesday to line up resources for Tamil Nadu and neighbouring states.

Parliamentarians, cutting across party lines, also made a strong pitch for providing quick assistance to Tamil Nadu. Rajya Sabha members agreed to contribute a part of their MP Local Area Development scheme funds to the state government for relief and rehabilitation of affected victims.

(WITH INPUTS FROM AGENCIES)

Growth prospects must stay afloat

As a manufacturing and IT hub, Chennai is more vital to the economy than it might appear

With the Army out to **ourtake** rescue stranded citizens, its airport closed for a day and iconic companies shutting operations or paring down their work hours, there is more to Chennai's ravaging rains than it might appear in the simple numbers that will emerge when the waters have receded. While relief, rehabilitation and repairs may form the troika of tasks in front of the authorities, there is a case to look at the event not only as a wake-up call to think big on urban infrastructure and environmental sustainability, but also an occasion to act for the sake of India's larger economy.

The second spell of rains in the city of 4.9 million people are bleeding a key manufacturing hub even as the government gears up to attract global investors to its ambitious Make In India scheme. Images pouring in from the city include those of flooded streets in plush residential areas and waterlogged campuses in a special economic zone. Industrial areas such as Manali and Avadi are among those severely hit by incessant downpours. Companies whose operations have been affected include TCS, Infosys and HCL Technologies among software exporters, and Renault Nissan, Yamaha, BMW and Ashok Leyland among automobile giants. As a back-office hub for the World Bank and global consulting firm McKinsey, Chennai's status on the global investment map becomes even more significant. While growth so far has created stresses that have contributed no doubt to infrastructure problems, the next wave of growth must be on stronger and sustainable ground.

While India is set to overtake China as the world's fastest-growing major economy this year, foreign investors and financiers may be unnerved when civic distress becomes part of the risks they must face in a key metropolis. After the first round of devastating rains, Tamil Nadu had pegged the damage to the state at close to ₹8,500 crore and chief minister J Jayalalithaa had sought the prime minister's help to immediately release ₹2,000 crore for relief work. At that time, insurance claims from damages were estimated at ₹500 crore. Both numbers are bound to go up substantially. It is reassuring that Prime Minister Narendra Modi has telephoned Ms Jayalalithaa from the climate change conference in Paris to offer help. The gesture must now be followed up by an elaborate plan to fix infrastructure, environmental imbalances and civic amenities.



As Bharat goes into a tailspin

Half the country is drought-hit and the poorest areas edge towards famine. But it would seem India is otherwise engaged

India, the father of the nation famously said, lives in its villages, or, as many call it, Bharat. There is no doubt that a great shift is underway: As 600 million move out of rural areas over the next 35 years, India will need about 500 new cities. But unless Bharat offers a fraction of the hope that ushered in Narendra Modi's era, the ongoing urban transformation of India will be no more than a great, ragged hope-demolishing exodus.

For now, Mahatma Gandhi's aphorism holds good. As many as 833 million people (73% of the country's population) still live in Bharat, according to the latest data from the Socio Economic and Caste Census (SECC) released earlier this year. Some 670 million of these 833 million people live below the poverty line (₹33 per person per day), three of four households earn less than ₹5,000 per month, 95% do not earn enough to pay taxes and 64.3% are illiterate (but 71% own a mobile phone).

With many indicators closer to sub-Saharan Africa than urban India, Bharat's livelihood options are limited. Just over half its people (51% or 424 million) are manual labourers, said the SECC, and a third (349 million) live off farming. Other livelihoods include being part- or full-time domestic servants (25 million), begging (3.3 million) and rag-picking/foraging (1.7 million).

The data indicate the essentially dead-end nature of Bharat's jobs and realities and a worsening farm economy, which grew only 0.2% last year. If it grows that much this year, we should be lucky. The under-reported and largely ignored farm crisis has been made greatly worse and more urgent by two years of scanty rain.

Obsessed with the latest, hyper-emotional social media trend, India's people and mass media are all but oblivious to Bharat's emergency situation. The only national newspaper that has consistently followed collapsing farms and failing rains is Mint. As of last week, nine of India's 29 states had officially declared a drought, and 302 of the

640 districts are living in drought-like conditions. If you ask why none of this is on India's primetime television shows or splashed on front pages, I will only say that the media, in general, are not interested and neither, dear reader, are we.

Telangana, Maharashtra, Karnataka, Andhra Pradesh, Chhattisgarh, Jharkhand, Uttar Pradesh, Odisha and Madhya Pradesh are the states that have officially declared drought. Together, they have asked the Centre for ₹20,000 crore as aid, and, last week, came the first indication of just how bad things might be in the most bereft areas.

About eight of each 10 households in western UP's Bundelkhand region — one of India's poorest, most suicide-prone areas — were eating rotis with spices and salt, reported the only independent survey to assess the impact of failed rains. Up to 17% of all households had replaced regular meals with rotis made of grass, and half of all households had eaten no vegetables over 10 days, reported the survey, conducted in 108 villages across Bundelkhand by Swaraj Abhiyan, or Freedom Movement, an NGO run by psephologist Yogendra Yadav. It is particularly notable because economists Jean Dreze and Reetika Khera helped design it. With 61% of households reporting losses of oilseeds, coarse grain and pulse crop — and 96% saying it was their second consecutive failed harvest (after the winter crop was lost to hailstorms in March and April) — children have been withdrawn from school and put to work and cattle either abandoned or sold.

The lack of public scrutiny allows politicians to treat the farm crisis in cavalier fashion. Two weeks ago, as UP declared a drought in 50 of its 75 districts and sought ₹2,058 crore as central aid, Mulayam Singh Yadav, head of the ruling Samajwadi Party, treated himself to a three-day birthday bash with a 76-kg cake, item numbers and Bollywood stars. In Telangana, which asked for a ₹1,000-crore handout from New Delhi after declaring a drought last week, chief minister K Chandrasekhar Rao has organised



■ About eight of each 10 households in Bundelkhand were eating rotis with spices and salt. Up to 17% of all households had replaced regular meals with rotis made of grass, according to a survey conducted by Swaraj Abhiyan, an NGO

SUBRATA BISWAS/HT

a grand five-day state-funded puja later this month, with scores of sacred fires, mantras, ceremonies and more than 5,000 priests in attendance.

Madhya Pradesh, a former basket case that is now India's second-largest wheat producer, is witnessing about four farm suicides every day since the start of 2014. The government, which has declared 35 of its 51 districts drought-hit, is taunted by the Opposition, which asks why chief minister Shivraj Singh Chouhan, who regularly staged protests in Delhi over the last decade, does not show as much combativeness for aid. The state has asked for ₹2,500 crore, but a central team is now assessing how much should be granted.

There is almost no independent media reportage of the drought, and governments, who should be under pressure, are not unhappy, although they might want to consider the political effects of ignoring the farm crisis.

Bihar's recent humbling of the BJP might or might not have persuaded Modi to be more realistic. But it did reveal just how differently Bharat and India think. Modi's signature programmes — Swachh Bharat and Make in India — celebrated in urban India, had little resonance in a state where 98% of the rural population have no toilets and 89% of the people live off the village economy.

The election season is, currently, over and there is no public or media interest in Bundelkhand's drift towards famine and Bharat's downward spiral into despair. And, of course, no one will remind Congress scion Rahul Gandhi of what he said during a 2013 election meeting. Bundelkhand, Gandhi declared, would become Bengaluru. He continued: "You say Bundelkhand should be linked to Delhi, but I say Bundelkhand should be linked to America!" For now, it would be a significant feat if Bundelkhand — and Bharat — could be linked to India.

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The views expressed are personal

Dark clouds & a silver lining

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Making extensive preparations for rare, extreme situations is neither easy nor economical. Both the Tamil Nadu administration and the residents of Chennai and its neighbouring districts were not ready for the relentless spells of rain after the North-East monsoon set in, flooding homes and offices, roads and malls. Ordinarily, the worry for Chennai is a weak monsoon with deficit rainfall that leaves little water for drinking purposes and irrigation. But, over the last 30 days, the government and the people were dealing with the ill-effects of an unusually active monsoon that seemed intent on overcompensating for the deficit years with record rainfall. Even as the city returned to some sort of normalcy after one torrential downpour, it had to contend with another spell of rain. Displacement, traffic jams, power cuts, rising prices, and scarcity of food, the woes just would not end for the people of Chennai. The situation was especially bad for those in the relatively new residential areas in the suburbs where, in recent years, real estate growth was given priority over planned development. Also, more than the amount of rainfall, Chennai was hit badly by the overflow of water from reservoirs and breaches in lakes and tanks, and the flooding of water channels that were already choked with silt and refuse. With an unprecedented discharge of water, Chennai's rivers have shown no respect for the bridges and the roads, effectively cutting off people and places on one bank with the people and places on the other bank. With bus and suburban railway services becoming inoperable, Chennai had to rely heavily on the new Metro line and the Mass Rapid Transit System.

But the rains were not all about doom and gloom. The government did remarkably well in rescue and relief efforts, quickly requisitioning the deployment of the armed forces to evacuate people in flooded areas and engaging in elaborate rehabilitation work. In the end, even Opposition leaders readily praised the relief measures taken up in challenging circumstances. The distress brought about by the rain also revealed the remarkable strength and character of the people in the city and the affected districts, with NGOs supplementing the efforts of the government, and public-spirited individuals taking up relief work, spending time and resources in reaching out to those left stranded. *The Hindu* is privileged to be a part of these efforts. Social networks were full of messages offering help or information on where help would be available. Malls and private schools and colleges too opened their doors to the flood victims. A radio taxi service provider, under criticism for failing to arrange cabs, offered free boat services. Clearly, the civic solidarity was in evidence everywhere, with volunteers helping to ferry the aged and the sick, and distribute food packets and warm clothes. Without a doubt, this has been the silver lining in the dark clouds over Chennai over the last few weeks. The lessons learnt during this extended disaster should result in a hard look at existing policies on urban planning, and a short-term revamp of the inadequacies in the civic infrastructure of urban areas.

And still waters run deep

Throw it into the deep end, and it invariably bobs up again, triumphantly. That's Chennai for you

VAISHNA ROY



At 10:00 am this morning, a friend called Krish sent out a Whatsapp message to say that he was driving around Adyar, a South Chennai suburb, and would be happy to drop off groceries, or medicines to anyone in the area. He had left home primarily for this — to check what roads were motarable and what shops open.

It's been raining more or less continuously for over 72 hours now as I type this, and in the steel grey and slightly menacing pall that hangs low over the city, it's the messages from Krish and others like him that have been like little beacons of light for the hundreds of us marooned at work or at home or in the middle of roads that now look like swirling rivers.

As the unprecedented rainfall, the first of its magnitude in over a hundred years, floods the city, we have been inundated in another way as well, a much nicer way, with offers of help from fellow citizens that have ranged from people throwing open their homes to cafeterias offering sandwiches and coffee to cinema halls and malls opening up their interiors to stranded people.

