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Cyclone Fani gathers force, to hit Odisha

Why in news?

The cyclonic storm 'Fani' was located 880 km from Chennai late on Monday.

Unlikely landfall:

- However, the India Meteorological Department (IMD) officials aren't yet sure if it will make landfall in Odisha, according to a statement from the Press Information Bureau.
- They have, however, ruled out any chances of it hitting Tamil Nadu and Andhra Pradesh.
- By Tuesday, the storm is expected to graduate to a **severe cyclonic storm** category the second highest in a five-step gradation of the severity of tropical cyclones.
- Fishermen have been warned to stay away from the sea.

IMD Warning:

- In its 9 p.m. bulletin, the Cyclone Warning Division of the IMD said the storm currently lay about 620 km **east-northeast off Trincomalee** in Sri Lanka, 770 km east-southeast off Chennai and 900 km south-southeast off Machilipatnam.
- The Cyclonic storm 'Fani' (pronounced as Foni) over Southeast Bay of Bengal and neighbourhood moved north-northwestwards with a speed of about 16 kilometres per hour in the last six hours, intensified into a severe cyclonic storm.
- It is very likely to intensify into a **very severe cyclonic storm** during

the next 24 hours and into an extremely severe cyclonic storm during the subsequent 24 hours.

- It is very likely to move northwestwards till May 1 evening and thereafter recurve north-north-eastwards towards the Odisha coast," the bulletin said.
- The **National Crisis Management Committee** assured the State governments concerned of all assistance from the Central government.
- The NDRF and the Coast Guard have been put on high alert and the fishermen have been asked not to venture into the sea as the cyclone is expected to intensify into a 'very severe storm', the Home Ministry said.

What is Cyclone?

- The word Cyclone is derived from a Greek word *cyclos*, meaning coiling of snake. Tropical cyclone is a **deep low-pressure area** wherein the central pressure falls 6 to 8 hPa (hectopascal) from the surroundings.
- Strong winds spiral around the centre and pick up speeds of 62 kmph or more. These winds **rotate counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere**.
- atmospheric disturbances around a low-pressure area and is usually accompanied by **violent storms and severe weather conditions**.
- Intense tropical storms are called **Cyclones** in the North Indian Ocean, **Hurricanes** over the Atlantic Ocean, **Willy willies** in West Australian ocean and **Typhoons** over the Pacific Ocean.

Genesis:

- Cyclones originate over the sea and travel about 300 to 500 km a day, drawing heat energy from the ocean waters.
- A fully matured cyclone releases energy equivalent to few hydrogen bombs.
- The diameter of a cyclone varies from 150 to 1000 kilometres but their effects dominate thousands of square kilometres of the ocean surface.

Eye of the cyclone:

- A fully matured cyclone develops a calm centre called Eye with a ring

of cyclonic winds around it, possessing the following characteristics:

- Eye forms at the centre of Central Dense Overcast (CDO) region of storm.
- Diameter of the Eye of a storm is about 10-50 km.
- Eye is the **cloud-free zone**, surrounded by thick cloud walls.
- Eye is surrounded by a 10-15 km thick wall of convective clouds, a zone of maximum wind.
- Eye is the **calm region** with practically no rains.
- Eye is warmer than the surrounding region.
- **Lowest surface pressure** is observed at the Eye.
- Eye is an indicative of very strong winds spiralling around the centre.
- All cyclonic storms may not develop an Eye.
- Sometimes, **double Eye** is also seen, which is indicative of very high intensity.
- Eye wall is the most dangerous part of the storm.
- Storm surge, torrential rains and high velocity winds are the associated features of Eye wall.

Re-Curving of Cyclones:

What is it?

