

CURRENT AFFAIRS

WEEKLY

WEEK-2

MARCH
2021

MAINS

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pours 'electron rain'

GS-2 Rare Disease Day in
India

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In a 'first', Himalayan serow
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**SCIENCE &
TECHNOLOGY** • Indian Navy to commission
INS Karanj
• PSLV-C51, the first dedicated
launch by NSIL

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The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS ANALYST

WEEK- 2 (MARCH, 2021)

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SECTION: A

(MAINS)

CURRENT AFFAIRS

THE FIRST KNOWN 'SPACE HURRICANE' POURS 'ELECTRON RAIN'

CONTEXT

Satellite observations have revealed an unprecedented 'space hurricane' in Earth's upper atmosphere, for the first time.

◎ BACKGROUND

- Scientists have previously documented hurricanes in the lower atmospheres of Mars, Jupiter, and Saturn.
- Similar phenomena (enormous solar tornadoes) have even been spotted on the Sun.
- But the existence of space hurricanes, hurricane-like circulation patterns in planets' upper atmospheres, has been uncertain.
- The space hurricane was detected on August 20, 2014.
- Researchers at Shandong University in China used satellite data to identify a space hurricane over Earth's northern magnetic pole.
- The phenomenon was noticed during a retrospective analysis led by the researchers at the Shandong University in China.
- The findings were published in the peer-reviewed British journal Nature Communications.

reproduce the event's main features and explained its formation.

- Space hurricanes might be universal phenomena at planetary bodies with magnetic fields and plasma across the Universe.

Hurricanes

- Tropical storms and hurricanes occur in Earth's lower atmosphere over **warm bodies of water** such as oceans and gulfs.
- When warm, moist air rises, it creates an area of low pressure near the surface that sucks in the surrounding air, causing extremely strong winds and creating clouds that lead to heavy rain.
- A hurricane starts as a tropical disturbance. This is an area over warm ocean waters where rain clouds are building.
- A **tropical disturbance** sometimes grows into a tropical depression. This is an area of rotating thunderstorms with winds of 62 km/hr (38 mph) or less.
- A **tropical depression** becomes a tropical storm if its winds reach 63 km/hr (39 mph).
- A **tropical storm** becomes a hurricane if its winds reach 119 km/hr (74 mph).
- There are five types, or categories, of hurricanes. The scale of categories is called the **Saffir-Simpson Hurricane Scale**. The categories are based on wind speed.
 - Category 1:** Winds 119-153 km/hr (74-95 mph) - faster than a cheetah
 - Category 2:** Winds 154-177 km/hr (96-110 mph) - as fast or faster than a baseball pitcher's fastball
 - Category 3:** Winds 178-208 km/hr (111-129 mph) - similar, or close, to the serving speed of many professional tennis players
 - Category 4:** Winds 209-251 km/hr (130-156 mph) - faster than the world's fastest rollercoaster
 - Category 5:** Winds more than 252 km/hr (157 mph) - similar, or close, to the speed of some high-speed trains

◎ ANALYSIS

The discovery

- A 'space hurricane' is a swirling mass of plasma. The space hurricane has been spotted in **Earth's ionosphere**.
- The whole thing lasted nearly eight hours, depositing vast amounts of energy and momentum into the ionosphere.
- The event was a whirling pattern not in the air, but in **plasma**, ionized gas that is found throughout the Solar System, including in Earth's upper atmosphere.
- The hurricane was spinning in a **counterclockwise direction (like hurricanes do in the Northern Hemisphere)**, had multiple spiral arms, and lasted almost eight hours before gradually breaking down.
- Like its more mundane counterparts, the space hurricane had a quiet center, multiple spiral arms, and widespread circulation.
- It also featured precipitation, but of energetic electrons rather than water droplets.
- The authors found that a 3D model could

How is it different and similar to earth hurricanes?

◦ **Differences**

- ▶ **Electrons instead of water:** Unlike other hurricanes, however, the space hurricane rained **electrons** into the ionosphere. This had a stunning effect: a huge, cyclone-shaped aurora below the hurricane.

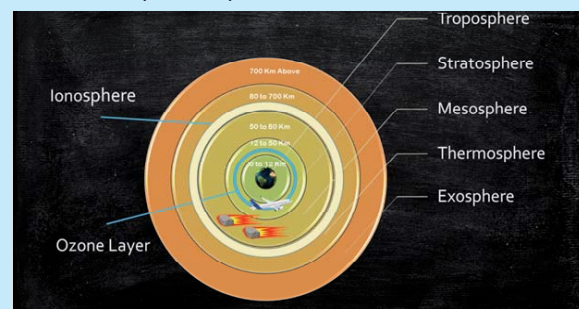
◦ **Similarity**

- ▶ The space hurricane — which took place during a period of low geomagnetic activity — had many similar features with that of hurricanes of the Earth that form in Earth's lower atmosphere.
- ▶ However, in many ways, this space hurricane resembles the hurricanes that occur in the Earth's **lower atmosphere**.
- ▶ Tropical storms are associated with huge amounts of energy, and these space hurricanes must be created by unusually large and rapid transfer of solar wind energy and charged particles into the Earth's upper atmosphere.

Earth's atmosphere

- **Troposphere:** The troposphere starts at the Earth's surface and extends 8 to 14.5 kilometers high (5 to 9 miles). This part of the atmosphere is the densest. Almost all weather is in this region.
- **Stratosphere:** The stratosphere starts just above the troposphere and extends to 50 kilometers (31 miles) high. The ozone layer, which absorbs and scatters the solar ultraviolet radiation, is in this layer.
- **Mesosphere:** The mesosphere starts just above the stratosphere and extends to 85 kilometers (53 miles) high. Meteors burn up in this layer
- **Thermosphere:** The thermosphere starts just above the mesosphere and extends to 600 kilometers (372 miles) high. Aurora and satellites occur in this layer.
- **Ionosphere:** The ionosphere is an abundant layer of electrons and ionized atoms and molecules that stretches from about 48 kilometers (30 miles) above the surface to the edge of space at about 965 km (600 miles), overlapping into the mesosphere and thermosphere.

- ▶ This dynamic region grows and shrinks based on solar conditions and divides further into the sub-regions: D, E, and F; based on what wavelength of solar radiation is absorbed.
- ▶ The ionosphere is a critical link in the chain of Sun-Earth interactions.
- ▶ This region is what makes radio communications possible.
- **Exosphere:** This is the upper limit of our atmosphere. It extends from the top of the thermosphere up to 10,000 km (6,200 mi).



Can they create problems?

- These space hurricanes can, probably, lead to weather effects too, such as
 - ▶ increased satellite problems
 - ▶ disturbances in high-frequency radio communications, satellite navigation, communication systems
 - ▶ increased errors in the over-the-horizon radar location

What hints do the findings give?

- **Widespread phenomenon:** Plasma and magnetic fields in the atmosphere of planets exist throughout the universe, so the findings suggest space hurricanes should be a widespread phenomenon.
- **Relatively common:** They could be more relatively common within our solar system and beyond.

Conclusion

The study of space hurricanes will help in understanding important space weather effects such as satellite drag, disturbances in high frequency (HF) radio communications, and errors in over-the-horizon radar location, satellite navigation, and communication systems better. However, further study is needed to know the complete picture of such an occurrence.

