

My Notes....

NATIONAL

SAFFRON IN KASHMIR GETS GI TAG

Saffron grown in Kashmir has received the **geographical indication (GI) tag**. It is a **major historic step in bringing the valley's brand on the global map**. The Union government issued a **certificate of GI registration for the saffron grown in the Kashmir Valley. Pampore**, the hub of saffron in Kashmir, is expected to have a bumper crop of the spice this season due to initiatives taken by the **National Mission on Saffron (NMS)**.

What

- Kashmir saffron is the only one in the world grown at an altitude of 1600 metres** which differentiates it from other varieties due to its unique characteristics like longer and thicker stigma, natural deep-red colour, high aroma, bitter flavor and chemical-free processing.
- With the GI tag**, Kashmir saffron will **acquire more prominence in the export market** and will help farmers get the best price for it.
- A **geographical indication (GI)** is a sign used on products that **have a specific geographical origin** and possess qualities or a reputation that are due to that origin.
- India enacted the **Geographical Indications of Goods (Registration and Protection) Act, 1999** has come into force with effect from 2003.
- GIs have been defined under **Article 22 (1) of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement**.
- Darjeeling tea became the first GI tagged product in India**, in 2004–2005.

✓ *Kashmiri saffron is the most expensive spice in the world.*

✓ *Saffron is dehydrated stigma of *Crocus sativus* flower.*

✓ *It is widely used in various dishes including sweets, biryani, etc.*

✓ *Being a powerful antioxidant, it helps in fighting against cancer.*

✓ *It also reduces appetite so may be helpful in reducing weight, fight against depression and reduces PMS.*

NEP 2020 APPROVED

The Union cabinet approved the **New National Education Policy (NEP) 2020** on 29 July 2020, and with this, the **human resource development (HRD) ministry** now becomes the **Ministry of Education**. The idea behind changing the name is to give a clearer definition to the ministry's work. The **new NEP will replace the existing policy which was first formulated in 1986 and last modified in 1992**. The new policy is based on a draft prepared by a committee led by former Indian Space Research Organisation (ISRO) chief **K. Kasturirangan**.

Key changes under the NEP

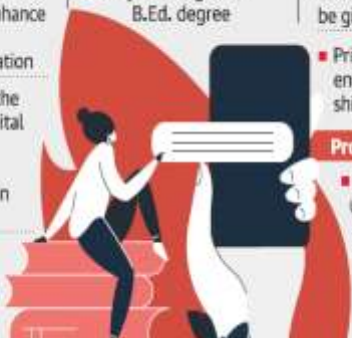
- MPhil courses will be discontinued** under the new policy and all the courses at undergraduate, postgraduate and PhD level **will now be interdisciplinary**
- All higher education institutions**, except legal and medical colleges, **will be**

governed by a single regulator

3. Board exams in schools will be low stakes and test actual knowledge of students instead of "rote learning"
4. **Home language, mother tongue or regional language** will be the **medium of instruction up to Class 5**
5. **School curriculum will also be reduced** to core concepts and there will be integration of vocational education from Class 6
6. Report cards will be a comprehensive report on skills and capabilities instead of just marks and statements
7. **Common norms will be in place for private and public higher education** institutions
8. It will also cap fees charged by educational institutions
9. **Common entrance exams will be held for admission to universities and higher education institutions**
10. Other features include **graded academic, administrative and financial autonomy of institutions**
11. **E-courses will be developed in regional languages; virtual labs will be developed** and a **National Educational Technology Forum (NETF) is being created**
12. There are over **45,000 affiliated colleges in our country**. Under graded autonomy, academic, administrative and financial autonomy will be given to colleges, on the basis of the status of their accreditation
13. **National mission will focus on basic literacy and basic numeracy**
14. Major changes have been announced in the **pedagogical structure of curriculum with no rigid separation between streams**; all separations between vocational and academic and curricular and extra-curricular will also be removed
15. **National Assessment Centre- 'PARAKH' has been created** to assess the students
16. **NEP 2020 aims to increase the Gross Enrolment Ratio** in higher education including vocational education from 26.3% (2018) to 50% by 2035. **At least 3.5 crore new seats will be added** to higher education institutions.