The world of Chennai

Many outsiders who come to the city say it's hard to make friends here. The people are insular, they say. It's true, we Chennaites stick to ourselves. There is none of the brash socialising of the Delhiite, the familiar chattiness of the Kolkata, or the earthy amiability of the Mumbaikar. Your breezy hello will likely get a grunt in return and chirpy conversational overtures will meet austere monosyllables. That's because we don't much care for small talk. We can spend entire evenings making few friends and influencing nobody, but give us a crisis and you'll find that few cities stand up tall the way Chennai does. It is unglamorously practical, calmly efficient, and absolutely rock-solid in its support systems.

I remember encountering this the first time when I was in Nagapattinam after the tsunami in 2004. The local administration had set up a disaster relief war room where representatives of NGOs, local communities, the media and the administration would meet each morning under the aegis of the District Collector. Damages were assessed and responsibilities distributed.

The quiet efficiency they displayed was remarkable, and the State's super-quick resettlement effort came in later for much commendation. All of it was pulled off with little publicity and no glamour. And it is being repeated now.

It's bizarre how this city, which reels from a severe water shortage for most



AT NATURE'S MERCY: "It's bizarre how this city, which reels from a severe water shortage for most parts of a year, is almost always most brutally battered by water, whether from the sea or from above." Picture shows a flooded area in the city. — PHOTO: REUTERS

parts of a year, is almost always most brutally battered by water, whether from the sea or from above. The deity of water is clearly displeased with Chennai. Varuna, he is called, this god of rain and the ocean who rides a crocodile-like sea monster. He once ruled the heavens but was later displaced by the slightly wimpish Indra. The dethroned Varuna is obviously still irate and Tamilians, often described as devout, are strangely at the receiving end of his wrath.

But Varuna is leaving them unfazed. Driving to work today, when the rain had reduced to a light drizzle, I took the road that runs along the shoreline through the urban fishing village of Nochikuppam. Scattered knots of fisherwomen had already set up shop, some in raincoats, some with plastic bags on their heads; meagre heaps of fish in front of them, the seething, smoky sea behind. A paunchy man in a helmet bargained, a woman was choosing sardines, life was up and about.

How a city responds to its animals says a lot about its people, and one of the first posts on Facebook was about a dog taxi. The shelter that posted it said they had run out of space but were happy to drive pets to a shelter in Bangalore and bring them back after the floods. A Whatsapp

message said an old woman had found shelter, but would someone please rescue her four cats. Another man tweeted about a litter of five orphaned, week-old mongrel pups and within hours, Blue Cross had picked them up.

It's easy to dismiss social media as ephemeral, but there is nothing quite so effective in a disaster. Within hours, half a dozen hashtags had sprung up — #ChennaiFloods, #ChennaiRains, #ChennaiRainsHelp, and more. By late Tuesday evening, some genius had set up an interactive map that showed exactly which roads were inundated, and users could click and update it.

By now, dozens of doctors, cabs, and small businesses are offering free service. One transport company is giving a free bus ride out of Chennai to safer ground in Trichy or Dindigul, while ordinary citizens are lending their cars. One man says he will run a shuttle between Chennai and Bangalore. At 1:30 p.m. on Wednesday, a Whatsapp message asked for volunteers to take supplies to a home in Porur that was five feet under water. Within an hour, there was a surfeit of help. Radio stations have sent vehicles to scout neighbourhoods and drop off supplies at homes. Community kitchens are up and

running, while marriage halls have been opened up to the public.

I saw a chilling Facebook video of a couple on a scooter getting washed away by a torrent of water, but passing motorists quickly form a human chain and rescue them. Comments have poured in about how amazing it is that people should come forward to help so selflessly. The truth is this is how I have found the city more often than not. Stranded in the middle of a busy road with a broken down car, and a taciturn Good Samaritan has sprung up from nowhere to help. Stuck in a cafeteria while it poured outside, one man has actually walked me the few steps to my car under his umbrella. There is a gentle sweetness to the Chennaites that is hard to see but impossible to overlook. And it comes to the fore each time someone somewhere needs help.

And if you need any proof that the city is already bouncing back, here's my image of the day. Two young men, bedraggled with trousers folded to their knees, have obviously waded through the knee-deep stream that is my street and there they stand, under umbrellas, taking proud selfies in front of Kollywood superstar Ajith's house. And the matinee goes on.

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AFTER THE DELUGE

The Monsoon fury in Chennai lays bare the crisis of governance in the city

THE NORTHEAST MONSOON in Chennai this year — the severest in over a hundred years — has wreaked unprecedented havoc. When the rain returned after a lull over the weekend, the city, which had already taken a pounding in November, could not cope. Chennai's airport, railway stations and bus stations have been closed since Wednesday. The city's two main rivers, the Adyar and Cooum, are flooded and reservoirs and tanks in the outskirts are overflowing. There has been no electricity in large parts of the city for over 24 hours. At least 65 people have died since the rains began late October. Business has reported losses of over Rs 500 crore and at least 21 work days have been lost. The navy and disaster management teams are undertaking rescue missions as the threat of a food and water and health crisis looms.

The seasonal rain (October-December) so far this year has been estimated to be 121 cm — the annual average is 43cm and the recorded peak for the corresponding period was 108.8 cm in 1918. However, the intensity of the rains could not have caused this total collapse of infrastructure if the city administration had done its job. The heavy rain has exposed the creaking public infrastructure in Chennai — like the 2005 deluge did in Mumbai or the 2014 floods in Srinagar. One of the largest manufacturing and commercial hubs in the country, Chennai, understandably, has been expanding at a fast pace. From heavy industries like automobiles and auto components to software, BPOs, education and healthcare, the city has built a wide economic base and is home to a cosmopolitan workforce. Yet, the administration has been slow to augment the infrastructure to take the extra load of people and vehicles. Unplanned and ill-thought construction, especially on river, tank and lake beds, has led to the choking of water bodies that accommodated flood waters in the past and storm water channels. Rivers, natural outlets for flood waters, are choked with garbage, sewage and silt. Drainage is non-existent in the newer areas of the city while civic bodies go slow over routine pre-monsoon municipal works.

In Chennai and elsewhere, the approach to urban governance needs to change. Mundane aspects of city administration like building and maintaining water, drainage and sewage systems, mass transport facilities, etc are ignored as the conversation shifts to concepts like smart cities. Civic bodies need massive infusions of funds, skills and technologies if cities are to become liveable urban spaces. That's the lesson from the Chennai deluge.

Chennai floods a wakeup call

context with the number of increasing extreme events, decrease in number of rainy days and the fact that 2015 was likely to go down as the warmest year, ever.

Notably, before leaving for the Paris climate change summit, Prime Minister Narendra Modi, in his "Mann Ki Baat" programme, linked the excess rain in Tamil Nadu this northeast monsoon season to climate change.

Meanwhile, environmentalists have criticised the way urban planning rules are being flouted across the country. They warn that the frequency of the events is increasing—all indicative of climate change.

Describing the ongoing rain in Tamil Nadu and that witnessed in Jammu and Kashmir a year ago as clear instances of climate change episodes, they are warning the planners to start respect-

ing the rules of urban planning in the country before it is too late.

As Chennai experiences its worst rain in 100 years, the IMD has predicted more rain for Tamil Nadu and Puducherry over the next week. Manoj Mishra of Yamuna Jiye Abhiyaan says the increasing episodes of intense events in the country are a proof that India is most vulnerable to climate change.

However, the misery that the common man is suffering is man-created, he adds.

"Chennai is the story of mismanaged city planning—a revisit to Srinagar 2014 and Mumbai 2005. The rising water level in Chennai is a proof of its ravaged urban planning. It will be the same story elsewhere, be it Jalandhar, Ludhiana and Patiala in Punjab or Ambala in Haryana," says Mishra.

"In these cities, natural drainage systems have either been restricted or

completely blocked. Rainwater needs to drain out, but in most cities in the country, including Delhi, the drains have either been blocked or restricted. If rainwater does not find a natural exit, there will be water-logging in urban areas," adds Mishra.

Even though Chandigarh is quoted as an example of modern urban planning, Mishra says the Rajiv Gandhi Technology Park in the city is also situated over a natural drainage system. "It is the same story everywhere throughout the country, whether it is the Commonwealth Games village on the Yamuna riverbed or the construction over the Barapullah flyover in Delhi. The Union Government guidelines issued in 2010 clearly say what is required to prevent urban flooding. However, our urban planning is not as per landscape or topography, but as per the convenience of builders," he says.

HEAT IS ON: RICH-POOR DIVIDE WIDENS

House blocks emission rules, Obama set to veto

Washington: US House of Representatives voted to block President Barack Obama's regulations on reducing greenhouse gas emissions — a move certain to spark his veto — as negotiators work on a climate deal in Paris.

The two measures, rolling back the Environmental Protection Agency's new emission rules for existing and new power plants, passed the chamber largely along party

NY plans electric vehicle fleet

New York mayor Bill de Blasio on Wednesday announced his plans to build what he called the largest electric vehicle fleet in any US city and to slash traffic emissions. The 'NYC Clean Fleet' project eyes plans to cut municipal vehicle emissions by half by 2025 and 80% by 2035. City hall said it would replace 2,000 fossil fuel sedans with plug-in electric vehicles over the next 10 years. **AFF**

lines, with all but four Democrats opposed to each.

The so-called disapproval resolutions, which already passed the Senate, dealt a symbolic yet harsh rebuke to Obama. The White House has said Obama would veto the resolutions and Congress does not appear to have sufficient votes to override it. Many conservatives in Congress deny that climate change is a result of human industry and agriculture, and have opposed emissions controls. **AFF**

World's richest 10% produce 50% of CO₂: Report

London: The richest 10% of people produce half of the Earth's carbon emissions, while the poorest half — most threatened by droughts and super storms linked to climate change — contribute a mere 10%, British charity Oxfam said in a study released on Wednesday.

The richest 10% have, on average, carbon footprints 11 times that of the poorest 3.5 billion people on the planet, the campaign group said in its report. One of the biggest obstacles facing negotiators from 195 countries, attending the Paris climate meet, is how to find the billions of dollars needed by developing nations to enable them to stop using fossil fuels and adapt to the weather shocks.

"Climate change and economic inequality are inextricably linked and pose one of the greatest challenges of the 21st century," Tim Gore, Oxfam's head of food and climate policy, said.

Emissions are rising fastest in developing countries, Oxfam said. Yet emissions relating to goods and services consumed by the richest citizens in China, India, Brazil and South Africa are way behind those of their counterparts in the wealthiest countries of the Organisation for Economic Co-operation and Development, it said.

Oxfam found that India's richest 10% use on average just one quarter of the carbon used by the poorest half of the population of the US. It also said total emissions of



'SOLUTIONS TREE': An art installation called the 'solutions tree', where people can post ideas to problems posed by climate change, is displayed in Paris on Wednesday

Tuvalu faces threat from rising sea

The PM of Tuvalu, the world's fourth smallest nation, has appealed for help from EU leaders to stop its disappearance from Earth. Enele Spoaga arrived in Brussels on Monday to call on EU leaders for support. The islands, home to just 10,000, is under threat from rising sea levels as it is just 4m above sea level. He called on Europe to reduce greenhouse gas emissions to keep warming down to 1.5°C. He said: "We need to save Tuvalu to save the world." **THE INDEPENDENT**

China's poorest 600 million people are one third of the total emissions of US's richest 10%, some 30 million people. **REUTERS**



Warming could cause fall in oxygen level

London: Falling oxygen levels caused by global warming could be a greater threat to the survival of life on Earth than flooding, according to researchers from the University of Leicester in the UK.