RARE DISEASE DAY IN INDIA

CONTEXT

The World Rare Disease Day takes place worldwide on the last day of February every year. The day aims to improve knowledge amongst the general public of rare diseases while encouraging researchers and decision-makers to address the needs of those living with rare diseases.

◎ BACKGROUND

- Each rare disease may only affect a handful of people, scattered around the world, but taken together the number of people directly affected is equivalent to the population of the world's third-largest country.
- New diseases are discovered each year and added to the databases such as **Orphanet database** maintained by the **European Union**.
- There is no universal definition of rare disease but the importance of having a consistent definition across each country is well acknowledged.

- The WHO defines rare disease as a debilitating lifelong disease or disorder condition with a prevalence of 1 or less per 1000 population.
- United States:** In the United States, a rare disease is defined as a condition that affects fewer than 200,000 people in the US.
- European Union:** In the European Union, a disease is defined as rare when it affects fewer than 1 in 2,000 people.

- Having and adopting a standard definition of rare disease is a pre-requisite for public policy development.
- Due to lack of definition and more importantly, due to lack of diagnostic infrastructure and systematic data collection systems in India, the country does not yet have accurate statistics on the incidence or prevalence of rare diseases.
- About 80% of all rare diseases are genetic in origin, most of them monogenic. Half of the rare diseases are early-onset childhood diseases.
- Rough conservative estimates indicate over 70 million people in India are affected by rare diseases many of whom may still not have a diagnosis.

Key-figures

- Over 350 million people are living with one or more of over 7,000 identified rare diseases around the world.
- Rare diseases currently affect 3.5% - 5.9% of the worldwide population.

- 72% of rare diseases are genetic whilst others are the result of infections (bacterial or viral), allergies, and environmental causes, or are degenerative and proliferative.
- 70% of those genetic rare diseases start in childhood.

◎ ANALYSIS

What are rare diseases?

- Rare diseases, as the name suggests, are health conditions that have a very low prevalence.
- Any disease that affects a small percentage of the population is a rare disease.
- In many parts of the world, they also go by the term 'orphan disease', for the lack of a market large enough to capture the support and resources needed to develop treatments for them.
- Most rare diseases are genetic, and present throughout a person's lifetime, even if symptoms do not immediately appear.
- Many rare diseases appear early on in life, and about 30 percent of children with rare diseases will die before reaching their fifth birthday.
- At first glance, it might seem to be a marginal issue that affects a handful of people, but there are more than 7,000 diagnosed rare diseases in the world and over 350 million individuals suffer from them, with nearly one-fifth in India.

Rare Disease Day

- Rare Disease Day** was first celebrated in 2008 on 29th February, a Leap day that comes once in four years.
- Since then, the occasion has been observed on the last day of February, a month with fewer days than others, to build awareness.
- The main objective of Rare Disease Day is to **raise awareness** amongst the general public and decision-makers about **rare diseases and their impact on patients' lives**.

What causes rare diseases?

- There are many different causes of rare diseases.

The majority are thought to be genetic, directly caused by changes in genes or chromosomes.

- ▶ **Hereditary:** In some cases, genetic changes that cause disease are passed from one generation to the next.
- ▶ **Acquired:** In other cases, they occur randomly in a person who is the first in a family to be diagnosed. Many rare diseases, including infections, some rare cancers, and some autoimmune diseases, are not inherited.

While researchers are learning more each year, the exact cause of many rare diseases is still unknown.

What are the most common rare diseases?

- Hemangiomas (blood vessels forming a birthmark)
- lupus (an inflammatory disease)
- cystic fibrosis (a genetic disorder affecting lungs and the digestive system)
- Hirschsprung disease (blockage of the large intestine)
- muscular dystrophies (progressive weakness and degeneration of the muscles)
- **Other common rare disease** includes sickle cell anaemia, primary immunodeficiency in children, autoimmune disease.
- About 80% of all rare diseases are genetic in origin, most of them monogenic.

Where does India stand in terms of its efforts?

- With its sizeable population, India has an increased frequency of rare diseases when compared to the rest of the world.
- In January this year, the Delhi High Court directed the Union Government to finalize and operationalize the new **National Health Policy for Rare Diseases** by 31 March 2021.

National Policy for Rare Diseases 2020

- The Ministry of Health and Family Welfare had published a draft of **the National Policy for Rare Diseases 2020** for stakeholder inputs, after the Delhi High Court judgments on cases filed by families of rare disease patients in 2016.
- The policy embraces a minimalist approach and maintains that **healthcare is a State subject**.
- Parallel to the preparation of the draft policy, the Indian Council of Medical Research (ICMR) announced the launch of a national registry, which aimed to cover a set of rare and ultra-rare disorders that are prevalent in India, in 2017.

- The process of nation-wide data collection is yet to take off and there is little publicly available data to inform decision-making.

Where does India lack?

- India does not have a definition for rare diseases.
- Rare diseases are not covered under the **Rights of Persons with Disabilities Act**.
- There is no law that recognizes medical disability, depriving patients of all facilities and benefits.
- This year's budget made no new allocation for such a plan.
- Only 450 of the 8,000 known rare diseases in the world are recognized in India, an anomaly that underscores a mounting health crisis in which many patients go without being diagnosed accurately or treated on time.

Measures were taken by foreign countries

- The **Orphan Drugs Act (ODA) of 1983** in the United States marked the most significant milestone in shaping rare disease policies around the world.
 - ▶ ODA offers significant tax and other incentives to companies investing in the research and development of treatments for rare diseases.
- Several European countries, Japan and others have adopted policies over the last 35 years - but the adoption has been far and few in some of the most populous countries such as China and India.

Challenges/Issues

- The main challenges include:
 - ▶ lack of awareness among the medical fraternity
 - ▶ lack of dedicated healthcare policies, schemes, and diagnostic facilities
 - ▶ absence of counseling or even just a database of rare diseases
- **Lack of efforts:** Despite the large number of patients suffering from rare diseases, efforts to properly diagnose and treat these conditions have been lagging.
- **Limited help:** Due to the low prevalence of individual diseases, medical expertise is rare, knowledge is scarce, care offerings inadequate, and research limited.
- **Denied treatment:** Despite the large overall estimate, patients with a rare disease are the orphans of health systems, often denied diagnosis, treatment, and the benefits of research.
- **Expensive treatments:** The unavailability and high cost of treatment remain one of the biggest obstacles.

What measures are required?

- **Sufficient information regarding the disease:** Currently, both the public and policy-makers are in need of more information regarding rare diseases, only then can plans be put in place to move forward in providing adequate treatment and support for the millions affected by these conditions.
- **Effective policy formulation:** The Union government needs to craft a stronger, more holistic and empathetic policy, along with clear direction and support to State Governments, to improve the quality of life for rare disease patients and reduce their medical costs.
- **Collaborative approach:** A multi-stakeholder consensus, across sectors, regions, and political

affiliations needs to emerge to tackle this invisible yet urgent public health concern.

Conclusion

Managing health complexities such as rare diseases amidst the COVID-19 pandemic is a daunting task. However, it is essential to re-address focus on all health areas and not choose areas of primacy for policy action. The **Economic Survey 2021** cautions about the "saliency bias" where a policy may overweigh a recent phenomenon neglecting other areas that may require equal attention. Thus, tackling rare diseases is as important as keeping an adequate focus on the COVID-19 damage.