- First, it helps to get a sense of how cyclones move. The ones that typically strike the Indian neighbourhood in the northern hemisphere rotate anticlockwise.
- Their normal behaviour is to derive strength from the moisture in waters such as the Bay of Bengal, move west, incline in a northerly direction and peter out into the sea or land, depending on their origin.
- This is how you would explain a regular cyclone, say like Mora, which formed over the Bay of Bengal on May 26, 2017.
- It rapidly strengthened on May 28, with the India Meteorological Department classifying it as a “depression” and eventually as a cyclonic storm.
- It kept north, almost parallel to the Myanmar coast and then made landfall in Bangladesh and blew over Nagaland. In a **re-curving cyclone, the cyclone gets a sort of second wind when it is on the wane.**
- Like the googly in cricket, it’s deflected right or eastwards. **This is**

due to air currents in the local atmosphere that push cold air from the poles towards the equator and interfere with cyclone formation.

- That's what make them 're-curving.' In the **southern hemisphere, the cyclones spin clockwise and therefore also re-curve in the opposite direction.**

How do they come about?

- During the monsoon months, cyclones in the Western Pacific move westwards towards India and aid the associated rain-bearing systems over the country.
- However, in the years of a re-curve, they do not give as much of a push to the rain as they do in the good monsoon years and that is why monsoon rain this August was a dampener.
- Rain that month was 13% short of what is usual and meteorologists say it was almost certainly because of an active hurricane season in the Pacific that consisted of a few re-curving cyclones.
- However, these are back in the news due to Cyclone Ockhi.
- The whirlwind that arose in the Bay of Bengal and revved up over Sri Lanka was expected to pass over Lakshadweep and then ease into the Arabian Sea, far away from India's west coast.
- However, the cyclone ended up sharply swerving into parts of Maharashtra and Gujarat.
- It did not blow in very strongly because there it had not gained as much moisture from the Arabian Sea like it had over the Bay of Bengal and the Indian Ocean boundary.
- And though it wreaked havoc in Kerala and Tamil Nadu, even a weakened Ockhi destroyed several beaches in Goa when it curved back to the land.

Why does it matter?

- Long-term data suggest that while there has been an increase in the number of tropical cyclones in India's neighbourhood there is **no clear trend in re-curving ones**
- In general, **cyclone activity in India peaks around November**, by which time, the summer monsoon has already passed.
- Rarely do re-curving cyclones pose a mortal threat to Indian coasts and Cyclone Ockhi raised hackles because it had already left a certain

amount of damage and threatened Gujarat and Maharashtra.

- It was also among the rare curving cyclones with a presence over the Arabian Sea.

What lies ahead?

- As climate change is projected to increase the frequency of extreme events, scientists have warned that tropical cyclones are likely to get more intense, and this could mean more scrutiny of re-curving ones.
 - A challenge with re-curving cyclones is that it is hard for weather models to pick them early on as was the case with Ockhi and so they pose unique challenges in terms of hazard preparedness and disaster management.
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NIA arrests youth planning suicide attack in Kerala

Why in news?

The National Investigation Agency (NIA) said it had arrested a 29-year-old resident of Palakkad who used to follow the videos and speeches of the mastermind of the Easter attacks in Sri Lanka, Zahran Hashim, and was planning a suicide attack in Kerala.

NIA Interrogation:

- In a statement, the NIA said it arrested Riyas A., who goes by the aliases Riyas Aboobacker and Abu Dujana, on Monday as a part of its probe into the "IS Kasaragod case".
- The NIA said the case had been lodged in **July 2016 after 15 young men from Kasaragod disappeared and later joined the Islamic State (IS)**, 14 in Afghanistan and one in Syria.
- During interrogation, he disclosed that he had been in online contact with absconding accused Abdul Rashid Abdulla, alias Abu Isa, for a long time and had been following his audio clips, including the clip which he had circulated on social media platform instigating others to carry out terror attacks in India," the NIA said.

- The terror accused also said he was in online contact with Abdul Khayoom, alias Abu Khalid, who is accused in the “Valapattanam IS case” and was “believed to be in Syria,” the NIA said.
 - He has further disclosed that he had been following speeches/videos of **Zahran Hashim of Sri Lanka** for more than a year and had also followed the speeches of Zakir Naik. He admitted that he wanted to carry out a suicide attack in Kerala,” the NIA statement read
 - The NIA then carried out searches at three spots – two in Kasaragod and one in Palakkad.
 - Three group members have been questioned for their IS links and plans,” the NIA said, adding that Riyas Aboobacker would be produced before an NIA court in Kochi.
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Genes of climate-resistant chickpea varieties identified

Why in news?