The study has shown that an increase in the water temperature of the world's oceans by around six degrees Celsius — which some scientists predict could occur as soon as 2100 — could stop oxygen production by phytoplankton by disrupting the process of photosynthesis.

"Global warming has been a focus of attention of science and politics for about two decades now," Sergei Petrovskii, professor at Leicester's department of Mathematics, said. "A lot has been said about its expected disastrous conse-

quences; perhaps the most notorious is the global flooding that may result from melting of Antarctic ice if the warming exceeds a few degrees compared to the pre-industrial level," Petrovskii said.

"About two-thirds of the planet's total atmospheric oxygen is produced by ocean phytoplankton — and therefore cessation would result in the depletion of atmospheric oxygen on a global scale. This would likely result in the mass mortality of animals and humans," he said.

While mainstream research often focuses on the CO₂ cycle, as carbon dioxide is the agent mainly responsible for global warming, few researchers have explored the effects of global warming on oxygen production. PTI

India wants legally binding pact on aid for poor countries' green shift

AP

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Paris: On the back of reports in the western media terming it 'obstructionist' at the on-going climate summit, India on Wednesday strongly put forward its point and made it clear that the country wants a "legally binding" agreement that enables financial support from the countries which have developed on the basis of cheap energy to those which have to meet their energy demand through more expensive 'zero carbon' sources.

India also made it clear that it won't shy away from extending financial support the way China promised as part of the South-South cooperation.

The country at the same time made it clear that such post-2020 financial contribution from India will not be part of the climate finance under the Green Climate Fund (GCF) -- an international mechanism where the rich countries are expected to annually contribute US \$ 100 billion from 2020 onwards to help poor and developing countries fight challenges of climate change.

Articulating India's point, key negotiator Ajay Mathur said, "We are completely in fa-



Argentinian artist Pedro Marzorati's artwork 'Where the Tides Ebb and Flow' highlighting the rise in sea levels due to global warming on display at the United Nations Climate Change Conference in Paris

vour of the agreement that helps create the kind of legal binding that is necessary for such an agreement to be actually implemented by countries -- that is far more important than the countries just signing on it."

On the sticky financial issue which is seen by the rich world as something which may even be looked into outside the agreement, Mathur clearly said, "We look forward to an agreement that enables financial support from the countries that have developed on the back of cheap energy to those which have to meet

their energy demand by more expensive but low carbon zero carbon energy. We believe technology is going to play a major role in this and therefore access to technology and enabling collaboration are going to be amazingly important for us".

Referring to the country's stand on stocktaking of what all the countries have promised through their respective climate action plans - called Intended Nationally Determined Contributions (INDCs), Mathur said, "We would like the countries as they put forward their INDCs

to look at them periodically -- the global stocktaking process in the agreement is something we like so the world as a whole can periodically see what is it that they are all doing and where is the world going because of their actions.

"As a result of these global stocktakes for which the ownership should be with the countries, they should then look at their next set of INDCs to be more challenging and more ambitious than what they have put in now.

So, we are looking at what I think always is called progression principle (no backsliding principle) that each one of us delivers more in each cycles of commitment that we take."

He further elaborated that the country would also like that all countries periodically provide information of their actions. "We have started with it and will continue with the process what that is called the biennial update report. There are guidelines which says how it is done and how it is discussed at the global forum," said Mathur.

On the question of periodicity of the review, he said it was a matter of negotiation and it was very difficult at this juncture to spell it out.

Climate resilience: Delhi promises better groundwater management

Vishwa.Mohan@timesgroup.com

Paris: A broad coalition of nations including India, river basin organisations, business and civil societies from across the globe on Wednesday announced the Paris Pact on Water and Climate Change Adaptation to make water systems — the very foundation of sustainable human development — more resilient to climate impact.

These major collaborative projects represent over \$20 million in technical assistance and potentially over \$1 billion in financing.

India, on its part, committed to build climate resilience through improved groundwater management in the country. Almost 290 water basin organisations are engaged under the Paris Pact on Water and Climate Change Adaptation.

The announcement was part of the "Water Resilience Focus" event under the Lima to Paris Action Agenda (LPAA) on climate change. It also highlighted other key partnerships and coalitions to make river basins, lakes, aquifers and deltas more resilient to climate change and reduce human interference

with oceans.

Member of the Yankton Dakota and Chickasaw First Nations, hereditary chief Phil Lane Jr, briefs the media during the World Climate Change Conference 2015 at Le Bourget, near Paris on Wednesday

The LPAA is a joint undertaking of the Peruvian and French COP (conference of parties) presidencies, the Office of the Secretary-General of the United Nations, and the UNFCCC Secretariat.

It aims to strengthen climate action through 2015 by mobilizing robust global action towards low carbon, more climate resilient socie-

ties. It will provide enhanced support to existing initiatives, such as those launched during the New York UN secretary general climate summit in September 2014 and help mobilise new partners, providing them a platform for the visibility of their actions and results in the run up to COP21.

The Paris Pact on Water and Climate Change Adapta-

tion involves a wide geographic coalition of national and cross-border river basin organisations, governments, funding agencies, companies and civil societies.

It encompasses individual commitments to implement adaptation plans, strengthening water monitoring systems in river basins and promoting financial sustainability in water systems management.



Reuters

Island Chennai struggles to stay afloat

Worst flooding in 100 years Army, Navy, IAF rescue residents as toll reaches 197 | Airport shut till Dec 6

PtI & IANS

CHENNAI/NEW DELHI, DEC 2

The Army, Navy and the Air Force today came to the rescue of thousands of people, including hospital patients, severely hit by heavy rain in Chennai that has left several parts of the city submerged.

The Chennai airport has been shut till December 6. The city resembled an island as unprecedented rain in the city broke a 100-year record. Crucial road and rail links have been snapped, the airport shut and thousands rendered homeless in Chennai and its suburbs.

Issuing a red alert for the next 48 hours, the India Meteorological Department said Tamil Nadu would not get any respite for the next seven days. Flood water reached up to the second floor of various housing board colonies on the banks of the Adyar as people climbed to the rooftops, waiting for rescue and relief in several parts of the city and its suburbs. Officials said the death toll due to the unprecedented rain had gone up to 197. Besides rushing in with rescue teams, the armed forces have



People use a boat on a flooded road to move to a safer place in Chennai on Wednesday. REUTERS

also launched UAVs to assess the situation. Four columns of the Army, including troops from the Garrison Infantry Battalion located at Chennai and one column requisitioned

from Bangalore, continue to carry out extensive rescue and relief operations at Tambaram, Mudichur, Manipakam, Gudivancheri and Urapakkam areas. With civil communica-

tion non-functional in several areas of Chennai, the Army is resorting to radio communication for coordinating rescue operations. Mobile telephony largely remained crippled

because of failure of telephone towers and the landline phones in several areas went still because of the flood.

CONTINUED ON P11

EDIT: COO ST OF UNRETTERRED GAREED

A wakeup call for urban planners in North India

VIBHA SHARMA

TIBBANE NEWS SERVICE

NEW DELHI, DECEMBER 2

Climate change or otherwise, rain-ravaged Chennai is a wakeup call for urban planners in all cities, including Delhi, Chandigarh and those located in Punjab and Haryana, especially in the wake of anticipated

increase in extreme rain events in the country.

While the frequency of extreme rainfall events is expected to increase, as also warned by the IPCC, environmentalists say the damage caused in Chennai, Srinagar (2014), Uttarakhand (2013) and Mumbai (2005) was more of man's creation than nature.

Environment Minister

Prakash Javadekar refuses to link the unprecedented rain situation in Tamil Nadu directly to climate change. Terming it a natural calamity, he also called Chennai, Srinagar and Uttarakhand incidents as a wakeup call for urban planners.

The minister said, "What has happened in Chennai over the past 10 days is a very serious situation. It cannot be directly attributed to climate change. It is a natural calamity, which needs to be tackled effectively. Therefore, we must take immediate steps to prevent such occurrences. We need to keep drains clean and open, allow water to flow naturally, even in urban

India." He also added that such instances were occurring because of the "frequency of irregular monsoon".

India Meteorological

Department chief LS

Rathore also refused to link the Chennai episode directly to global warming or climate change. It might be viewed in

CONTINUED ON P11



15 हजार करोड़ का नुकसान हुआ बारिश से अब तक

02 लाख लोग अपना घर छोड़कर किसी दूसरी जगह गए

इतनी बारिश कैसे

मौसम विभाग की माने तो बंगाल की खाड़ी में कम दबाव का क्षेत्र बनने से तमिलनाडु और देश के बाकी तटीय इलाकों में तेज बारिश हो रही है।

चेन्नई में भारी बारिश के बाद बुधवार को सड़कों पर कुछ इस तरह का भयावह नजारा दिखाई दिया।

चेन्नई में बारिश ने तांडव मचाया

● कई जिले जलमग्न, सड़क-रेल-हवाई यातायात चरमरामा

● 189 लोग नृसालाघर बारिश के कारण अब तक मारे गए

चेन्नई/नई दिल्ली | एजेंडिया

तमिलनाडु की राजधानी चेन्नई और आसपास के जिलों में बारिश बेतहाशा कहर बरपा रही है। सोमवार से लगातार बारस रहे पानी ने राज्य में सौ साल का रिकॉर्ड तोड़ दिया। इसकी वजह से सड़क और हवाई यातायात ठप पड़ गया है। बिजली गुल हो चुकी है।

भारी बारिश की वजह से अबतक 189 लोगों की जान जा चुकी है। मौसम विभाग के अनुसार अभी अगले तीन दिन तेज बारिश की आशंका है।

मदद के लिए सेना : चेन्नई हवाई अड्डे पर भी पानी भरने के कारण विमानों

का परिचालन 6 दिखंबतक स्थगित कर दिया गया है। हालात को काबू में करने के लिए सेना की मदद ली जा रही है। मामले पर प्रधानमंत्री नरेंद्र मोदी ने स्वयं स्थिति का जायजा लिया। पीएम ने तमिलनाडु की मुख्यमंत्री जयललिता को पूरी मदद का आश्वासन दिया है।

यात्रियों की भुसीबत : चेन्नई और मद्रै को जोड़ने वाली ग्रांड सदर्न ट्रंक रोड, ओल्ड महाबलीपुरम रोड और ईस्ट कोस्टल रोड का बड़ा हिस्सा बारिश में बह गया है। इससे यातायात बाधित है। चेन्नई सेंट्रल और इगमोरे रेलवे स्टेशनों पर भी बड़ी संख्या में यात्री फंसे हुए हैं। लंबी दूरी की 40 ट्रेनें रद्द की गई हैं,

जबकि 19 का रास्ता बदला गया है। उपनगरीय रेल सेवा को पूरी तरह से स्थगित कर दिया गया है। वहीं, भारतीय विमानपत्तन प्राधिकरण (एएआई) के प्रवक्ता ने बताया कि मंगलवार शाम आठ बजे से ही चेन्नई हवाई अड्डे से किसी विमान ने उड़ान नहीं मरी है।