INDIA-PAKISTAN CEASEFIRE

CONTEXT

In an unexpected development, India and Pakistan militaries have agreed to “strictly” observe all agreements and adhere to a ceasefire along the Line of Control, which is the first such understanding since the 2003 ceasefire violations pact.

◎ BACKGROUND

- Territorial disputes over the Kashmir region sparked two of the three major Indo-Pakistani wars in 1947 and 1965, and a limited war in 1999.
- Although both countries have maintained a fragile ceasefire since 2003, they regularly exchange fire across the contested border, known as the Line of Control.
- Both sides accuse the other of violating the ceasefire and claim to be shooting in response to attacks.
- An uptick in border skirmishes that began in late 2016 and continued into 2018 killed dozens and displaced thousands of civilians on both sides of the Line of Control.

Line of Control (LoC)

- The Line of Control (LoC), also known as the ‘ceasefire line’, is a de facto border that divides Pakistan and Indian-administered Kashmir.
- The line originally marked the military front when the two countries declared a ceasefire in January 1949.
- It was formally named the LoC after the 1972 Simla Agreement.



◎ ANALYSIS

Key-highlights of the Joint Statement

For the first time in recent times, India’s ministry

of defense and Pakistan’s Inter-Services Public Relations have issued a joint statement after the talks between the director-general of military operations (DGMOs) discussed their hotline.

- The two sides reviewed the situation along the Line of Control and all other sectors in a free, frank, and cordial atmosphere.
- The two DGMOs “agreed to address each other’s core issues and concerns which have the propensity to disturb the peace and lead to violence” in the interest of “achieving mutually beneficial and sustainable peace along the borders”.
- Both sides agreed for strict observance of all agreements, understandings, and cease firing along the Line of Control and all other sectors with effect from midnight 24/25 February 2021.
- Further, the two sides “reiterated that existing mechanisms of hotline contact and border flag meetings will be utilized to resolve any unforeseen situation or misunderstanding”.

Instances of ceasefire

- According to Indian government figures, there were 5,133 instances of ceasefire violations along LoC last year, with 46 fatalities.
- This was a large number recorded in a year since 2003 and marked a big jump from 3,479 instances of violations in 2013.
- In 2021, there were 299 violations with one fatality till early February.

Will the agreement ease the situation?

- The ceasefire agreement between India and Pakistan came weeks after the withdrawal of Indian and Chinese forces from the eastern Ladakh region.
- Ever since the face-off between India and China in eastern Ladakh, the possible breakout of a two-front war has become more evident.
- In this context, the ceasefire on the LoC will ease the pressure on the Indian army, which is already seeking to re-deploy its strike corps on the eastern front.

The Big Questions (still remains)

- Though it is a welcome step, it puts a question

mark on how long the fresh commitment to a ceasefire along the LoC can hold especially with summers approaching.

- It is not the first time that the militaries of the two countries have agreed to maintain calm at the border.
- In 2018, both armies agreed to adhere to the terms as per the 2003 agreement, something that was reiterated today.
- However, the agreement lasted only till an untoward incident disrupted the agreement. So the current understanding is as tenuous as the previous one.
- Whether this conciliatory move will turn into a formidable détente depends on how the events unfold in the coming days and months.
- After all a single event, like the Pulwama suicide attack, is enough to bring the two countries back on the brink of war.

Why no hope should be attached to the agreement?

- **Interference in domestic issues:** Forget bilateral issues, Pakistan has been openly interfering in India's domestic issues, whether it is the farmers' protest or a judicial process. The first thing that normally happens before a peace process starts is that rhetoric is toned down. But that hasn't happened.

- **Deteriorating security issues:** On the security front, things are only deteriorating. The Pakistanis are now openly trying to resurrect the Khalistan movement.
- **Increasing terrorism in the valley:** In Jammu and Kashmir, new terror groups (actually most of these are proxies of old terror groups, albeit with more 'secular' names like Resistance Front) have emerged. The security forces are braced for a 'hot summer' in the Valley.
- **New techniques for terror activities:** Pakistanis have been adopting and adapting terror tactics from other theatres – drones to drop weapons not just in J&K but also in Punjab, tunnels to infiltrate terrorists, and introducing 'sticky bombs' (used to devastating effect in Afghanistan in recent weeks).

Simply put, this is hardly conducive to any kind of move towards putting the bilateral relationship back on track.

Conclusion

With the latest development, India has now eased border tensions with both China and Pakistan -- Ladakh disengagement and ceasefire. The move is welcomed by the US as well as the UN, which stated it as a positive step towards greater peace and stability in South Asia.

INDIA'S STATUS AS A DEMOCRACY DOWNGRADED TO 'PARTLY FREE'

CONTEXT

In the latest annual report on global political rights and liberties by Freedom House, a US government-funded NGO that studies political freedom around the world, India's status as a democracy and free society has been downgraded to 'partly free'.

◎ BACKGROUND

- Over the past year, oppressive and often violent authoritarian forces tipped the international order in their favor time and again, exploiting both the advantages of non-democratic systems and the weaknesses in ailing democracies.
- In a variety of environments, flickers of hope were extinguished, contributing to a **new global status quo** in which acts of repression went unpunished and democracy's advocates were increasingly isolated.
- To reverse the global shift toward authoritarian norms, democracy advocates working for freedom in their home countries will need robust solidarity from like-minded allies abroad.
- In 2018, 2019, and 2020, India had been rated as "free" in Freedom House's reports, though its scores on a scale of 100 had declined during this period from 77 to 71.

◎ ANALYSIS

What is the 'Freedom in the World' Report?

- In 1973, **Freedom House** launched the **Freedom in the World report**, which assessed the level of freedom in each country and ranked them with a numerical score, and declared them as:
 - Free
 - partly free
 - not free
- The annual report is perceived as one of the oldest quantitative measures of democracy.
- The Report assesses 195 independent countries across the globe.
- The Freedom in the World 2021 is the annual country-by-country assessment of political rights and civil liberties.
- Freedom House was formally established in New York in 1941 to promote American involvement in World War II and the fight against fascism.

Another important democracy index

- V-Dem:** Set up in 2014, V-Dem is an independent research institute based at the University of Gothenburg, and has published a data-heavy worldwide democracy report each year since 2017.
- EIU Democracy Index:** The index provides a snapshot of the state of world democracy for 165 independent states and two territories.
 - The Democracy Index is based on five categories: electoral process and pluralism, civil liberties, the functioning of government, political participation, and political culture.

Key-highlights of the Report

Freedom in the World 2021 finds that:

- The annual gap between losses and gains widened in 2020, and fewer than a fifth of the world's people now live in fully Free countries.
- Authoritarian actors grew bolder during 2020 as major democracies turned inward, contributing to the 15th consecutive year of decline in global freedom.
- Not free countries:** The share of countries designated '**Not Free**' has reached its highest level since the deterioration of democracy began in 2006.
- Countries with declines in political rights and civil liberties outnumbered those with gains by the largest margin recorded during the 15 years.
- Most affected countries:** The report downgraded the freedom scores of 73 countries, representing 75 percent of the global population.
 - Those affected include not just authoritarian states like China, Belarus, and Venezuela, but also troubled democracies like the United States and India.
- Top and Bottom:** Finland, Norway, and Sweden were ranked as the freest countries in the world, all with a score of 100, while Tibet and Syria were given a score of 1.
- United States:** The United States, which remained Free, fell by three points in 2020, for a total decline

of 11 points on the report's 100-point scale over the last decade.