An international team led by the **Hyderabad-based International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** has identified in chickpea four important genes for heat tolerance and three important genes for drought tolerance.

Findings of the study:

- With **rising temperatures and increasing climatic fluctuations** due to climate change, the identification of these climate-resistant genes will help in developing newer chickpea varieties which can tolerate temperatures up to 38 ° C.
- Also, the identification of other genes with important agronomic traits will help in increasing the yield and providing better resistance to pests and diseases.
- The study was based on complete genome sequencing of 429 chickpea lines from 45 countries.
- More than **90% of chickpea cultivation area is in South Asia**, including India.
- Globally, more than 70% yield is lost due to drought and increasing

temperatures.

- **Chickpea is a cool season crop**, so in general any further increase in temperature is expected to further reduce the yield.

Timely trial:

- With the identification of the heat- and drought-tolerant genes, it will be possible to cross a chickpea landrace carrying those genes with a variety and select only those lines (progenies) with the genetic markers that have the heat and drought tolerance genes.
- By using such genomics-assisted breeding approach, the time taken to produce a new heat- and drought-tolerant chickpea variety can be halved from about eight to four years.
- He is the first author and one of the corresponding authors of a paper published in Nature Genetics.

Chickpea cultivation in India:

- In India, chickpea is generally sown in **September-October** and harvested in January-February.
- Currently, in India, chickpea does not face a major threat from increasing temperature.
- But we are already witnessing a slight warming during the months of January and February. So, a new variety with heat and drought tolerance will be highly useful to Indian farmers.
- When heat-tolerant chickpeas are developed in future, farmers in India may have a possibility to go in for a second round of cropping. Though the yield will be less for the second crop, farmers will still stand to gain.

Diversity, domestication:

- The study has found that **chickpea originated in the Mediterranean/south-west Asia** and migrated to south Asia.
- It reached India about two centuries ago, apparently through Afghanistan.
- In parallel, it migrated from the Mediterranean to east Africa and central Asia.
- The study provides insights into chickpea's genetic diversity, domestication too.

Drug-resistant diseases could kill 10 million a year by 2050

Why in news?

Drug-resistant diseases could cause 10 million deaths each year by 2050, warned the **UN Ad Hoc Interagency Coordinating Group on Antimicrobial Resistance** in a report released.

Findings of the report:

- It added that by 2030, antimicrobial resistance could force up to 24 million people into extreme poverty.
- Currently, at least **7,00,000 people die each year due to drug-resistant diseases**, including 2,30,000 people who die from multidrug-resistant tuberculosis," said the report.
- It also noted that more and more common diseases, including respiratory tract infections, sexually transmitted infections and urinary tract infections, are becoming untreatable; lifesaving medical procedures are becoming riskier, and food systems are getting increasingly precarious.
- Antimicrobial resistance is one of the greatest threats we face as a global community.
- This report reflects the depth and scope of the response needed to curb its rise and protect a century of progress in health.
- The report noted that the world was already feeling the economic and health consequences as crucial medicines become ineffective.
- Without investment from countries in all income brackets, future generations will face the disastrous impacts of uncontrolled antimicrobial resistance.
- It has now recommended that **countries prioritise national action plans to scale-up financing** and capacity-building efforts, put in place stronger regulatory systems and support awareness programs for responsible and prudent use of antimicrobials by professionals in human, animal and plant health and invest in ambitious research and development for new technologies to combat antimicrobial resistance.

Ban on veils in Sri Lanka

Why in news?

Sri Lanka has banned veils citing “security” reasons following Easter attacks, but the decision has sparked a host of concerns within the Muslim community. President Maithripala Sirisena said that the ban **was in the interest of national security and public safety**, so that individuals were easily identifiable.