राहत की उम्मीद नहीं : मौसम विभाग के महानिदेशक लक्ष्मण सिंह रावैड ने कहा, तमिलनाडु में अकेले बुधवार को 35 सेंटीमीटर बारिश दर्ज की गई। आने वाले तीन-चार दिन तक बारिश जारी रह सकती है। नवंबर में हुई 12.18 मिमी बारिश ने सौ साल का रिकॉर्ड तोड़ दिया।

जल्बा दिखाया पृष्ठ 16

हर तरफ बरसी आफत

● 66 चेन्नई आने वाली उड़ानें और 53 यहाँ से रवाना होने वाली उड़ानें देशभर से रद्द की गई

● चेन्नई हवाई अड्डा बंद होने से दिल्ली से आने वाली 21 व वहां से दिल्ली आने वाली 15 उड़ानें प्रभावित

● तमिलनाडु के प्रभावित जिलों में किसानों की खड़ी फसल बर्बाद, सबसे अधिक नुकसान गन्ने की फसल को

चेन्नई में इससे पहले कभी इतनी बारिश और तबाही नहीं देखी।

-किरण रिजिजू, गृह राज्य मंत्री

40 से ज्यादा दिन बारिश के कारण बुधवार को रद्द, 19

1500 यात्री और 2000 कर्मचारी भी चेन्नई हवाई अड्डे पर फंसे

100 साल का रिकॉर्ड टूटा

चेन्नई में रविवार और सोमवार को हुई बारिश ने पिछले सौ साल का रिकॉर्ड तोड़ दिया है। मौसम विभाग ने बताया कि सोमवार मध्यरात्रि तक चेन्नई में 119.73 सेंटीमीटर बारिश हो चुकी थी।

जबकि पिछला रिकॉर्ड 1918 में 108.8 सेंटीमीटर बारिश का था। विभाग ने कहा कि इससे पहले एक सदी में चेन्नई में इतनी बारिश नहीं हुई थी।

दिल्ली से राहत मिली

● गृहमंत्री राजनाथ सिंह और रक्षामंत्री मनोहर प्रारिफ के बीच बैठक हुई

● सेना के 2000 अतिरिक्त जवान तमिलनाडु भेजने का फैसला

● अभी सेना ने 50-60 जवानों की दो टीमें चेन्नई के दो इलाकों में भेजी

● एयरफोर्स को भी तैयार रहने को कहा गया है। नेवी का जहाज 20 नाव और राहत का सामान लेकर चेन्नई पहुंचा

चेन्नई में नृसालाघर बारिश के यही हालात अगले तीन दिनों तक बने रहेंगे।

-एलएस रावैर, डीजी, मौसम विभाग

जलमग्न चेन्नई में और बारिश के कहर की भविष्यवाणी

चेन्नई, (संवाददाता एजेंसी): चेन्नई शहर और आसपास के जिलों में लगातार हो रही तेज बारिश की वजह से राज्य के कई तटीय क्षेत्र जलमग्न हो गये और राज्य की राजधानी तथा कई जिलों के बीच रेल और सड़क संपर्क कट गया।

वहीं मौसम विभाग ने आगामी 72 घंटों में चेन्नई में भारी बारिश की भविष्यवाणी करते हुए लोगों के होश उड़ा दिए हैं। चेन्नई हवाई अड्डे पर भी आज परिचालन कल सुबह तक के लिए बंद कर दिया गया। "तमिलनाडु में पिछले कुछ समय से बहुत भारी बारिश हो रही है और आज यहां 35 सेमी बारिश हुई है, जिससे तबाही की स्थिति पैदा हो गई।" बारिश ने पिछले 100 साल का रिकार्ड तोड़ दिया है। मौसम विशेषज्ञ भी इसे जल प्रलय करार दे रहे हैं। कल एक दिन से अधिक



चेन्नई में पानी में डूबी कालोनियां और पेड़ जड़ से उखड़ गए हैं, जीवन ठहर गया है। (छाया : प्रैट)

समय तक भारी बारिश का प्रकोप झेलने वाले चेन्नई शहर और पड़ोसी कांचीपुरम, तिरुवल्लूर तथा कुड्डलूर जिलों में आज सुबह वर्षा में थोड़ी कमी आई। हालांकि लगातार बूदाबूदा से नागरिकों की दिक्कतें खत्म नहीं हो रहीं। बारिश की वजह से सबसे बुरी तरह प्रभावित शहर के तंबरम, मुडिचुर और

ऊरुपक्कम इलाकों में सेना, नौसेना और एनडीआरएफ के दलों को तैनात किया गया है। बचाव कार्यों में पुलिस और दमकल सेवा के जवानों को भी लगाया गया है। तटरक्षक ने शहर के कुछ इलाकों में अपनी नौकाएं लगाई हैं। इन इलाकों में इतने कम समय में इतनी मूसलधार बारिश होने की बात याद नहीं आती।

Heavy rains affect newspapers, The Hindu unable to print edition

HT Correspondent
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NEW DELHI: As Tamil Nadu struggled against a rising deluge from incessant rain on Wednesday leading daily The Hindu did not print its copies to ensure "safety of those in the distribution network".

"With no print edition for Chennai City because of the #ChennaiRains, read the entire edition online here!", The Hindu editor Malini Parthasarathy tweeted with a link to the newspaper's e-copy.

"Consequent to the heavy rain, print editions of The Hindu dated December 2, 2015, in Chennai, Vellore, Puducherry and Tirupati have been cancelled after taking into consideration the safety of those in the distribution network," The Hindu wrote on its website.

The newspaper's headquarters are located in Chennai and it is published in 17 other cities.

The government deployed troops to Tamil Nadu and closed the Chennai airport after heavy rains worsened weeks of flooding that has killed nearly 200 people.

While some other newspapers were printed, it was not clear whether their copies made it to the doorsteps of the readers.

WHILE SOME OTHER PAPERS WERE PRINTED, IT WAS NOT CLEAR WHETHER THEY MADE IT TO THE DOORSTEPS OF THE READERS

Chennai situation echoes at Paris climate summit

Chetan Chauhan
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PARIS: The massive flooding in parts of Tamil Nadu created ripples at the Paris climate talks where Prime Minister Narendra Modi had highlighted India's vulnerability to extreme weather, though environment minister Prakash Javadekar said the record rainfall was not linked to climate change.

Harjeet Singh of Action Aid India used pictures of the inundation in southern cities like Chennai to tell the world that India was among the nations most in danger because of climate change and such natural

disasters should be covered under a new compensation mechanism being formalised at the conference.

Under Loss and Damage, developing countries would be able to seek financial assistance from the developed world for "measurable" losses by extreme weather events whose frequency has increased in countries like India, government weather data for the last 100 years show.

"Climate may not be directly responsible for the flooding in Chennai but it has definitely contributed," Singh told Hindustan Times, reacting to Javadekar's statement.

The environment minister,

who will be back in Paris on Sunday for the ministerial talks, said in New Delhi that what has happened in Chennai over the last ten days is "absolutely" serious but it cannot be "directly attributed" to climate change.

"It is natural calamity but needs to be tackled effectively," he said.

A few days ago, Laxman Singh Rathore, chief of the India Meteorological Department (IMD), had told HT the emerging weather patterns fit the larger picture of climate change predicted by Indian scientists as well as global reports with reference to an earlier phase of flooding in southern India.

AI conducts dry run to pull out those stranded

HT EXCLUSIVE

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NEW DELHI: As the first step to evacuate stranded passengers out of Chennai, national carrier Air India (AI) conducted a trial landing at Arakkonam naval air station using an empty Airbus A320 aircraft.

Officials said Arakkonam is about 70 km from Chennai. "As soon as the road from Chennai to Arakkonam clears, which is likely to be much earlier than the Chennai airport airstrip, we can commence operations," said a senior AI official. As of now, Chennai airport has been shut down till December 6.

Sources said as per DGCA (Directorate General of Civil Aviation) rules, a trial landing is a compulsory requirement before passenger operations can begin at an airport.

"An A320 (VT AXA) was taken off flying and was used for the trial flight. Many airports near Chennai were considered before we zeroed in on Arakkonam.

These included Tambaram Air Force base, where the airstrip was learnt to be unusable, and Tirupati where travel time from Chennai by road would have been very long," he said.

Arakkonam, the official said, is a well-equipped airfield with modern navigation aids and one of the longest runways in the country.

This isn't the first time, however, that AI has taken the lead during an emergency situation and had evacuated thousands of people, not just Indians, from Yemen earlier this year.

"As soon as we get the go ahead we will start operations to get out all stranded people and just those booked on AI," said another official.

Automakers, software majors hit, ask employees to work from home

HT Correspondent
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BENGALURU/NEW DELHI: Massive flooding and torrential rainfall in Chennai crippled the industry as several manufacturing and service sector companies were unable to open for business with employees struggling to reach workplaces.

Ford, Daimler and Nissan were among major global automakers with plants in Chennai who told their employees to stay home.

"Everyone is at home. Yesterday, workers were sent home after a half day, and today we are shut tomorrow too, probably," an official at Daimler India told Reuters.

About a dozen automobile plants operate in the outskirts of Chennai — giving the place the name India's Detroit — including large truck makers such as Ashok Leyland, Daimler, and car makers like Hyundai, Ford, BMW,

Whatever happens, IT companies must run, even during disasters. I'm frustrated, but can't say no. Many of my project mates were sent to Wipro's Bengaluru office and asked to work from there.

A SENIOR PROJECT ENGINEER AT WIPRO

Nissan and Renault. Two-wheeler maker TVS Motor that has a plant in Hosur — around 300 km from Chennai — was unaffected.

"For the safety of our employees, we have halted production and engine plants. We are monitoring the situation and will return to operations after conditions

improve," a Ford India spokesperson said.

Software majors kept their offices closed, asking employees to work from home to ensure client commitments were met. Rain is predicted to continue for the better part of the week.

"In light of the flooding in Chennai, Infosys campuses were closed on December 2 and we have declared a holiday on December 3. Our teams have been working with authorities to get employees stranded across the city home safely," said a company spokesperson. A senior project engineer at Wipro said it was given a data card and laptop and asked to work from home.

"Whatever happens, IT companies must run, even during disasters. I'm frustrated, but can't say no. Many of my project mates were sent to Wipro's Bengaluru office and asked to work from there," she told HT.



People being rescued from inundated Kotturpuram locality after heavy rains in Chennai on Wednesday. PT PHOTO

PM Modi takes stock of situation

HT Correspondent

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NEW DELHI: The Centre on Wednesday lined up resources for rain-hit Tamil Nadu and neighbouring states with Prime Minister Narendra Modi meeting senior cabinet colleagues to take stock of the situation.

PM Modi discussed emergency measures for Tamil Nadu, especially Chennai, with Rajnath Singh, Arun Jaitley, Sushma Swaraj and Venkaiah Naidu also present.

The National Crisis Management Committee (NCMC), headed by cabinet secretary PK Sinha, also met to formulate plan for dealing with the situation.