- The COVID-19 pandemic exacerbated the democratic decline. Some 42 score declines across 36 countries and territories were linked to the health crisis.
- There are now **54 Not Free countries**, accounting for 38 percent of the world's population, the highest share since the decline began.

What claims are made for India?

- In one of the year's most significant developments, India's status changed from **Free** to **Partly Free**, meaning less than 20 percent of the world's people now live in a Free country—the smallest proportion since 1995.
- In the latest report, India had a score of 67 out of 100.

Reasons behind the decline:

- Indians' political rights and civil liberties have been eroding since Narendra Modi became prime minister in 2014.
 - His Hindu nationalist government has presided over increased pressure on human rights organizations, rising intimidation of academics and journalists, and a spate of bigoted attacks—including lynchings—aimed at Muslims.
- The decline deepened following Modi's re-election in 2019, and the government's response to the coronavirus pandemic in 2020 featured further abuses of fundamental rights.
- Freedom House cited other incidents and developments that had led to the downgrade for India, including:
 - the government intensifying its crackdown on protesters opposed to the **Citizenship (Amendment) Act**
 - the arrest of dozens of journalists who aired criticism of the official pandemic response
 - Judicial independence has also come under strain
 - opaque financing of political parties – notably through electoral bonds that allow donors to obscure their identities

Impact at the global level

- India's "fall from the upper ranks of free nations" could have a damaging impact on the world's democratic standards.
- The changes in India formed part of a broader shift in the international balance between democracy and authoritarianism, with authoritarians generally enjoying impunity for their abuses and seizing new opportunities to consolidate power or crush dissent.

Where does China stand in the Report?

The report was extremely critical of China, describing it as the "**world's most populous dictatorship**". The malign influence of the regime in China, the world's most populous dictatorship, ranged far beyond Hong Kong in 2020-

- **Global disinformation:** Beijing ramped up its **global disinformation** and **censorship campaign** to counter the fallout from its cover-up of the initial coronavirus outbreak, which severely hampered a rapid global response in the pandemic's early days.
- **Interrupting political discourse of foreign democracies:** Its efforts also featured increased meddling in the domestic political discourse of foreign democracies, as well as transnational extensions of rights abuses common in mainland China.
- **Abusing domestic principles in multilateral institutions:** The Chinese regime has gained clout in multilateral institutions such as the UN Human Rights Council, which the United States abandoned in 2018, as Beijing pushed a vision of so-called non-interference that allows abuses of democratic principles and human rights standards to go unpunished while the formation of autocratic alliances is promoted.

Examples of intervention by an autocratic neighbor:

- In **Belarus** and **Hong Kong**, massive pro-democracy protests met with brutal crackdowns by governments that largely disregarded international criticism.
- The **Azerbaijani regime's** military offensive in **Nagorno-Karabakh** indirectly threatened recent democratic gains in **Armenia**, while the armed conflict in **Ethiopia's Tigray Region** dashed hopes for the tentative political opening in that country since 2018.
- All four of these cases notably featured some degree of intervention by an autocratic neighbor:
 - Moscow provided a backstop for the regime in Belarus
 - Beijing propelled the repression in Hong Kong
 - Turkey's government aided its Azerbaijani counterpart
 - Ethiopia's leader called in support from Eritrea

What corrective measures are required?

- **Strong leadership at global level:** Global leadership and solidarity from democratic states are urgently needed.
- **Responsibilities:** Governments that understand the value of democracy, have a responsibility to band together to deliver on its benefits, counter its adversaries, and support its defenders.
- **Removing negative actors:** They must also put their own houses in order to shore up their credibility and fortify their institutions against politicians and other actors who are willing to

trample democratic principles in the pursuit of power.

If free societies fail to take these basic steps, the world will become ever more hostile to the values they hold dear, and no country will be safe from the destructive effects of dictatorship.

Conclusion

Democracy today is beleaguered but not defeated. Its enduring popularity in a more hostile world and its perseverance after a devastating year are signals of resilience that bode well for the future of freedom.

NITI AAYOG SUGGESTS LOWERING COVERAGE OF FOOD SECURITY LAW

CONTEXT

The NITI Aayog recently circulated a discussion paper to concerned departments and proposed revision in the National Food Security Act (NFSA), 2013.

◎ BACKGROUND

- India is one of the world's biggest crop producers and more than half of its 1.3 billion people rely on agriculture for their livelihoods.
- But the major problem faced by India is "the problem of food management and its distribution".
 - ▶ India is the largest producer in the world of milk, ginger, turmeric, and other things.
 - ▶ It also has the world's largest cattle population (281 million). It is the second-largest producer of wheat, rice, sugar, groundnut, and inland fish.
 - ▶ It is the third-largest producer of tobacco.
 - ▶ India accounts for 10% of the world fruit production with the first rank in the production of bananas.
- Despite ensuring ample availability of food, the existence of food insecurity at the micro-level in the country has remained a formidable challenge for India.
- In the recently released **2020 Global Hunger Index**, India ranks 94th out of the 107 countries. With a score of 27.2, India has a **level of hunger that is serious**.
- In 2010, the government introduced the "Food Security Bill" 2010, which is considered as the biggest ever experiment in the world for distributing highly subsidized food for any government through a "rights-based" approach.
- The National Food Security Bill after much debate and analysis was passed and became a law on 12th September 2013.
- According to the United Nations, India shares a quarter of the global hunger burden, and nearly 47 million children not meeting their full potential due to malnutrition.

◎ ANALYSIS

What is the NFSA?

- Under the Act, each **Antyodaya Anna Yojana** household, which refers to the **poorest sections of the country**, is entitled to 35 kg of food grains per month.

- This policy covers approximately 2.37 crore households or 9.01 crore persons, as on February 1, 2021.
- Besides, nearly 70.35 crore persons from priority households, or those who hold a **ration card**, are entitled to 5 kg of food grains per person per month.

Food Security

- According to NFSA, Food Security is defined as the availability of sufficient food grains to meet the domestic demand as well as access, at the individual level, to adequate means of food at affordable prices.
- The globally recognized definition of food security is **access to food at the household level at all times to ensure a healthy and active life for all its members**.

What is the current coverage?

- Currently, 75% of the rural population and 50% of the urban population come under NFSA's coverage.
- Overall, the Act covers 67% of the country's total population.

What has been recommended?

Government think tank NITI Aayog has recommended the following:

- **Lowering coverage:** Lowering the coverage of both rural and urban population under the National Food Security Act, 2013, to save up to Rs 47,229 crore annually.
 - ▶ It suggests reducing the coverage to 60% from the current 75% of the rural population, and to 40% from the current 50% of the urban population.
- **Updating population data:** Updating the population level which is currently based on Census 2011.
 - ▶ The erstwhile Planning Commission had determined the state-wise coverage ratio of the NFSA based on the rural and urban coverage ratio of **75:50**.
 - ▶ The coverage ratio has not been revised since

the law came into effect on July 5, 2013.

- **Revising coverage ratio:** Revising the state/Union Territory-specific coverage ratios and identifying eligible beneficiaries.
- Niti Aayog's suggestions come at a time when the food subsidy bill has touched Rs 4,22,618 crore for 2020-21.