Case of concern:

- In this instance, “veils”, Sri Lankan activists note, imply burqas that some Sri Lankan Muslim women wear, though the official announcement doesn’t name the attire specifically.
- The All Ceylon Jamiyyathul Ulama (ACJU), the apex religious body of Islamic scholars, has issued a directive to the Muslim community urging members to refrain from wearing the veil.
- We were not responding to the government’s ban, we independently reached out to the community keeping in mind the current situation,” said ACJU media secretary.
- However, what is effectively a burqa ban will have to be seen both in the context of the current moment as well as in the broader context.
- Seen in the specific context of the aftermath of the blasts, the ban does not seem unreasonable to many.

Afghan ‘grand assembly’ begins

Why in news?

Thousands of politicians and officials from across Afghanistan gathered amid tight security in Kabul to discuss the war and U.S. efforts to forge a

peace deal with the Taliban.

loya jirga:

- More than 3,000 people have been invited to the rare “**loya jirga**”, which is being billed as the largest in modern Afghan history, in a bid to set possible conditions under which they might accept a peace settlement.
- The **loya jirga** literally “**grand assembly**” in Pashto is being held as the U.S. and Taliban are discussing a possible foreign troop withdrawal from Afghanistan in exchange for a permanent ceasefire and various Taliban pledges.
- We want to specify the main lines for the negotiations with the Taliban,” Mr. Ghani said at the start of the summit.
- Mr. Ghani’s government hopes the high-stakes meeting will set out Kabul’s conditions for any deal, including the continuation of the Constitution and the protection of women’s rights, the media, and free speech.
- Mr. Ghani had invited the Taliban but the insurgents refused.
- Much of Kabul was locked down, with a week-long public holiday declared for the duration of the four-day event.
- Streets across the capital were closed and hilly overlooks blocked.
- In the past, the Taliban have blasted rockets at a tent hosting a loya jirga.
- In a statement, the Taliban vowed that any decisions or resolutions made at a loya jirga are “never acceptable to the real and devout sons of this homeland”.

HC refuses to gag media in CJI case

Why in news?

The Delhi High Court dismissed a petition seeking to restrict the media from reporting on the sexual harassment allegation levelled against Chief Justice of India (CJI) Ranjan Gogoi.

No interference:

- “Go to the Supreme Court, we will not interfere,” a Bench of Chief Justice Rajendra Menon and Justice Anup J. Bhambhani told the petitioner Anti-Corruption Council of India, an NGO.
- The Bench said the Supreme Court was seized of the issue. The Supreme Court has already expressed itself; judicial propriety and discipline require that this court should not interfere in the matter at all.
- In its plea, the NGO sought a direction to the government to restrain media, including newspapers and TV channels and even social media platforms, from publishing the allegation.
- It said, “Casting, re-casting the news containing the defamatory contents against the Chief Justice of India is a direct hit on the Indian national judicial system.”
- The NGO said it “strongly suspects the involvement of anti-national elements behind the organisation of such acts.”

In-house panel:

- The petition said the matter should not be reported till the in-house three-judge inquiry panel comprising Justices S.A. Bobde, Indu Malhotra and Indira Banerjee came out with a report.
- The panel will examine allegations of sexual harassment levelled by a former employee of the court against the CJI “in keeping with the highest standards of judicial propriety and wisdom.
- The petition contended that publicising the issue would likely result in people losing faith in the system.

Respond to plea on EVMs and VVPATs, SC tells EC

Why in news?

The Supreme Court sought a response from the Election Commission to a plea to decriminalise the act of reporting “deviant behaviour” manifested in electronic voting machines (EVMs) and voter-verified paper audit trail (VVPAT) systems during polling.