After the meeting, a home ministry spokesman said that 15 teams of National Disaster Response Force (NDRF) are already deployed in Tamil Nadu for rescue operations, with a further seven teams — three from Bhubaneswar and four from Delhi — being moved to the rain-hit state and neighbouring Puducherry.

Tamil Nadu chief secretary K Gnanadesikan conveyed to the NCMC via video conference that the state government has mobilised fishing boats, for which services of personnel from Navy and Coast Guard would be required.

Defence ministry officials said the navy has dispatched amphibious warship INS Airawat to Chennai coast and it will reach Chennai Thursday morning. The navy has already deployed three rescue teams consisting of 88 personnel including divers. The naval air bases at Rajali and Parundu put on standby for helicopter sorties and deployment

RELIEF ON A WAR-FOOTING



ARMY

- Four columns (400 soldiers) for rescue and relief at Tambaram, Mudichur, Manipakam, Guduvancheri & Urapakkam
- Has evacuated more than 2,350 people



NAVY

- Warship INS Airawat carrying relief material sent to Chennai coast.
- Navy has deployed 3 rescue teams involving 88 personnel, including divers



IAF

- Four Mi-17 and six Chetak helicopters diverted for rescue and relief operations by Indian Air Force
- Two C-17 heavy-lift cargo planes flying six NDRF teams to Arakkonam, along with rescue and relief material

of boats. The navy has operationalised a helpline (number 044-25394240) as well.

Meanwhile, Union home minister Rajnath Singh spoke to Tamil Nadu chief minister J Jayalalithaa, Puducherry CM N Rangaswamy and Andhra CM N Chandrababu Naidu to enquire about the situation in their states and assured them all possible help from the Centre

CITY UNDER WATER

Rain-battered Chennai mounts heroic rescue operation

Downpour carves out islands of misery; citizens rise to challenge

TAMIL NADU BUREAU

CHENNAI: The incessant, record-breaking rainfall in the city and its suburbs could reduce this burgeoning metropolis by the coast into islands of misery, but not break the resilience of its people.

With rivers swelling and submerging bridges and lakes in the suburbs overflowing their banks, several thousands of people were left homeless or stranded in their own homes without food, water and electricity.

**Chennai
DELUGE**

The airport was closed for the second successive day and will remain so till Sunday noon; several trains to the southern parts of the city were cancelled; and with even arterial roads closed partially, buses were off the road. Suspension of power supply and



WATER LAYS SIEGE: The Adyar river flows over the Saidapet bridge, as a large quantum of water was released from the Chembarambakkam lake on Wednesday morning. At the Chennai airport, aircraft have been parked along the bays after the tarmac and the runway went under water. — PHOTOS: B. JOTHI RAMALINGAM & SPECIAL ARRANGEMENT

disruption of telephone networks added to the woes.

The naval air station at Arakkonam is likely to be turned into a makeshift airport for commercial flights from Thursday. Air India landed an Airbus A320 carrying passengers from Hyderabad there at 8.47 p.m. on Wednesday. "We are hopeful of passenger flights landing there from to-

morrow," a Defence Ministry source said.

The record rainfall — 29.4 cm in the city and 49 cm in Tambaram in 24 hours from 8.30 a.m. on Tuesday — coupled with the increased discharge of water from reservoirs around the city hampered rescue operations and paralysed life. The previous highest rainfall in the city

on a single day in December was recorded in 1901.

A portion of a two-decade-old bridge collapsed on the Avadi-Poonamallee High Road near Tiruverkadu on Wednesday afternoon. Suburban train services were cancelled as girders shifted on the bridge across the Adyar. Water washed away the ballast below the tracks between Urapak-

kam and Guduvanchery, Southern Railway officials said.

While the Army, the Navy, the Air Force and the National Disaster Response Force joined the State Fire and Rescue Services and the police in rescue efforts, the calamity was of such intensity that their combined might proved inadequate.



The Navy has decided to deploy a rescue ship from its Eastern Command in Visakhapatnam on Thursday. With its helicopters stationed here unable to take to the skies, the Coast Guard is flying in choppers from Mumbai and Goa.

Unfazed by the massive crisis, Chennaiites reached out to the homeless, giving shelter and rescuing hundreds of ma-

roomed people via the social network. At places such as Tambaram, Mudichur and Velachery in the southern suburbs and Anna Nagar in western Chennai, people rescued fellow citizens from buildings with submerged ground floors and water rising to the first floors. Displaying ingenuity in the face of crisis, they used makeshift boats made of drums

and rubber and they could lay the bring people to safety. Chief Minister would undertake convey on Thursday.

■ **MATTER IN PARL**
■ **WB OFFERS HELP**
■ **DARK CLOUDS**
■ **LINING | EDITORIAL**
■ **AND STILL WATER**
■ **DEEP | DEEP**

WATERWORLD

Shops downed shutters and used sand bags to keep out water at Chennai's Bazulullah Road



Rescuers evacuate patients to safety from the flooded Chrompet general hospital in the city



Chennaiites wade through flood waters as the city continues to get battered by rain



People help move a patient to hospital from the Kotturpuram neighbourhood



Flood-affected residents move out from an inundated locality in Porur, Chennai

DELUGED CHENNAI CRIES FOR HELP

Airport flooded, trains stop, phones out and power cut

TNN & Agencies

Chennai: There was no let up to the rain fury in the city and several coastal parts of Tamil Nadu. The city received 34.5cm rain in the past 24 hours. Met officials said the state hasn't been lashed by such a down-pour in 100 years. Road and rail links are down and the airport is flooded.

Complaints of patchy to poor mobile phone service have been coming in making it even more difficult for people elsewhere to get in touch with their near ones.

Essential supplies and ration have dried up and with the water level consistently rising, many have taken refuge on terraces. Along the banks of the Adyar river, flood waters have touched the second floor of housing board colonies. Till last reports came in, the death toll had reached 251.

▶ **AT THE AIRPORT:** With the airport tarmac under water, all flights remained suspended on Wednesday. The Airports Authority of India (AAI) said the airport will remain shut till December 6.

On Wednesday, lounges at the airport were packed with hundreds of stranded passengers and TV reports said AAI was trying to evacuate them to Tirupati and Bengaluru.

Making matters worse, the road from the city to the airport was badly damaged. A prominent businesswoman tweeted how more than 700 people were held up at the terminal and one Twitter user even offered accommodation to the stuck passengers at her home.

In New Delhi, civil aviation minister Ashok Gajapati Raju said the airport was crippled and a decision on resuming operations could be taken only after rain stopped.

The National Disaster Relief Force that has so far de-



Residents struggled with waterlogged roads, cars broke down and even walking turned into a dangerous obstacle course

ployed 10 teams in Tamil Nadu will rush in 600 more personnel and 40 inflatable boats. As Chennai airport is flooded, it was decided that the airfields of Arakkonam, Tirupati, Tambaram and Trichy will be utilized for the operations," said an official.

▶ **TRAIN SERVICES OUT:** With railway tracks disappearing under water, train services were suspended. Suburban services too are crippled.

SINKING CITY

Thousands of trains passengers were stuck at different places. "We're taking measures to provide drinking water and other basic facilities to the passengers stranded in trains and at stations," tweeted railway PRO Anil Saxena. But there have been bitter complaints from the stranded of little help reaching them.

There were reports of many people who left for office on Tuesday evening failing to reach home.

▶ **BUSES AND ROADS:** With water levels rising menacingly and almost drowning parked cars, bus services have been suspended. Hardly any inter-state buses have plied in the last few days and even highways leading out of Chen-

nai have become unusable.

Marooned and distressed, Chennai residents are more worried as the weatherman has forecast more rainfall over the next three days. "The phenomenon will continue for the next seven days, but the next 48 hours are very crucial," L S Rathore, DG, Indian Meteorological Department, said in Delhi.

▶ **MINI WATERBODIES:** Chennai roads have turned into mini water bodies as the incessant downpour inundated them, rendering many useless. Police barricaded many spots at key roads in areas like Ekkatuthangal, Kotturpuram, Guindy and suburban Tambaram, among others, where roads were flooded.

Naval divers and inflatable boats have been deployed at Adyar and Kotturpuram. Alok Bhatnagar, Naval officer in charge, TN and Puducherry, said the INS Airavat and other amphibian vessels had been deployed to Chennai.

▶ **PHONE NETWORK:** Mobile phones and fixed lines were out of service and ATMs did not function. In the few that were open, long queues formed. The marooned risked lives to stock up on supplies as more rain was forecast.

Climate change footprints in freak weather

Amit.Bhattacharya
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In 24 hours ending Wednesday, Chennai got almost twice the rain it normally receives in the entire month of December. This was just the sort of extreme weather event associated with global warming and the news of the deluge reverberated at the Paris climate summit. But can the record rain spell be linked to climate change?

The short answer appears to be 'yes' but the complex connections of the freak rain event with the changes being wrought by global warming need to be understood. No single weather event can

be directly attributed to climate change. What can be said, however, is whether the probability of that extreme event increases or decreases with the rise in global mean temperatures. Then there are some events whose frequency is predicted to increase due to the changing climate.

To see how this fits into the Chennai event, consider the immediate causes of the downpour. The rains were caused by a cyclonic circulation, a weak rain-bearing system that lifts moisture from the Bay of Bengal and dumps it on the coastal areas.

"In meteorology, these are feeble systems. But because of Chennai's proximity to the



Residents gather as a highway disappears under floodwater

coast and the strong winds that lifted the moisture, we have got these record rains," said B P Yadav, director, IMD.

"Unlike the far more violent cyclones, these are slow-moving systems that are likely to stay over the TN coast for three-four days," he added.

Cyclonic circulations routinely bring rain to coastal TN and Andhra during the northeast monsoon between

October and December. But what was striking about this rain spell was its intensity.

"Studies show that with rising global temperatures, the intensity of rain spells is increasing. This has been seen both in the southwest and northeast monsoons," says M Rajeevan, director, Indian Institute of Tropical Meteorology, Pune. So, while no single weather event can

said to be directly affected by global warming, the probability of heavy rain increases in the climate change scenario.

There are other indirect connections too. IMD had predicted above-normal rainfall during the northeast monsoon season. One of the factors behind the forecast was that this is a strong El Nino year. El Nino — a periodic, abnormal warming of surface waters in the central-eastern equatorial Pacific — is linked to below-normal rain in the summer monsoon but an above-normal rain in the northeast monsoon.

"Some studies indicate that frequency of El Nino, which cause abnormal rain over India, is increasing," said IMD's D Sivananda Pai. That's another factor that could increase frequency of freak rains over India.