Important Reports

- **Shanta Kumar Committee:** In the past, the Shanta Kumar Committee, which submitted its report in January 2015 on "Reorienting the role and restructuring of Food Corporation of India", had recommended **reducing the coverage ratio** from 67% of the country's population to 40%.
- **Economic Survey (2020-21):** The Economic Survey for 2020-'21 had also recommended a **revision of the Central Issue Prices (CIP)** of foodgrains released from the central pool, observing that the food subsidy, at its current level of Rs 4,22,618 crore, is becoming "unmanageably large".

Important Government Programs

To combat this perennial problem of food security, Government did introduce some major program such as:

- **Mid-day meal Scheme:** The program provides daily meals to over 120 million children between classes 1 and 8 in all government and government-aided schools with nutritious cooked meals.
- **Integrated Child Development Services (ICDS):** The ICDS provides 100 million children under 6 years of age and pregnant and lactating mothers with cooked meals and take-home rations.
- **Public food distribution system (PDS):** PDS is a system of government-sponsored chain of shops entrusted with the work of distributing basic food and non-food commodities to the needy sections of the society at very cheap prices.
- **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGS):** The Act aims to enhance livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work.
- **Antyodaya Anna Yojana (AAY):** It is the sponsored scheme of Government of India to provide highly subsidised food to millions of the poorest families.

Right to Food: A Fundamental Right?

- **Article 39(a)** of the Constitution, enunciated as one of the **Directive Principles**, is fundamental in the governance of the country.
 - It requires the State to direct its policies towards securing that all its citizens have the right to an adequate means of livelihood.
- While **Article 47** spells out the duty of the State to raise the level of nutrition and standard of living of its people as a primary responsibility.
- The Constitution thus makes the **Right to Food a guaranteed Fundamental Right** which is enforceable by virtue of the constitutional remedy provided under **Article 32 of the Constitution**.

Major issues/challenges in ensuring food security

The disappointment in the failure of attainment of food security can mainly be attributed to the:

- prevalence of inequality among the society
- unsuccessful delivery of public services
- pathetic liability system
- infringement in the implementation of pro-poor policies

What measures are required?

- **Addressing major challenges:** India's food security challenges lie in the areas of low GDP per capita, sufficiency of supply, public expenditure on R&D and protein quality. India needed to address these issues not just for food security, but welfare of rural India, where the majority of people live.
- **Enhancing agricultural sector:** Agriculture remains the pre-dominant occupation in India for vast sections of the population. Over the years, several new challenges have emerged before the sector.
 - With fragmentation of agricultural holdings and depletion of water resources, the adoption of a resource-efficient, information and communication technology (ICT) based climate-smart agriculture can enhance agricultural productivity and sustainability.
- **Transparent arrangement:** There is a need to shift from the existing expensive, inefficient, and corruption-ridden institutional arrangements to those that will ensure cheap delivery of requisite quality grains in a transparent manner and are self-targeting, **e.g.-** Automatic Grain Dispenser or Grain ATM.
- **Ensuring quality food:** An organized system of inspecting the quality of food offered in public places.

- **Assessing the real situation:** Furthermore, the Government needs to conduct a fresh national survey on food insecurity to assess the impact of the COVID-19 pandemic on the food security of different sections of the population.
- A **UN World Food Programme (WFP)** report indicates a rise in hunger due to the pandemic, with approximately **270** million people facing food insecurity as opposed to the 149 million during pre-COVID times. This is a matter of grave concern.

Value Addition

- **NITI Aayog:** The National Institution for Transforming India (NITI Aayog), was formed via a resolution of the Union Cabinet on January 1, 2015.
 - ▶ NITI Aayog is the premier policy 'Think Tank' of the Government of India, providing both directional and policy inputs.
 - ▶ While designing strategic and long term policies and programmes for the Government of India, NITI Aayog also provides relevant technical advice to the Centre and States.
- **Food Corporation of India:** FCI is the government agency managing the procurement and distribution of foodgrains.

- ▶ Set up in 1965 under the **Food Corporations Act**, it is responsible for procurement of foodgrains at MSP, storage and maintenance of adequate buffer stock, and distribution through the **public distribution system (PDS)**.
- ▶ The agency primarily procures foodgrains like wheat and paddy at MSP, which are raised every year in accordance with inflation in cultivation cost of these crops.
- **Minimum Support Price (MP):** MSPs are revised every year in line with the recommendations of the Commission for Agricultural Costs and Prices but the sale prices have remained largely untouched.

Conclusion

Food security is the backbone of national prosperity and well-being. The health of any nation is directly linked to food security.

While the Union government has taken various steps to ensure food security through schemes such as the **Food Security Act, 2013**, the revised coverage ratio will have a huge impact on many rural and urban families. The government must adopt a well-detailed plan to cautiously examine the suggestions of NITI Aayog taking into consideration the number of households that depend on food rations to survive. Their future cannot be compromised.



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MASSIVE FIRE THREATENS TO CAUSE COLOSSAL DAMAGE TO SIMILIPAL BIOSPHERE

◎ **CONTEXT:** The fire that broke out in isolated places of Simlipal in Mayurbhanj district in the first week of February has spread to eight forest ranges and is raging.

◎ **ABOUT:** What is Simlipal Biosphere?

- Simlipal lies within two biogeographical regions:
 - the **Mahanadian east coastal region** of the Oriental realm
 - the **Chhotanagpur biotic** province of the Deccan peninsular zone
- Volcanic sedimentary rocks are aligned in three concentric rings and accentuate the area's geologic formations.
- The highest peak in the Simlipal hill range is **Khairiburu (1,168 metres)**.
- Numerous waterfalls and perennial streams flow into major rivers, such as the Budhabalang, Baitarani and Subarnarekha
- The biosphere reserve has the largest zone of Sal in all of India
- *Panthera tigris* (Royal Bengal Tiger) and *Elephas maximus* (Asiatic Elephant) have both been observed within the Simlipal Biosphere Reserve.
- Two tribes, the Erenga Kharias and the Mankirdias, inhabit the reserve's forests and practise traditional agricultural activities.
- Other dominant tribes include the Ho, Gonda and Munda, among others.

Causes of forest fire in Simlipal

- Environmental causes are largely related to climatic conditions such as temperature, wind speed and direction, level of moisture in soil and atmosphere and duration of dry spells.
- Other natural causes are the friction of bamboos swaying due to high wind velocity and rolling stones that result in sparks setting off fires in highly inflammable leaf litter on the forest floor.
- Human related causes result from human activity as well as methods of forest management. These can be intentional or unintentional, for example:
 - graziers and gatherers of various forest products starting small fires to obtain good grazing grass as well as to facilitate gathering of minor forest produce like flowers of *Madhuca indica* and leaves of *Diospyros melanoxylon*
 - the centuries old practice of shifting cultivation (especially in the North-Eastern region of India and in parts of the States of Orissa and Andhra Pradesh)
 - the use of fires by villagers to ward off wild animals
 - fires lit intentionally by people living around forests for recreation
 - fires started accidentally by careless visitors to forests who discard cigarette butts

Types of Forest Fire

There are two types of forest fire:

- **Surface Fire-** A forest fire may burn primarily as a surface fire, spreading along the ground as the surface litter (senescent leaves and twigs and dry grasses etc) on the forest floor and is engulfed by the spreading flames.