SC Notice:

- A Bench led by Chief Justice of India Ranjan Gogoi issued notice to the Commission to explain the requirement for Rule 49 MA of the Conduct of Election Rules, 1961 read with Section 177 of the Indian Penal Code, which **criminalises the reporting of malfunctioning of EVMs and VVPATs**.
 - Petitioner Sunil Ahya submitted, "It may not be fair and just to charge an elector for reporting such a deviant behaviour. Yet, presently, in all eventuality, the onus/burden of proof is on the elector, who will face the criminal charges irrespective of whether that reporting is truthful and honest." In fact, the rule worked to deter people from coming forth to complain.
 - The petition explained the various forms of "**deviant behaviour**" the EVMs and VVPATs could possibly have, including an "**unsolicited programme**" by ballots cast for one candidate may be transferred, not sequentially, but rather intermittently (at pre-programmed intervals or otherwise) to another candidate.
 - And, therefore, where an elector is asked to cast test vote as prescribed under Rule 49 MA, he may not be able to reproduce the same result which he was complaining about, it said.
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Penal provision necessary: EC

Why in news?

The Election Commission said the penal provision for a voter making any false allegation about VVPAT displaying wrong result was necessary to prevent frivolous complaints.

ECI Stand:

- Deputy Election Commissioner Sudip Jain said it usually took more than 20 minutes for poll officials to address a complaint of VVPAT showing wrong result. A series of such complaints could even sabotage the election process.

- The Commission has so far received three such complaints, one each from Gujarat and Kerala and another from a former DGP in Assam.
 - While the first two complaints were found to be incorrect, the former DGP refused to give a declaration that he would be penalised if his complaint turned out to be false.
 - If the allegation is false, a case under Section 177 of the IPC is made out. It prescribes simple imprisonment for a term extending to six months, or with fine of Rs. 1,000, or both.
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Army invokes emergency powers for missile deal

Why in news?

The Army is in the process of procuring **Spike-LR Anti-Tank Missiles from Israel and Igla-S Very Short-Range Air Defence Systems (VSHORAD) from Russia** through a set of new financial powers for emergency procurements sanctioned by the Defence Ministry earlier this month, defence sources said.

Emergency financial powers:

- Under the latest emergency financial powers, armed forces have been given a free hand to procure equipment worth **upto Rs. 300 crores** on a priority basis.
- The **Request For Proposal (RFP)** for the two deals have been issued and negotiations are ongoing," the source said.
- Entirely new systems not in use can also be procured under the new powers, the source stated.
- Tenders for both deals went on through regular procurement process earlier.
- While Spike tender was cancelled during the cost negotiation phase, the deal for Igla, after repeated delays, is in the cost negotiation phase.
- However, given the questions that were raised in the earlier deals, clarity is needed on the modalities for purchase through the emergency route.

- Under the emergency route, the Army is looking to procure about 12 launchers and around 250 missiles for each system.

The Spike-LR:

- The Spike-LR (Long Range) being procured is a different variant from the one tested and shortlisted as part of the earlier procurement for over 8,000 missiles and 300 launchers along with technology transfer.
- As contract negotiations dragged on, the deal was cancelled in January last year and it was decided to procure a smaller number 170 launchers, 4,500 missiles and 15 simulators through an **Inter-Governmental Agreement** (IGA) and make up the balance requirement with an indigenous Man Portable ATGM, currently under development.
- Before the IGA was concluded, validity trials of the **Infrared Seeker (IR) of the missile** were to be held during the Indian summers as the missile “did not perform as desired in the previous trials during peak summer temperatures in the desert,” according to another source.
- However, the IGA has not made progress so far. **The Spike-LR (Long Range) has a range of 4 km.**
- It is so far not clear if additional trials would be performed as part of the emergency procurement.

VSHORAD deal:

- The deal for VSHORAD, **to replace the legacy Igla systems in service**, began in 2010 and has since seen several trials and re-trials with three contenders in the fray MBDA of France, Rosoboronexport of Russia and SAAB of Sweden.
- Eventually, all three were declared technically compliant last year.
- While the benchmark price determined was just over \$2 bn, Rosoboronexport’s bid was much lower at around \$1.47 bn, SAAB at about \$2.6 bn and MBDA around \$3.68 bn.
- This led to a division within the Ministry on how to proceed given such low bid from the Russians compared to the benchmark price, but eventually Igla-S was declared the winner.
- The other two vendors had lodged protests and wrote a series of letters to the Defence Ministry alleging procedural violations favouring Igla-S which have been rejected.