FLOOD FIGHT FROM GROUND ZERO

RAINFALL	NOV 16	DEC 1	DEC 2
	24.6cm	23cm	34.5cm

Avg rain in Chennai this season | **121cm** (Till Dec 1)City Avg, Oct - Dec | **43cm**Highest rainfall on a single day in Chennai (Nov 25, 1976) | **45cm****NEXT FOUR DAYS | DEC 3 TO DEC 6**

MODERATE TO HEAVY RAIN | Across most TN districts and Puducherry, all of coastal TN & many places in interior TN should brace for further rain

HEAVY RAIN WARNING | Till Dec 6, IMD predicts isolated heavy to very heavy rain over coastal TN & Puducherry. Interior TN can expect isolated heavy rain too. All of TN will see some rainfall every day till Sunday at least

CHENNAI CITY | Generally cloudy. Rain or thundershowers in some areas. Temp about 24 to 28 degree Celsius



Death toll 251	In relief camps 72,119	35 lakes in Chennai expected to breach banks	Autos submerged on a Chennai street
RESCUE & RELIEF OPS		Helpline Numbers	
▶ BSNL to provide free internet & phone calls for flood-affected in Chennai ▶ Three C-130s of the Indian Air Force have flown from Hindon airbase (Ghaziabad) to Tirupati with NDRF personnel & relief material ▶ Air Force & Army choppers pressed into service, rescue sorties and food packets, ration, items		of daily needs air dropped in worst-hit areas ▶ Gemini boats, specialised teams and dry ration sent from Vizag to Chennai ▶ Navy's deployed three flood relief teams ▶ Shelter for 100 people ready at INS Adyar ▶ Medical team on standby ▶ UAVs to assess situation	
		State emergency 1070 District Emergency 1077 Electricity 1912 Fire & Rescue 101 DGP Control 044-28447701 CRA Control 044-28523299 RailMin 044-29015204, 044-29015208, 044-28190216, 044-25330714 Navy helpline 044-25394240	

Startups use their tech edge to push relief operations

Digbijay Mishra, Shilpa Phadnis & Shalini Pillai | TNN

Bengaluru: A host of startups from across the country reacted with agility to find ways to immediately help those suffering in the Chennai floods, quick off their feet to turn their business model to the cause.

While Paytm launched a toll free number (18001030033) that Chennai residents can call for an instant Rs 30 recharge, and a few numbers for outside Chennai too, online food-ordering app Zomato launched a scheme whereby anyone can order a meal for the flood-affected. For every meal thus bought, Zomato would donate a meal to the affected. The company has tied up with local NGOs to deliver the meal in 30 minutes.

Taxi app Ola, which last month put out boats for the flood-affected parts of Chennai, has now created Ola safety zones — free accommodation to stranded flood victims. The centres, at Waltax Road and Ambattur, are equipped with relief supplies, first aid and food. Ride-hailing app Uber has launched a hashtag campaign #KeepChennaiMoving offering free rides to those in Chennai on Wednesday and Thursday. Zoomcar, a self-drive car rental company, has pressed its fleet to serve as ambulances. "Ten SUVs have helped many reach their local hospital. We're getting calls every 10 minutes," said Zoom-Car founder Greg Moran.

Online grocer Bigbasket.com has a microsite, Nam-



People on the first floor collect food in flooded Kotturpuram

maChennaiRelief, where people can donate groceries online to a common pool as part of relief material. The microsite, open for five days now, has tied up with Chennai-based NGO Give Away to deliver goods every two days, founder Hari Menon said.

Practo, a healthcare discovery platform, is putting together a list of doctors and hospitals while Housejoy is offering free services such as electrical check-up, plumbing service, mosquito control for houses in certain areas.

Stayzilla, online aggregator for budget accommodation, is encouraging people to open up their homes to those affected by the floods; it started a helpline for people to list their homes.

Interiors cut off, rescue teams struggle

TIMES NEWS NETWORK

Chennai/New Delhi: The armed forces and the National Disaster Response Force (NDRF) are undertaking a major rescue and relief operation in and around flood-hit Chennai, ranging from flying spy drones for aerial reconnaissance and damage assessment to deploying engineers, paramedics, naval divers and other rescue personnel on the ground.

Even as thousands of people including hospital patients have been rescued, cabinet secretary P K Sinha instructed all ministries and departments concerned to be in a state of total readiness and provide all assistance to the Tamil Nadu government in terms of food, telecom, power and other relief after an emergency meeting of the National Crisis Management Committee (NCMC) on Wednesday.

Rescue teams are facing major problems in reaching the interiors of Chennai, where most peo-



Policemen and other rescue workers help evacuate residents

ple are stuck in the floods which have submerged several parts of the city. "The entire southern part of the city is disconnected. There is no public transport running there. Two main bridges there have also been closed and water current is too high for our boats to reach there," NDRF DG O P Singh said, adding that his force will have about 1,000 men (22 teams), 84 boats with 22 divers and 33 types of life-saving equip-

ment deployed in Chennai by Wednesday night.

The Army has deployed 16 rescue and four engineer teams in the critically-affected areas of Chennai. "They had rescued around 2,200 people by Wednesday night. An additional 12 rescue and three engineer teams will be deployed by Thursday," an officer said.

The Navy has also deployed three teams equipped with Gemi-

ni boats, divers and food packets, even as the huge amphibious warship INS Airavat with additional boats and a large quantity of relief and medical supplies is now headed for Chennai from Vizag. "INS Airavat will reach Chennai early on Thursday. All naval ships around Chennai are being kept on standby for search and rescue operations as well as to help fishermen in distress at sea," said an officer.

The IAF has kept Mi-17 helicopters ready at Tirupati, Bengaluru and Thanjavur to airdrop supplies and evacuate stranded people. "As soon as the weather is fit for helicopter operations, four Mi-17s will move to Chennai to assist disaster management agencies. Two C-17 Globemaster-III aircraft, with six NDRF teams and supplies, were sent from Chandigarh and Palam. A C-130J Super Hercules plane got airborne from Tambaram for reconnaissance and assessment," an IAF officer said.



HELPING HANDS

Telcos offer free talk-time

Telecom service providers have come up with free mobile recharges to help residents stay connected. Airtel will provide auto approval of 'talk time' credit up to Rs 30 for prepaid customers while Vodafone is offering pre-approved 'chhota credit' of Rs 10. BSNL will offer free calls, data services in Chennai for seven days and landline calls in the Chennai circle will remain free for a week, Union telecom minister Ravi Shankar Prasad said.

Rain can't stop weddings

The downpour couldn't halt all weddings in Chennai. Braving heavy rain and floods, many couples across the city entered into wedlock on Wednesday, as it was an 'auspicious day' for weddings.

Social media a force multiplier in marooned city

TIMES NEWS NETWORK

Social media has proved a force multiplier for Chennai as the southern city is submerged following relentless rain.

A website — chennai rains.org — was floated by volunteers to help the needy link up with Good Samaritans. Do-gooders from Kolkata to Delhi offered to recharge phones of those marooned in the Tamil Nadu capital. Even those in faraway Sydney have started raising funds online for flood relief.

Reddit user 90sChennaiGuy posted: "Helpful links for Chennaiites" which was among the top posts on the



A road turns into a river in the heart of Chennai

r/india forum. Bihar deputy CM Tejaswi Yadav tweeted a

pledge donating a month's salary for Chennai flood

relief. #ChennaiFloods remained the top trend in India on Twitter through the day. Facebook community Chennai Rain Relief 2015 — CRR posted relief operation updates and emergency aid phone numbers to its 12,000 followers.

A New York-based blogger and Twitter user who goes by the online identity krtgrphr, coordinated relief with other online volunteers through a Google spreadsheet and a website called chennai rains.org. The spreadsheet, which was open to all to edit, contained locations and contact details of those who can offer shelter. The website, like the jkfloorelief website floated

during last year's deluge in Srinagar, is helping make a database of those needing rescue, or food, and providing that data to those who can help.

"If you see a tweet that needs a resource (a phone number), and have spare time, please use http://chennai rains.org, connect them with info," he tweeted on Wednesday.

Sydney-based Chennaiite Aishwarya Rao started an online fundraising campaign to help in rescue operations. Though Rao was still in the process of identifying an agency to transfer the funds to, she had raised \$700 by Wednesday evening on her gofundme.com page.

"The money will be transferred via a check or a bank transfer. I'll personally share the full details of how the money is channelled," she promised on her page.

Another person who goes by the online name @rosh-nimo raised another practical point. "Write all the phone numbers and keep. That's what we did during Phailin. Online help is fine, but if there's no electricity for 3 days?" tweeted @rosh-nimo who had posted crucial updates when cyclone Phailin hit Orissa in 2013. She suggested that those experiencing power cuts turn off mobile data to conserve battery and maintain connectivity.

Babus urge FM for 'fair' pay panel

TIMES NEWS NETWORK

New Delhi: A delegation from a confederation representing officers of 20 civil services, including the Indian Police Service (IPS), met finance minister Arun Jaitley on Wednesday and demanded fair representation of all services in the empowered committee of secretaries that will examine the recommendations of the 7th Central Pay Commission (CPC).

The representation submitted by Confederation of Civil Services Associations (COCOSA) to the FM said Vivek Rae, a retired IAS member in the CPC, had violated the principle of natural justice, and that he should have recused from discussions on inter-service issues.

The three-member CPC, which submitted its report on November 19, was divided over the issue of financial and career-related edge given to officers of the IAS against those of other services.

NCW notice to Muslim leader for gender jibe

TIMES NEWS NETWORK

New Delhi: The National Commission for Women (NCW) has slapped a notice on Kerala Sunni leader Kanthapuram A P Aboobacker Musliar for his controversial remarks on women.

At an event in Kerala last week, Musliar had described the concept of gender equality as "un-Islamic", and said women could never equal men as "they are fit only to deliver children".

"A suo motu notice has been served on the man and a copy of it was sent to the organizers (of the event) also. We have given them one week's time to reply," NCW chief Lalitha Kumaramangalam said.

"It is a very ill-educated statement. He does not know what the reality is. We have started writing to the state governments, saying they should also be more proactive in discouraging such statements," she said.

Rivalries mark House debate on TN floods

PM, Ministers Discuss Rushing Relief To Crisis-Hit State

TIMES NEWS NETWORK

New Delhi: Prime Minister Narendra Modi held urgent consultations with senior ministers on Wednesday to rush assistance to flood-hit Chennai, as the humanitarian crisis in Tamil Nadu prompted both Houses of Parliament to discuss the prevailing situation. The debate, though, was marked by party rivalries in the state and elsewhere.

The Centre stepped up relief operations with the deployment of Army and Navy assets and units of the National Disaster Relief Force. The PM reviewed the situation with home minister Rajnath Singh, finance minister Arun Jaitley, defence minister Manohar Parrikar and parliamentary affairs minister Venkaiah Naidu.

The floods caused by unceasing record rainfall were taken up for discussion in Lok Sabha, where the issue helped the government restore order after protests by Congress against minister of state V K Singh — who had responded aggressively to Rahul Gandhi's jibes about his absence — threatened to derail proceedings.

AIADMK's Venkatesh Babu began the discussion in the Lok Sabha, saying four northern districts of Tamil Nadu — Chennai, Tiruvallur, Cuddalore and Kancheepuram — had witnessed unprecedented rainfall. While defending the state government's response, he blamed the previous DMK administration for encroachments on reservoirs and waterways, and thus worsening the flooding, indicating that TN's famous political rivalry will not be lessened by the disaster.