Digital drive

The new education policy has emphasised the integration of technology in all levels of learning. Some features of the policy:

Technology in education	Teacher education	Financial support
<ul style="list-style-type: none"> ▪ An autonomous body, the National Educational Technology Forum, will be created for the exchange of ideas on use of technology to enhance learning, assessment, planning and administration ▪ A dedicated unit for the purpose of creating digital infrastructure, digital content and capacity building will be set up in the ministry ▪ Integration of technology will be done to improve classroom processes 	<ul style="list-style-type: none"> ▪ By 2030, the minimum degree qualification for teaching will be a four-year integrated B.Ed. degree 	<ul style="list-style-type: none"> ▪ Meritorious students belonging to SC, ST, OBC and other socially and economically disadvantaged groups will be given incentives ▪ Private institutions will be encouraged to offer scholarships to their students
		
<div style="background-color: #f8d7da; padding: 5px;">Professional education</div> <ul style="list-style-type: none"> ▪ Standalone technical universities, health science universities, legal and agricultural universities will aim at becoming multi-disciplinary institutions 		

FORMAL SANCTION LETTER FOR PC IN ARMY

The Union government on 23 July 2020 issued a **formal sanction letter for grant of Permanent Commission (PC) to women officers in Indian Army**, paving the way for empowering women officers to shoulder larger roles in the organisation. The **order specifies**

grant of Permanent Commission to Short Service Commissioned (SSC) women officers in **all ten streams of Indian Army** in addition to **the existing streams of Judge and Advocate General (JAG) and Army Educational Corps (AEC)**.

What

1. **Their Selection Board** will be scheduled as soon as all affected SSC women officers exercise their option and complete requisite documentation.
2. Earlier this month, **the Supreme Court of India had granted one more month** to the Centre to implement its verdict directing that permanent commission be given to all serving SSC women officers in the Army.
3. In a **landmark verdict on February 17**, the top court had directed that **women officers in the Army be granted permanent commission** and command postings, rejecting the Centre's stand of their physiological limitations as being based on "**sex stereotypes**" and "**gender discrimination against women**".

- **Modi government issues letter of acceptance to issue Permanent Commission (PC) to Women Officers in the Indian Army**
- **Short Service Commissioned (SSC) Women Officers will get Permanent Commission in all 10 branches of the Army**
 - Army Air Defence (AAD)
 - Signals
 - Engineers
 - Army Aviation
 - Electronics and Mechanical Engineers (EME)
 - Army Service Corps (ASC)
 - Army Ordnance Corps (AOC)
 - Intelligence Corps
 - Judge and Advocate General (JAG)
 - Army Educational Corps (AEC)

INDIA'S RAFALE FIGHTER JETS

The **five Rafale fighter jets** land in **Ambala** on 29 July 2020 morning after **completing a journey of 7000 km from France** to an airbase in UAE. It **will resurrect the Number 17 Golden Arrows squadron of the Indian Air Force**. It will take the **IAF's squadron strength to 31**. When all the **36 Rafale jets are delivered by 2022**, it will take it to 32 squadrons, still well below the 42 squadrons of the sanctioned strength. The **state-of-the-art 4.5 Generation Rafale jet can reach almost double the speed of sound**, with a **top speed of 1.8 Mach**.

What

1. It is an '**Omni role**' aircraft (can take on several missions in one sortie) and is **classified as a 4.5 generation fighter**.
2. It is considered to be **one of the most potent fighters compared to the F-16 which the neighbouring country has** or the **JF-20 which Chinese claim is the 5th generation stealth aircraft**.
3. Rafale is already flown in several critical missions across the globe in **Syria, Afghanistan, and Libya**.
4. It has a **range of around 3,700 km** and with **10-tonne empty weight**. These aircraft are fitted with 14 hardpoints.
5. Out of these, five can be used for dropping heavy ordnance as well as drop tanks. It has a total external load capacity of 9.5 tonnes.
6. With the maximum speed of nearly twice the speed of sound, without the drag-chute,

its ground run is around 450 meters.