- **Crown Fire-** The other type of forest fire is a crown fire in which the crown of trees and shrubs burn, often sustained by a surface fire.
 - A crown fire is particularly very dangerous in a coniferous forest because resinous material given off burning logs burn furiously.
 - On hill slopes, if the fire starts downhill, it spreads up fast as heated air adjacent to a slope tends to flow up the slope spreading flames along with it. If the fire starts uphill, there is less likelihood of it spreading downwards.

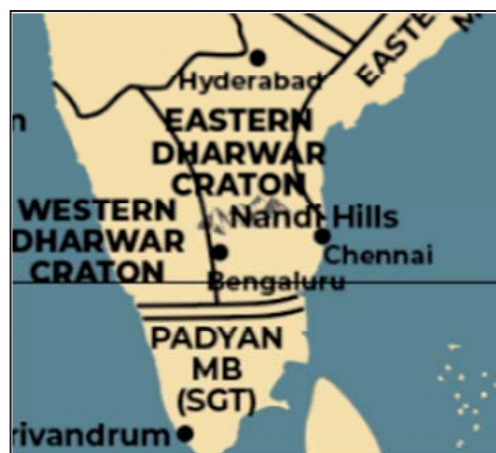
Strategies to control Forest Fire

- Fire line
- Burning out
- Backburn
- Flanking
- Hot Spotting
- Knock Down
- Cold trailing
- Aerial attack
- Fireline explosives

KARNATAKA GOVERNMENT TO DEVELOP NANDI HILLS AS AN INTERNATIONAL TOURIST DESTINATION

◎ **CONTEXT:** Nandi hills, a popular hill station in the Chikkaballapur district of will be developed as an international tourist destination.

◎ **ABOUT:** About Nandi Hills



- **Nandi Hills** is an ancient hill fortress built by **Ganga Dynasty**.
- Cholas were established **Yoga Nandeeshwara Temple** in Nandi hills during the 11th Century.
 - **Yoga Nandeeshwara Temple** is a Hindu temple in Nandi Hills, Karnataka.
 - It is dedicated to Lord Shiva.

- It reflects Dravida and Chola Architecture.
- Raja RajendraChola and KulotungaChola's names are scripted on the walls.
- The **first-ever SAARC** summit hosted by India was held at Nandi Hills in **1986**.

Significance

- Nandi hills follow all the criteria to be developed as an International Tourist Destination.
- This can enhance its chances to be ranked higher in the World Tourism ranking.

World Tourism rankings

- The **World Tourism rankings** are compiled by the United Nations World Tourism Organization.
- In the publication, UN regions and sub-regions are ranked.
- They are ranked by the number of international visitor arrivals, by the revenue generated by inbound tourism, and by the expenditures of outbound travellers.
- In 2019 rank, France was chosen as the most visiting nation.

Important Schemes to promote tourism

- **PRASHAD scheme:** The 'National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive' (PRASHAD) are launched by the Ministry of Tourism in the year 2014-15.
 - It was initiated with the objective of integrated development of identified pilgrimage and heritage destinations.
- **Swadesh Darshan Scheme:** Ministry of Tourism (MoT) launched the Swadesh Darshan Scheme (Central Sector Scheme)– for the integrated development of theme-based tourist circuits in the country in 2014-15.
 - 15 thematic circuits have been identified under the Swadesh Darshan for development namely:
 - ▶ Buddha Circuit, Coastal Circuit, Desert Circuit, Eco Circuit, Heritage Circuit, **North-east Circuit**, Himalayan Circuit, Sufi Circuit, Krishna Circuit, Ramayana Circuit, Rural Circuit, Spiritual Circuit, Tirthankar Circuit, Wildlife Circuit, Tribal Circuit

What is a Tourist Circuit?

- Tourist Circuit is defined as a route on which at least three major tourist destinations are not in the same town, village, or city and not separated by a long-distance as well.
- Tourist circuits should have well-defined entry and exit points.
- Theme-based Tourist Circuits are circuits around specific themes such as religion, culture, ethnicity, niche, etc.
- A theme-based circuit can be confined to a state or can also be a regional circuit covering more than one state or Union territory.

INDIA TO PARTICIPATE IN THE EXERCISE DESERT FLAG-VI

◎ CONTEXT:

The Indian Air Force (IAF) will participate in the Exercise Desert Flag-VI along with the air forces of the UAE, the US, France, Saudi Arabia, South Korea and Bahrain for the first time.

◎ ABOUT:

- The Exercise Desert Flag is an annual multi-national large force employment warfare exercise hosted by the UAE Air Force.
- The aim of the exercise is to provide operational exposure to the participating forces, while training them to undertake simulated air combat operations in a controlled environment.
- The drill will have air forces of the United States, France, Saudi Arabia, South Korea, Bahrain and the host country UAE.
- The IAF is participating with 6 Su-30 MKI, 2 C-17 and 1 IL-78 tanker aircraft.
 - The **Su-30 MKI aircraft** will undertake a long-range ferry, routing directly from India to the exercise area with aerial refuelling support from the **IL-78 tanker aircraft**.
 - The **C-17 Globemaster** will provide support for the induction and de-induction of the IAF contingent.

What's so special this time?

- This would be the first time that jawans would be part of this high-level military conference.
- So far, only the topmost brass of the three services – Army, Navy and Air Force — was allowed to participate in this conference.

Significance

- **Enhancement of operational capabilities:** The participating forces will get an opportunity to enhance their operational capabilities.
- **Exchange of best practices:** The large-scale exercise involving diverse fighter aircraft from across the globe will provide the participating forces, including the IAF, a unique opportunity to exchange knowledge, experience, enhance operational capabilities and interoperability.
- **Strengthening of international relations:** Exercising and interacting with the participating nations in a dynamic and realistic warfare environment will also contribute to strengthen international relations.

JAMMU'S PURPLE REVOLUTION

◎ CONTEXT:

Significant boost in Lavender production has made Atmanirbhar Bharat, a reality in Doda district of Jammu. Around 500 farmers across villages in the district had their incomes quadrupled after shifting from maize to lavender cultivation which is being called purple revolution.

The success became possible due to initiatives taken under Aroma Mission.

◎ ABOUT:

- A Mediterranean native, Lavender (*Lavandula spica*) is an aromatic and herbal shrub.
- Highly perfumed and beautiful flowers of the plant come in a variety of colors, for example, violet, blue, pink, mauve, and white can prove an excellent addition to your garden decor.
- The plant is perennial and requires a dry and sunny climate to grow. It is usually cultivated in regions with less rainfall.
- The soil for growing these plants needs to be well-draining and rich in calcium carbonate content.

Lavender producing States

- At present, large-scale lavender cultivation is limited to J&K but governments in Himachal Pradesh, Arunahal Pradesh and Uttarakhand are also encouraging their farmers to take up lavender.
- Small scale farming of the plant is already underway in these states.

Aroma Mission

- In 2016, the Centre launched Aroma Mission to boost cultivation of plants like lavender, rosemary and lemon grass and medicinal plants like ashwagandha and satavar which have aromatic medicinal properties.
- The state of Jammu and Kashmir was chosen for the implementation of the program, due to its peculiar climate, which is complimented by the presence of a growing market for the products of these plants, like aromatic oils.
- The mission was launched with the objective to move from imported aromatic oils to homegrown varieties.
- In February, 2021, Government announced **Aroma Mission phase 2** after the success of the first phase.
- The mission is to increase lavender cultivation to 1,500 hectares within three years from now.