Supporting TN's case for central assistance, Trinamool Congress MP Sudip Bandyopadhyay said West Bengal was also in need of urgent financial help. He said the state had received some Rs 387 crore for the state disaster response fund, when it had asked for Rs 6,000 crore. Congress's Adhir Ranjan Chowdhury said later: "He (Bandyopadhyay) was striving hard in order to save the face of his leader who happens to be the CM of West Bengal and who used to remain busy holding melas, festivals... whereby crores of rupees are being spent only to satisfy her ego but insofar as farmers and flood-affected people are concerned, she always remained indifferent."

In Rajya Sabha, DMK's Kanimozhi said the situation needed united efforts though



Waters from a swollen Adyar river partially submerged a temple in Chennai on Wednesday

Pvt forecaster blames Chennai deluge 'primarily' on El Nino

► Continued from P 1

Skymet Weather chief meteorologist Mahesh Palawat attributed the heavy rainfall primarily to the El Nino phenomenon.

"Many typhoons were formed in the Pacific Ocean this year due to the warming of the ocean. But the Indian

she slipped up by referring to the state's "DMK government". Speaking in the afternoon, she added, "I think we all should stand together, reach out to the people and make sure that the people are rescued, and whatever measures, whatever help can reach them, have to reach them now. Our leader, Dr Kalaignar, has said the DMK government will wholeheartedly support the..." This was when AIADMK's V Maitreyan interjected to shout

Ocean is cool compared to the Pacific, and the wind carried more moisture, bringing in extreme rainfall," said Palawat.

"Not many countries get rainfall in December. It is biting winter or summer, depending upon the continent in which you live. But TN receives most of its rain at this

time of the year," he added.

Beyond Chennai, the American state of California and the Caribbean islands are the ones which receive rainfall in December, but the intensity is lower than what the Tamil Nadu capital has experienced since the start of the month this year.

that DMK would "not be in office for 10 years".

CPM's Sitaram Yechury said, "We can allow MPLADS funds for relief work in Chennai." His suggestion was supported by leader of the opposition Ghulam Nabi Azad and other MPs.

To this, Deputy Chairman P J Kurien said, "All of us are willing to contribute from MPLADS to provide relief to Chennai. The amount will be decided in consultation with the Chairman."

Chennai ripples reach Paris, add to 'climate justice' call

Vishwa.Mohan
@timesgroup.com

Paris: The massive floods in Chennai and other parts of Tamil Nadu on Wednesday caught the attention of experts, civil society leaders and even negotiators of developing countries here on the sidelines of the ongoing climate summit.

The weather event was flagged as an example of how countries like India have become victims of climate change, which is the result of emissions from rich industrialised nations over the past few decades.

Though experts did not immediately link the floods to climate change, arguing that this was a matter for a science-based debate, civil society organisations from India sought to play up the theme by formally holding a briefing on the issue for the western media and activists who have been critical of India's position and have sought to paint the country as an obstructionist during negotiations.

Asked for his views, India's key negotiator and Bureau of Energy Efficiency (BEE) chief Ajay Mathur said, "We came here to negotiate, and our goal is to reach an agreement that is just and



IN DEEP WATER

takes care of people who have suffered on account of climate change. Besides, it must also take care of the 300 million people in India who do not have access to electricity."

Such concerns on the part of India can also be sensed from Prime Minister Narendra Modi's comments here on Monday when he called for "a strong Agreement on Adaptation and Loss and Damage", and urged developed countries to "fulfil their responsibility to make clean energy available, affordable and accessible to all in the developing world".

Many vulnerable countries are demanding that the "loss and damage" clause be made part of the global climate agreement. This clause

is meant for compensating the victims of climate change.

"The floods in Tamil Nadu are yet another example of the extreme weather events we were warned would become normal with climate change," said Harjeet Singh, international policy manager on climate change for ActionAid International.

"It is vital that the central and state governments in India start preparing for similar devastating impacts in the future. Meanwhile, the events in India should send a startlingly clear signal that the Paris climate deal must help reduce further loss and damage to our planet," Singh added.

The Delhi-based Centre for Science and Environment (CSE) also reacted on the issue, and sought to draw attention to what they described as "the increasing frequency of such events", citing similar incidents in 2010, 2013, 2014 and earlier this year.

"While the increasing frequency can be attributed to climate change, our own urban planning is definitely to blame for the level of damage. Of the nearly 650 water bodies that Chennai had some decades ago, just about 27 are left. Large lakes have been encroached upon and so there is no water-holding capacity," said Arjuna Srinidhi, programme manager, climate change, CSE.

LINE OF NO CONTROL

SANDEEP ADHWARYU

OMAR ABDULLAH—THE ERSTWHILE FLOOD VICTIM—COUNSELS AMMA...



MINISTRY OF DEFENCE
AIR HEADQUARTERS (VAYU BHAWAN)
TENDER NOTICE

On behalf of the President of India, sealed tender on prescribed tender form are invited from financially sound/establishment/experienced manufacturers/authorised dealers/stockist for overhaul of following item:-

Description and Specifications	FULL OVERHAUL (FOH) OF R27F2M-300 TYPE 47M AEROENGINE OF MIG 23UB AIRCRAFT (QTY-10). Specifications: As per Annexure-II RFP
Period and Terms of Delivery	270 days from the date of receipt of last aero engine (10 th engine) at seller's Premises.
Cost of Tender/Bidding Documents	Rs. 1000/- by crossed DD in favour of PCDA, New Delhi.
Bid System	Single Bid System (Commercial Bid).
Place and Timing of Sale of Tender Documents	Directorate of Eng. A4/6, Air HQ (Vayu Bhawan), Rafi Marg, New Delhi-110106 between 1000 hrs. and 1300 hrs. on all working days. Tele: 011-23010231 Extn: 5249/5746 or Fax: 011-23014084. e-mail denga4@gmail.com
Address of the Website from where the Tender Document could be Downloaded	www.eprocure.gov.in & www.tenders.gov.in (Ministry of Defence, Indian Air Force) ***
Place and Deadline for Receipt of Tenders.	Air HQ (VB), Rafi Marg, New Delhi-110106 Date: 12 Jan 16 Time: 1100 hrs. (Tentatively).
Place, Time and Date for Opening of Tenders	Air HQ (VB), Rafi Marg, New Delhi-110106 Date: 12 Jan 16 , Time: 1130 hrs.

*** Prospective vendor's downloading tender from the IAF web portal will be required to attach DD for cost of tender alongwith Commercial Bids.

davp 10802/11/0315/1516

UTTARAKHAND POWER CORPORATION LTD.
Corporate Identity No. UA40109UP2001SGC025867/2358
Victoria Cross Vijaya Gabar Singh Bhawan, Kanwali Road, Dehradun-248001. Telephone:(0135)2763672-75, Fax:(0135)2760289, Website: www.tenderwizard.com/UPCL

CORRIGENDUM-III TO E-TENDER NOTICE AGAINST SPECIFICATION NO. CCP-II/43/2015-16
In reference to this office following E-tender notice, the last date of online request of tender document/submission/opening of Part-I are extended as under:-

Name of work	Earnest Money (₹ in Lacs)	Cost of Tender Document including Trade Tax (in ₹)	Last Date & Time of online request of Tender Documents	Last Date & Time of receipt of Tender in online & offline mode	Date & Time of opening of Bid Part-I in online and offline mode
1	2	3	4	5	6
Real time decision support for day to day Effective Energy Management	12.00	22,700/-	10.12.2015 upto 15:00 hrs.	11.12.2015 upto 15:00 hrs.	11.12.2015 at 15:30 hrs.

All other terms and conditions will remain same as per original tender notice. For further details, please visit our website www.tenderwizard.com/UPCL. For any assistance on e-Tendering, please contact +91-7895456286/9807587244.

No. : 1373/EE(CM)/UPCL/A-2 Date : 01.12.2015
Superintending Engineer Corporate (C&P)
SAVE ELECTRICITY IN THE INTEREST OF NATION Toll Free- 1800 419 0405* Pay Electricity bill online 24x7 from www.upcl.org.
(For information on Electricity Theft, informer may report to Toll Free No. 1800 180 4185/ Fax: 0135-2760911)

THE MYSORE SUGAR COMPANY LIMITED
(A Government of Karnataka Undertaking)
Sugar Town Post Mandya 571 402 Karnataka.
Ref:-MM/18/2015-16 Telefax:08232-224196 e-mail:materialmysugar@gmail.com

SHORT TERM e-TENDER NOTIFICATION
Tenders are invited from the manufacturers/ suppliers / Dealers for:

Sl.No.	Details of materials	Quantity required	EMDRs.	Tender Fee
1.	Bio-Gas Digester (Anaerobic Digester) and Gas Holder Repair and Maintenance Work	Lump Sum	60,000/-	550/-
2.	Electrical Consumables	140 items	30,000/-	550/-

To start uploading of tender forms from **02.12.2015**, last date for uploading of bid documents **12.12.2015**, opening of technical bid on **14.12.2015, 11 AM** onwards. Further details can be had from the undersigned during the office hours and also refer website www.eproc.karnataka.gov.in For more details contact e- proc. cell 080-25501216/ 25501227 and Materials Manager + 91-9379696758
Date:- 30/11/2015
Sd/-General Manager

रेल विकास निगम लिमिटेड
(भारत सरकार का उपक्रम)
Rail Vikas Nigam Limited
(A Government of India Enterprise)

IFB No.: RVNL/RAIPUR/KEOTI-TAROKI/06 Date: 01.12.2015

NOTICE INVITING TENDER
Work:- "Execution of works of roadbed, major and minor bridges, supply of ballast, residential and service buildings, platform, transportation of materials, general electrical etc., for Keoti - Taroki section (i.e. from 42.60 km to 77.60 km, total length 35 km) including confirmatory FLS (final location survey) work (from 60 km to 95 km stretch) and construction of major/important bridges in Taroki - Roughast section (i.e. from 77.60 km to 95.00 km) in connection with Dallirajhara - Roughast new B.G. rail line project in Raipur division of South East Central Railway in the state of Chattisgarh, India". The approximate cost of the Tender: Rs.252.67 Crore. Opening of sale of the bid documents : from 07/12/2015 at 10.00 hours. Closing of sale of the document : 21/01/2016 at 17.00 hours. Place of selling of the documents. CPM-IRVNL, 5A, B, C & D, Maruti business Park, first floor, GE Road, near Rajkumar College, Raipur (CG) Pin-492013. Deadline for submission of the Bid Document : 11.00 hours on dated 22/01/2016. Opening of proposal at 11.30 hours on dated 22/01/2016. Pre Bid meeting for this tender will be held on 22/12/2015 at 12.00 hours at RVNL Corporate office, New Delhi. For more details please visit our website www.rvnl.org. Addendum & corrigendum if any, will not be published in newspaper and same will be hosted on RVNL website only. CPM-IRVNL/RAIPUR

EAST DELHI MUNICIPAL CORPORATION

ENGINEERING DEPARTMENT
OFFICE OF THE EXECUTIVE ENGINEER PROJECT(SHAH-N)-II
MCD STAFF QUARTERS COMPLEX, NEW USMANPUR, DELHI
NIT NO. D/EE-Pr.SHN II/TC/2015-16/06 Dated: 30.11.2015
Date of Download of Tender Document: 15.12.2015 upto 14.00 hrs
Last Date of Bid Preparation & Hash Submission : 15.12.2015 upto 14.00 hrs
Last Date of Re-encryption of online Bid : 16.12.2015 upto 15.00 hrs
Receiving of Earnest Money and Tender Cost: 16.12.2015 upto 15.00 hrs
Opening of Financial Bid : 16.12.2015 from 15.01hrs onwards

NOTICE INVITING TENDER
The Executive Engineer Project (Shah-N) -II, EDMC invites on behalf of the Commissioner EDMC sealed Item rate tender from the approved and eligible contractors of MCD. Tender document can be downloaded and submitted online. For time of schedule and other terms & conditions, please refer to website <http://mcdtenders.com> and also available at website www.mcdonline.gov.in. Tenders will be opened in the office of SE, Project Shah (N), 419, Udyog Sadan, Patparganj Delhi.