7. This aircraft could be the biggest game-changer for the IAF as it can be tuned to carry nuclear weapons too.
8. Another significant game-changer is the Rs 20-crore worth **Meteor air-to-air missile**, which has been manufactured by the **European company MBDA**.
9. This is a **long-range rocket and ram-jet powered** and has a **range of over 150 km**. It can hit the target without leaving the Indian airspace up to 120 km. **Neither Pakistan nor China has these missiles from MBDA.**

Flashback

1. The **Indian version will have an Israeli Litening pod** – it is used for **sensor commonality across platforms** in the Indian inventory.
2. There is **RBE2 Active Electronically Scanned Radar too**. It helps in giving unprecedented levels of situational awareness. This is possible due to earlier detection.
3. **Front Sector Optronics (FSO) system** is there which is immune to radar jamming while operating in the optronic wavelengths.
4. Also, **there is Spectra-integrated electronic warfare suite**, which provides long-range detection, and identification of infrared, electromagnetic and laser threats.
5. The system onboard the fighter jet has radar, laser and missile warning receivers.
6. There is a phased array radar jammer and a decoy dispenser for threat countering.
7. This has been **developed by MBDA and defence contractor Thales**.

DRDO TEST FIRES DHRUVASTRA

Defence Research and Development Organisation conducts flight trials of the **anti-tank guided Nag Missile (HELINA)**, which has been **named now as Dhruvastra**. The trials were carried out in direct and top attack mode. Trials were done **without helicopters at Interim Test Range**, Balasore, Odisha.

About NAG

1. This is categorized as the **third-generation, fire-and-forget, anti-tank guided missile**.
2. It is meant to support both the **airborne forces of the Indian Army** as well as the Mechanised infantry.
3. It has been designed such that **it can be launched from land and air-based platforms**.
4. The **land version of this missile** is already available for integration with the **Nag missile carrier (NAMICA)**.
5. This has been derived from a BMP-2 infantry combat vehicle, which is currently deployed in Ladakh region.
6. The missile in the helicopter-launched configuration has been designated as **Helicopter-launched NAG (HELINA)**.
7. Once the trials are over successfully, this can be fired from the **indigenous 'Dhruv'**

Advanced Light Helicopter (ALH), as well as **Rudra (ALH WSI) attack helicopter**.

- Both these helicopters are made in India by the **Hindustan Aeronautics Limited (HAL)**.

ADITYA WINS GLOBAL HONOUR

Aditya, India's first solar-powered ferry that **commenced operations in 2017** in Kerala's Vembanad backwaters, has **won the prestigious Gustave Trouve Award for Excellence in Electric Boats and Boating**. The ferry was adjudged the **world's best electric boat in the category of ferries** designed for paid passenger service. The **Aditya, from Navalt Boats, is a sun-powered commuter ferry** that is one of the great stories of the future of electric marine propulsion, the award read.

What

- The **awards, handed out for the first time**, is the world's only such honour given to individuals and companies building and innovating in state-of-the-art electric boats.
- It was instituted this year in honour of Frenchman Gustave Trouve** for his groundbreaking work in mobility based on electric transport, moving away from **conventional fossil fuels**.
- In 1881, he invented the world's first outboard motor**, connecting it to a rechargeable battery to sail a boat down the Seine river in silence.
- We have won the award for the best electric ferry in the world. It's definitely a very good achievement and we are very happy, said Sandith Thandassery, a naval architect from IIT Madras and founder-CEO of NavAlt, that built Aditya from scratch.
- The **recognition will hopefully open up a world full of opportunities and possibilities** for the company as well as ignite more discussions about electric water-transport among policy-makers in New Delhi.
- Aditya, the only one shortlisted from Asia among 12 ferries in the world** after a rigorous audit process, entered the finals with six contestants in the first week of July through public voting. It was declared the winner on July 26.
- The ferry belongs to the **Kerala State Water Transport Department (KSWTD)** and has been playing on the Vaikom-Thavanakkadavu route in Alappuzha district since January 2017.
- It has been hailed as a testament to responsible green transport projects, **leaving no carbon footprint** and saving the KSWTD thousands of litres of diesel every year.