Significance

- **Increase in income:** Lavender oil sells for at least Rs 10,000 per litre, which lead to significant increase in farmer's income.
- **Women empowerment:** Apart from increasing farm incomes, lavender cultivation also provided employment to the district's women farmers.

WCO RECOGNISES CRCL AS REGIONAL CUSTOMS LABORATORY FOR ASIA PACIFIC

◎ **CONTEXT:** In a positive development, the World Customs Organisation (WCO) recognised Central Revenues Control Laboratory CRCL, as a regional customs laboratory for Asia Pacific.

◎ **ABOUT:** **What is CRCL?**

- The CRCL is working under the Central Board of Indirect Taxes and Customs, CBIC.
- Established in 1939, CRCL is the headquarters of 14 Revenue Laboratories, including 2 laboratories working at Government Opium and Alkaloid Works, Ghazipur and Neemuch.
- These laboratories have been upgraded extensively in the past 3 years and new state-of-art equipment costing about 80 crore rupees have been installed.
- With the introduction of instrument based testing, Revenue Laboratories are, now, facilitating faster clearances, without compromising on law enforcement and thereby playing a vital role in trade facilitation.
- With its recognition as RCL, CRCL joins a select group of Customs Laboratories in the region like those in Japan & Korea.

World Customs Organization

- The World Customs Organization is an intergovernmental organization headquartered in Brussels, Belgium.
- It was set up to make customs administrations around the world more efficient, coordinated and effective.

AUSTRALIA MARINE HOTSPOTS FOUND TO STORE 2BN TONNES OF 'BLUE CARBON'

◎ **CONTEXT:** Three World Heritage-listed marine sites in Australia store more than 2 bn tonnes of carbon dioxide locked away in their vast seagrass meadows, coastal mangroves and tidal marshes, reports UNESCO.

◎ **ABOUT:** **The Report**

- The UN organisation has released its **first global scientific assessment of 'blue carbon' ecosystems**, which double as World Heritage sites.
- This was the first of its kind to quantify blue carbon -- carbon dioxide.
- The report quantifies the enormous amounts of so-called blue carbon absorbed and stored by those ecosystems across the world's 50 UNESCO marine World Heritage Sites.

Key-highlights of the Report

- Australia's **six marine World Heritage Sites** hold 40 per cent of the estimated 5 billion tons of carbon dioxide within UNESCO sites.
- 2 billion tonnes of carbon dioxide are locked away in three sites. The three sites mentioned are the:
 - **Great Barrier Reef** in Queensland: The Great Barrier Reef holds the biggest stocks of blue carbon across all the 50 world heritage marine sites, according to the data: 1.8bn tonnes of CO₂-equivalent (CO₂-e).
 - **Shark Bay** in Western Australia: Shark Bay is estimated to store 164m tonnes of CO₂-e, mostly in 342,000 hectares of seagrass.
 - **Ningaloo coast** in Western Australia: The Ningaloo coast world heritage area is holding on to 4.6m tonnes of CO₂-e, also mostly in its 26,000 hectares of seagrass.
- Although the sites make up less than 1 percent of the planet's oceans, they house 15 percent of blue carbon assets in their seagrass meadows, tidal marshes and mangroves.
- The areas are called '**carbon sinks**'.
 - Carbon sink is a term used to describe reservoirs of either vegetation or water which store carbon for an indefinite period of time.

Other world heritage sites with major stores of carbon

- **Amazon rainforest** (one of the largest carbon sinks)
- **Everglades national park** in the US
- **Sundarbans mangrove forests** in Bangladesh

Significance of blue carbon ecosystem

- Although blue carbon ecosystems represent less than **one percent** of the global ocean area, they store about **half of the carbon dioxide** via the world's oceans, absorbing carbon 30 times faster than rainforests.
- But if these blue carbon ecosystems are not conserved, they could increase global carbon emissions.
- While they're healthy, blue carbon ecosystems are excellent stores of carbon dioxide.
- But if they are damaged, they can release huge amounts of carbon dioxide stored over millennia back into the atmosphere.

CARACAL ENDANGERED NOW

◎ **CONTEXT:** **The Union Environment Ministry has brought Caracal, into the ambit of the critically endangered species programme for taking up its conservation.**

◎ **ABOUT:** **What is Caracal?**

- The caracal, a medium size wild cat with long black tufted ears, which is found in some parts of Rajasthan and Gujarat.
- The caracal is an elusive, primarily nocturnal animal, and sightings are not common.
- The wildcat has long legs, a short face, long canine teeth, and distinctive ears — long and pointy, with tufts of black hair at their tips.
- The iconic ears are what give the animal its name — caracal comes from the Turkish karakulak, meaning 'black ears'.
- In India, it is called **siya gosh**, a Persian name that translates as 'black Ear'.
- A Sanskrit fable exists about a small wild cat named **deergha-karn** or '**long-eared**'.
- The **International Union for Conservation of Nature (IUCN)** lists Caracal as species of least concern, mainly due to their large numbers in Africa.

Habitat

- Besides India, the caracal is found in several dozen countries across Africa, the Middle East, Central and South Asia.
- While it flourishes in parts of Africa, its numbers in Asia are declining.

Reasons behind the decline

- The caracal is rarely hunted or killed — in recent years, cases have been detected of the animal being captured to be sold as exotic pets — and the decline of its population is attributable mainly to loss of habitat and increasing urbanisation.
- The caracal's natural habitat — for example the Chambal ravines — is often officially notified as wasteland.
- Land and environment policies are not geared towards the preservation of such wasteland ecology, rather they seek to 'reclaim' these areas to make them arable.
- Infrastructure projects such as the building of roads lead to the fragmentation of the caracal's ecology and disruption of its movement. The loss of habitat also affects the animal's prey which includes small ungulates and rodents.

Significance of the move

- The listing is expected to bring central funding to conservation efforts.

- It is likely to ensure that the animal is studied comprehensively for the first time, including its home range, population, prey, etc.
- Such study will also throw light on the much neglected “wastelands” in the country, which are home to a large number of animal and bird species, including leopards, Asiatic wild cats, rust spotted cats, sloth bears, wolves, wild dogs, civets, etc.

IN A ‘FIRST’, HIMALAYAN SEROW SPOTTED IN ASSAM

◎ **CONTEXT:** A Himalayan mammal has been confirmed as the newest creature to be spotted in Assam. The Himalayan serow, a goat-antelope, was cited in the 950-sq. km. Manas Tiger Reserve.

◎ **ABOUT:** About the recent sightings

- The Himalayan serow spotted close to the border with Bhutan in Manas's Bansbari-Mathanguri forest.
- The serow has been spotted for the first time in the tiger reserve or anywhere else in Assam.
- The animal was recently spotted near Hurling village in Spiti, Himachal Pradesh, Rupibhaba Wildlife Sanctuary, and in the higher reaches of Chamba.

Himalayan serow

- The Himalayan serow (**Capricornis sumatraensis**) is restricted to the Himalayan region.
- Several other species of serows are also found and all of them are found in Asia.
- They are generally found at altitudes between 2,000 meters and 4,000 meters.
- They are known to be found in the **eastern, central, and western Himalayas**.