S. N.	Name of Work	Tender Amt. (₹)	EMD (₹)	Time of Completion	Tender No.
1.	Construction of Dhalaoas at various locations nearby of I & FC drains in Shahdara North Zone. SH:- Construction of four dhalaoas on the bank of trunk drain NO.1 (a) near T point pipeline opposite Bhagirathi Vihar (b) upstream of Johripur bridge, Shiv Vihar (c) near Shiv Mandir Shamsan Ghat (d) upstream of New Johripur drain. Head of A/c : XL III D IV	Item rate 3,73,500/-	12 Months	251830	
2.	Construction of Dhalaoas at various locations nearby of I & FC drains in Shahdara North Zone. SH:- Construction of seven dhalaoas on the bank of escape drain (a) upstream of Khajuri bridge (b)upstream of Chand Bagh pulia (c) downstream of old Mustafabad bridge (d) downstream of Brijpuri culvert near Bhagirathi Vihar and on the bank of Karawal Nagar drain (a) upstream of bridge Prem Vihar (b) upstream of Panchal Vihar Bridge (c) downstream of Alok Kunj School, Lal Bagh Road. Head of A/c : XL III D IV	Item rate 6,53,000/-	15 Months	251831	
3.	Construction of Dhalaoas at various locations nearby of I & FC drains in Shahdara North Zone. SH:- Construction of six dhalaoas on the bank of trunk drain No.1 (a) opposite Govt. Boys Sr. Sec. School, Jafrabad (b) down stream of Maujpuri Chowk bridge (c) near Kardampuri bridge opposite C-12, Yamuna Vihar (d) opposite C-4, Yamuna Vihar (e) upstream of Gokalpur Metro Station, Gokalpur Village (f) near Downstream of foot over bridge Ganga Vihar. Head of A/c : XL III D IV	Item rate 5,59,700/-	15 Months	251832	
4.	Construction of 24 Dhalaoas at various locations nearby of I & FC drains in Shahdara North Zone. SH:- Construction of seven dhalaoas on the bank of Band Drain (a) gali No.2, Bhagat Singh Colony Pusta Road (b) near Kanhaya School, Pusta Road (c) near P R Vatika, Tukhmeerpur Village, Pusta Road and on the bank of Bhairavi Pur Drain (a) starting point of Biharpur drain (b) near Govt. Sarvodaya Kanya Vidyalaya Khajoori (c) Near Khajoori Police Station and (d) Khajoori Chowk. Head of A/c : XL III D IV	Item rate 3,40,000/-	12 Months	251833	

For above all each works Tender Cost is ₹2,000/- & Rates hold good for six months.
In case of holiday declared on any of the above mentioned dates, it will be presumed to be the next working day. In case of negotiation, the validity period will be counted from the date of negotiation.
RO No.45/DPI/EAST/2015-16 EE Project (Shah-N)-II
EDMC's Citizens Helpline No. - 155303

INDIAN MARITIME UNIVERSITY
(A Central University under the Ministry of Shipping, Government of India)
East Coast Road, Uthandi, CHENNAI - 600119

Advdt.NO. IMU/E&A/CONV (2)/2016 dated: 03/12/2015

NOTIFICATION OF SECOND CONVOCATION

It is hereby notified that the SECOND CONVOCATION of the Indian Maritime University, Chennai will be held at **17.00 hours** on Tuesday, **19th January 2016** at **Kamarajar Arangam, Teynampet, Chennai**.

The Hon'ble Union Minister of Road Transport, Highways and Shipping **Shri Nitin Gadkari** will be the Chief Guest.

Students who have successfully completed their Degree/Diploma Programmes between **1st November 2013** and **31st December 2015** will be eligible for award of UG Degrees/PG Degrees/PG Diplomas at the Convocation.

Candidates who have **already paid the Convocation Fee** and who wish to receive their Degree/Diploma **in-Person** must **register Online** again through the link provided on IMU website (www.imu.edu.in). The **last date** for Online Registration for receiving Degree/Diploma **in-Person** is **12th January 2016**. Thereafter, candidates will be admitted to the Degree/Diploma only **in-Absentia** and the Certificates will be sent to them by speed post.

Candidates who have not already paid the Convocation Fee must register Online and also pay the prescribed Convocation Fee Online. No other mode of payment is acceptable. Those desirous of receiving their Degree/Diploma in-Person must register Online and also make the payment Online before **12th January 2016**.

REGISTRAR

DRY STATE

A better pulse rate

Vidarbha's farmers have escaped the worst of drought this year and hope to gain from high *arhar* prices

VIVEK DESHPANDE
WARDHA (MAHARASHTRA), DECEMBER 2

ABOUT 95 km from Nagpur and to the left of National Highway-7 leading to Hyderabad is a 14-acre farm that is now the cynosure of many eyes.

This field, at Daroda village in Hinganghat tehsil of Wardha district, radiates only green with no traces of white or brown dots — uncharacteristic for a state experiencing excruciating drought and for a region often seen as the epitome of rural distress. As one enters it, some seven-foot tall *arhar* (tur or pigeon-pea) plants bent from the middle with their tips virtually kissing the ground attract instant attention. The apparent lodging is not a result of any lashing of rains, but due to the individual plants laden with the weight of beans numbering anywhere from 750 to 2,000 per plant. And that's precisely why Dilip Pohane is getting a string of visitors.

The high yields are particularly obvious in a two-acre irrigated patch out of Pohane's total 14-acre holding. "I expect 60 quintals from these two acres," says this 44-year-old, 12th class pass farmer. His claim of 30 quintals per acre yield isn't dismissed by the agriculture officer of Hinganghat tehsil SD Sakhare, who puts it only slightly lower at 27.5 quintals: "Either way, this is unbelievable in a region (Vidarbha), where you rarely get anything beyond 5-7 quintals in irrigated conditions," he points out.

Even in his 12-acre non-irrigated land, Pohane is looking forward to harvesting 6.5 quintals of *arhar* per acre, as against average yields of two quintals for most farmers. "I do proper crop management, starting with preparation of seedbed for sowing to ensure free air flow at the roots. I also give two doses of fertilisers, one in the beginning and the other in the middle of the season. In August, I do cropping of branches that help in formation of more new branches, leading to increased pod/bean yields," he explains. And interestingly, Pohane hasn't planted seeds of any certified established variety or hybrids. "I have sourced seeds not from the market, but those developed by a friend through a process of natural selection," he reveals.

Farmers in Vidarbha normally sow *arhar* in mid-June and it is planted as an intercrop in alternate rows with either soyabean or cotton. Pohane has shunned cotton in the last couple of years — because of low price realisations — while cultivating *arhar* intercropped with soyabean that is harvested by end-September. Pohane managed to reap higher-than-average yields of soyabean as well — about 35 quintals from his non-irrigated 12 acres and 18 quintals from the irrigated two acres. This entire crop he sold at Rs 3,525 per quintal.

Pohane's major worry is about the bumper *arhar* he is set to harvest towards mid-January: "I am afraid that as the new crop floods the market, prices will crash". *Arhar* is currently fetching Rs 8,000 per quintal at the Hinganghat mandi. That it may fall to Rs 5,000-5,500 levels at the time of har-



TWO FARMERS, TWO FIELDS: (Above) Dilip Pohane with his bumper *arhar* crop. (Below) The Shendurkar couple with their not-so-good crop. Deepak Daware



vest is the common refrain of farmers in Daroda, Ladki, Pohana and Ajangaon villages of Hinganghat tehsil visited by *The Indian Express* early this week.

Pohane is determined not to offload his whole produce in January, enabling traders to buy at low prices and hoard for making a killing later on: "I will sell only 25 per cent to meet immediate family expenses and dispose of the balance 75 per cent in a staggered manner till August".

Pohane is a progressive farmer, who is also willing to take the risk of holding on to his crop to realise higher prices in the off-season. Having spend roughly Rs 20,000 per acre on his intercrop of soyabean and *arhar*, he is likely to strike gold this time, even if the latter's prices were to come down to Rs 5,000-per-quintal levels.

Others aren't as well-placed, though. Not very far away, in the same Daroda village, Narayan Shendurkar shows his not-so-good crop that may yield just two quintals per acre; one can count not more than 50 beans in each plant in his three-acre holding. Nor does he have Pohane's holding power; he has no option but to sell his entire crop immediately after harvesting.

Shendurkar estimates to have spent Rs 5,000 per acre on just *arhar*, which he intercropped with cotton. At Rs 5,000 per quintal, he can be expected to realise Rs 30,000 from selling six quintals, translating into a net return of Rs 15,000 after deducting cultivation costs.

Both Pohane and Shendurkar are united in saying that the benefits of skyrocketing *dal* prices in the recent period — among the reasons for the Bharatiya Janata Party-led alliance's rout in the Bihar Assembly elections — have flown largely to traders.

Arhar is grown in about 5 lakh hectares in Vidarbha. That includes 3.5 lakh hectares in the Amravati division (Amravati, Akola, Buldhana, Washim and Yavatmal districts) and 1.5 lakh hectares in Nagpur division (Wardha, Nagpur, Chandrapur, Bhandara, Gondia and Gadchiroli). Roughly 85 per cent of the crop in Vidarbha, which accounts for half of Maharashtra's *arhar* area — is rain-fed.

This year, Vidarbha recorded 11 per cent below-normal rainfall in the southwest monsoon season from June to September. The dry spell was, however, largely concentrated in July, impacting the soyabean crop more than *arhar*. The rains were, on the whole, not bad — and, at any rate, better than in the rest of Maharashtra or even India. The combination of reasonable precipitation and high *dal* prices has allowed at least farmers like Pohane to dream of *achhe din* in the days ahead.

But will these hopes evaporate in January with the new crop's arrival? Ashok Goyal, Nagpur's biggest *dal* miller, discounts that possibility. The Rs 8,000 per quintal rate for raw *arhar* at Hinganghat is not an indicative price because the arrivals at present are mainly happening in markets such as Gulbarga and Raichur in Karnataka and Narayanpet in Telangana. "The prices there are ruling at Rs 11,500-12,500 per quintal. I don't see these going below Rs 10,000 per quintal even after the crop from Vidarbha starts coming to the *mandis* next month. Rather, they would continue to be on the higher side and the government will have to import pulses well in advance. The farmer is not going to lose out, in any case," he predicts.

That, of course, isn't bad news at all for Vidarbha's farmers — more so for the likes of Pohane, even if somewhat less for Shendurkar and others.