Committee constituted to oversee clean air programme

Why in news?

The Union Environment Ministry has constituted a committee to implement the **National Clean Air Programme (NCAP)**.

About the Committee:

- The committee will be chaired by the Secretary, Union Environment Ministry and has among its members the Joint Secretary (Thermal), Ministry of Power; Director-General, The Energy Resources Institute (TERI), the Delhi-based think-tank; and Professor Sachidananda Tripathi, Indian Institute of Technology-Kanpur (IIT-K).
- The committee would be headquartered in New Delhi and its remit includes ensuring inter-ministerial organisation and cooperation, sharing information and resolving issues that could arise between ministries.
- The committee would also give overall guidance and directions to effectively implement the programmes, said a ministerial note.

National Clean Air Programme:

- It aims to **reduce particulate matter (PM) pollution by 20%-30% in at least 102 cities by 2024.**
- The NCAP is envisioned as a **five-year action plan with 2019 as the first year.** There would be a review every five years.
- The NCAP unveiled in January is envisaged as a **scheme to provide the States and the Centre with a framework to combat air pollution.**
- States in which the cities are located are expected to produce plans that include increasing the number of monitoring stations, providing technology support, conducting source apportionment studies, and strengthening enforcement.
- For achieving the NCAP targets, the cities would be expected to

calculate the reduction in pollution, keeping 2017's average annual PM levels as the base year.

- The World Health Organisation's (WHO) database on air pollution over the years has listed **Tier I and Tier II Indian cities as some of the most polluted places in the world**. In 2018, 14 of the world's 15 most polluted cities were in India.
 - The NCAP requires cities to implement specific measures such as "ensuring roads are pothole-free to improve traffic flow and thereby reduce dust" within 60 days.
 - Ensuring strict action against unauthorised brick kilns" within 30 days.
 - It doesn't specify an exact date for when these obligations kick in.
 - Experts have criticised the **lack of mandatory targets** and the challenge of inadequate enforcement by cities.
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India-China team on pharm

Why in news?

India will be sending a high-level delegation to the first meeting of the working group on pharmaceuticals, with China, scheduled in Beijing next month.

India-China Strategic Economic Dialogue:

- An initiative under the India-China Strategic Economic Dialogue (SED) Mechanism, the working group meeting comes in the backdrop of growing efforts by India to increase pharma exports to China.
- In doing so, the emphasis has been on impressing upon China to make **the drug registration process** easier for Indian pharma companies.
- There is a need for strengthening our exports to China and also to reduce import dependence from China, which could be achieved with regular trade and bilateral discussions, a communication from the Pharmaceuticals Export Promotion Council of India (Pharmexcil) to its members said.

Seventeenth position:

- In 2018-19, China figured in the 17th spot in the list of India's top pharma export destinations. At \$230.19 million, exports increased 14.83% from the previous year's \$200.46 million.
- The growth potential, however, is much higher, considering the fact that the exports grew 52% in 2017-18.

Indian Delegation:

- The Indian delegation will be led by Joint Secretary to the Department of Pharmaceuticals and comprise senior officials from the Commerce Ministry as well.
 - Senior executives of a few pharma companies from India as well as of those already involved in their firms' operations in China, such as Dr. Reddy's Laboratories and Hetero, are expected to be part of the delegation, sources said.
 - The Working Group meeting is on May 7, and will be followed by the delegation visiting API plants and interacting with API manufacturers and trade associations on May 8-9.
 - Pharmaceuticals, according to Pharmexcil, has come to the centrestage of such discussions in the wake of **China removing import tariffs on oncology drugs and a few others products**.
 - It is against this backdrop India is keen on China relaxing the drug registration process.
 - Such a move now 3-5 years is the time taken for getting a product registration from **China's National Medical Products Administration** and the cost is about \$58,000 per drug would encourage more Indian companies to supply to China.
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