Conservation Status

- **IUCN Red List:** Vulnerable
- **CITES:** Appendix I
- **Wildlife Protection Act, 1972:** Schedule I

Manas Tiger Reserve

- **Manas National Park** or **Manas Wildlife Sanctuary** is a national park, **UNESCO Natural World Heritage site**, a Project Tiger reserve, an elephant reserve, and a biosphere reserve in Assam.
- It is contiguous with the **Royal Manas National Park** in Bhutan.
- The park is known for its rare and endangered endemic wildlife such as the Assam roofed turtle, hispid hare, golden langur, and pygmy hog.
- **Manas is famous for its population of wild water buffalo.**

Rupi Bhaba sanctuary

- Rupibhaba sanctuary is located near Rampur Bushahr in the district of Kinnaur in **Himachal Pradesh**.
- It is neighboring with Great Himalayan National Park and Pin Valley National Park.

- The sanctuary lies across the river Sutlej on National Highway-22 in the Dhauladhar ranges.
- **Prominent among the mammals** are Snow Leopard, Himalayan Brown Bear, Himalayan Black bear, Himalayan Musk Deer, Serow, Tahr, Himalayan Weasel, and Blue Sheep.

INDIAN NAVY TO COMMISSION INS KARANJ

◎ **CONTEXT:** The Indian Navy will commission its third Scorpene-class submarine, the INS Karanj, in Mumbai.

◎ **ABOUT:** What is INS Karanj?

- It is a **Scorpene-class submarine** built under Mazagaon Docks Limited (MDL) **Project-75 in collaboration with a French firm.**
- It is a diesel-electric attack submarine.
- **Stealth features:** The submarine has superior stealth features-
 - advanced acoustic silencing techniques
 - low radiated noise levels
 - ability to launch crippling attacks with precision-guided weapons on board
- The stealth features give it an edge unmatched by most submarines.
- It is also **designed to operate in all theatres of operation**, showcasing interoperability with other components of a naval task force.
- The **attacks can be launched with torpedoes and anti-ship missiles**, while underwater or on the surface.

Status of another Scorpene-class submarine

- The Navy has inducted two submarines of the same class - **the INS Kalvari and INS Khanderi** earlier.
- Trials of two – the Vela and Vagir – are underway.
- The construction of the sixth **Vagsheer** is underway.

P75I

- **The P75I Scorpene-class diesel-electric / air-independent propulsion (AIP) submarines** are based on the Scorpene-class submarines, which were **designed by French naval shipbuilding firm DCNS.**
- After the **Kargil War in 1999, Cabinet Committee** on Security approved a 30-year submarine building plan that called for two parallel production lines, each constructing six submarines.
- Under this project, the Indian Navy intends to acquire six diesel-electric submarines.
- They will **feature advanced air-independent propulsion systems** to enable them to stay submerged for a longer duration and substantially increase their operational range.

6 Submarines built under the project

- INS Kalvari, INS Khanderi, INS Karanj, Vela, Vagir and Vagsheer.

PSLV-C51, THE FIRST DEDICATED LAUNCH BY NSIL

◎ **CONTEXT:** India's Polar Satellite Launch Vehicle PSLV-C51 successfully launched Amazonia-1 along with 18 co-passenger satellites from Satish Dhawan Space Centre SHAR, Sriharikota.

◎ **ABOUT:** What is Amazonia-1?

- Amazonia-1 is the optical earth observation satellite of **National Institute for Space Research (INPE)**.
- This satellite will provide remote sensing data to users for monitoring deforestation in the **Amazon** region and analysis of diversified agriculture across the Brazilian territory.

Key-highlights of the launch

- The 18 co-passenger satellites onboard PSLV-C51 includes four from IN-SPACe and fourteen from NSIL.
- The fourteen satellites from NSIL carried were the commercial satellites from India (1) and USA (13).
- This was the 78th launch vehicle mission from SDSC SHAR, Sriharikota.

The Launch Vehicle

- Polar Satellite Launch Vehicle (PSLV) is the **third generation launch vehicle** of India.
- It is the first Indian launch vehicle to be equipped with **liquid stages**.
- After its first successful launch in October 1994, PSLV emerged as the reliable and versatile workhorse launch vehicle of India.
- PSLV-C51 is the 53rd flight of PSLV and 3rd flight of PSLV in 'DL' configuration (with 2 strap-on motors).
- Also, with this current launch, the total number of customer satellites from foreign countries placed in orbit by PSLV is 342 satellites from 34 countries.

About NSIL

- PSLV-C51/Amazonia-1 is the first dedicated commercial mission of **New Space India Limited (NSIL)**, a Government of India company under Department of Space.
- It was established in 2019 under the administrative control of **Department of Space** and the **Company Act 2013**.



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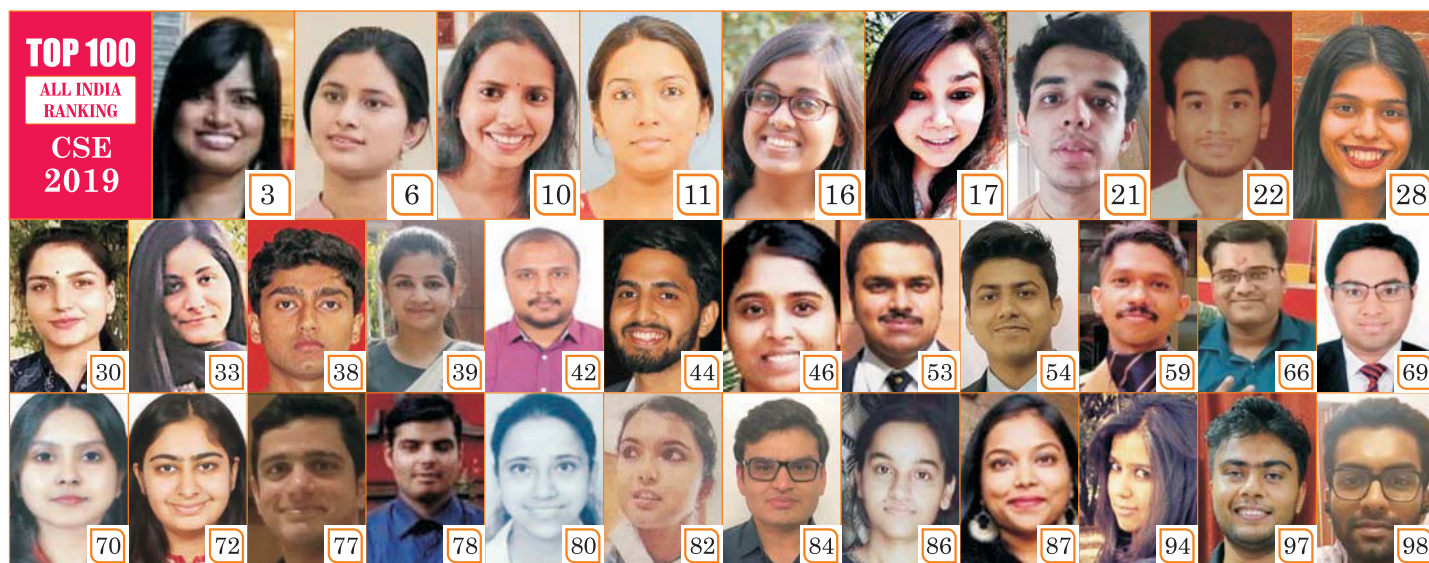
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