KAPS-3 ACHIEVES CRITICALITY

The **indigenously built Gujarat based Kakrapar Atomic Power Station or KAPS - 3** has **achieved criticality**, thus giving a boost to the **'Make in India' initiative in the reactors sector**. Situated near the **city of Vyara in Gujarat**, the atomic power plant **consists of two 220 MW pressurised water reactor with heavy water as moderator (PHWR)**.

What

- The KAPS 1993-95 had **two PHWR reactors** which had a **total installed capacity of 440MW**. However, due to a leak in its water systems, the plant had to be shut down for 66 days in 1998.

2. However, it recovered and in 2003, **it was awarded the best PHWR in its class by the CANDU owners group.**
3. Again, in 2018, the plant had received another treatment when all the **coolant channel and feeder tubes** at the core of the reactor had to be replaced.
4. In September 2018, **KAPS-2 attained criticality.** The construction of Unit 3& 4 had started in 2010 and today (July 22, 2020) Unit 3 has achieved criticality.

What does achieving criticality mean?

1. **It means the 700 MW power plant in Gujarat has now achieved the regular operating condition of a reactor.** And, the plant is now **ready to generate power.** Plans for the commissioning of Kakrapar **Unit 4 expected to be by 2021.**
2. The **fourth unit of the KAPS is likely to be commissioned by 2021.** While the **Department of Atomic Energy (DAE)** is the agency responsible for overseeing the atomic energy policy of the country.
3. The **Nuclear Power Corporation of India Ltd (NPCIL) has 22 reactors across India.** The NPCIL is the only agency in the country to operate these plants.
4. It has been **predicted in the next 50 years the generation may increase further.** Presently, the main component of electricity is fossil fuels and there are environmental concerns like **greenhouse gas (GHG) emissions** which are associated with the use of fossil fuels.

THE 700 MWe PHWR: INDIA'S NEW NUCLEAR MAINSTAY			
The new 700MWe reactors, along with the Russian VVER-1000 reactors at Kudankulam, Tamil Nadu, are set to be India's main nuclear reactors in the future. The new projects on the anvil:			
PROJECTS UNDER IMPLEMENTATION			
Plant	Location	Capacity	Expected commissioning, operationalisation
KAPP 3	Kakrapar, Gujarat	700	Oct 2020
KAPP 4	Kakrapar, Gujarat	700	Sept 2021
RAPP 7	Rawatbhata, Rajasthan	700	Mar 2022
RAPP 8	Rawatbhata, Rajasthan	700	Mar 2023
KKNPP 3	Kudankulam*, Tamil Nadu	1,000	Mar 2023
KKNPP 4	Kudankulam*, Tamil Nadu	1,000	Nov 2023
PFBR	Kalpakkam**, Tamil Nadu	500	Dec 2021

INTERNATIONAL

INDIA PART OF INTERNATIONAL ALLIANCE GAVI

The **international vaccine alliance GAVI** has **facilitated a new drive aimed at securing doses of COVID-19 vaccines for 92 low and middle-income countries and economies, including India,** at the same time as wealthier nations. The **COVAX Advance Market Commitment (AMC) forms part of the COVAX Facility,** a mechanism **hosted by Gavi, the Vaccine Alliance,** designed to guarantee rapid, fair and equitable access to COVID-19 vaccines for every country in the world.

What

1. These countries will have limited resources to access future COVID-19 vaccines: it is our duty to support them. Without this support, the majority of the world's population will continue to suffer from this disease even after we've developed a tool to tackle it.
2. The **list of 92 AMC-eligible economies** includes **all economies with Gross National Income (GNI) per capita under USD 4,000** plus other World Bank International Development Association (IDA) eligible economies.
3. **Gavi will work with governments, international organisations, manufacturers**

- and civil society organisations** to ensure doses get to those who need them.
4. The 92 low and middle-income countries and economies approved by the Gavi Board will be able to access vaccines through the **COVAX AMC**, which will also cover at least part of the cost. The **COVAX AMC was launched last month at the Global Vaccine Summit hosted virtually by the UK.**
 5. At that summit, Prime Minister Narendra Modi had pledged **USD 15-million as India's contribution to Gavi**, the Vaccine Alliance.
 6. **Gavi hopes that COVAX will enable countries** to have access to the world's largest and most diverse COVID-19 vaccine portfolio.
 7. This means that, even if separate bilateral deals with vaccine manufacturers exist, through the facility countries stand a far better chance of getting access to the vaccine or vaccines that prove to be most effective.
 8. The **high and middle-income economies** that have already submitted expressions of interest in the COVAX Facility will need now to enter into a legally binding agreement to purchase doses through the Facility.
 9. This commitment will need to be confirmed in the next month by making upfront financial contributions, enabling the Facility to enter into manufacturer agreements for future vaccine supply.
 10. **The goal is by the end of 2021** to deliver two billion doses of safe, effective vaccines to all participating countries including the 92 AMC-eligible economies.
 11. Gavi, the Vaccine Alliance, is a public-private global health partnership to increase immunisation in poor countries.
 12. **GAVI was created in 2000** as a successor to the **Children's Vaccine Initiative**, which had been launched in 1990.

ICJ RULING FOR QATAR

More than three years after they **imposed a sweeping blockade on Qatar**, Saudi Arabia and its allies have **received a setback from the International Court of Justice (ICJ)**. The **top United Nations (UN) court refused an appeal by Bahrain, Saudi Arabia, Egypt and the United Arab Emirates (UAE)**, which had challenged the authority of the **International Civil Aviation Authority (ICAO) to adjudicate on the legality of the air blockade** that the **four nations have imposed against Qatar**. The **ICAO is the international aviation agency of the UN**.

What

1. While the blockade still remains in force, a ruling by the ICAO in Qatar's favour next year would mean a major win for the country and its national carrier, Qatar Airways.
2. More than three years after they imposed a sweeping blockade on Qatar, **Saudi Arabia and its allies have received a setback from the International Court of Justice (ICJ)**.
3. The **neighbours then issued a 13-point list of demands for Doha to comply with in order** to restore erstwhile relations.
4. Some demands include **Qatar closing down news outlets such as Al-Jazeera**, sever ties with radical Islamist groups like Muslim Brotherhood, scale down ties with Shia-majority Iran and remove Turkish troops stationed in the country.
5. **Since 2017, the blockade of Qatar has included the closing of its only land**

border (with Saudi Arabia), stopping Qatari ships from entering ports anywhere in the Saudi coalition, and blocking Qatari planes from flying in their airspace. Qatari citizens were also expelled as part of the measures.

AUSTRALIA APPROACHES UN ON SCS REGION

Australia has become the first country outside the South China Sea (SCS) region to approach the United Nations over China's territorial claims and development of artificial islands in the area – a gateway for global trade including India. In its petition to the UN, Australia said it rejected China's "historical claims" in the South China Sea region because they violate international law and the UN Convention on the Law of the Sea. This comes after the US lambasted Chinese claims in the region, which is the world's busiest shipping route.

What

1. India has maintained over the years that trade through the South China Sea region should not be impeded under any circumstance and has advocated upholding the convention on the Law of the Sea.
2. **Australia has emerged as one of the sharpest critics of China since the Covid-19 outbreak**, notwithstanding strong, bilateral trade ties. It called for a global investigation into the origins of Covid-19, which **first emerged in the Chinese city of Wuhan last year**.
3. **Australia's declaration to the UN**, submitted, reads: "**Australia rejects China's claim to 'historic rights' or 'maritime rights** and interests' as established in the 'long course of historical practice' in the South China Sea."
4. Referring to the **2016 ruling by the Permanent Court of Arbitration**, Australia said, "**There is no legal basis for China to draw straight baselines** connecting the outermost points of maritime features or '**island groups**' in the South China Sea."
5. It asserted that it did not accept Beijing's claim that its sovereignty over the **Paracel Islands and Spratly Islands** was "widely recognised by the international community," citing objections from **Vietnam and the Philippines**.
6. Over the past decade, **China has built bases on artificial islands in the South China Sea region**, saying its rights go back centuries.
7. **Brunei, Malaysia, the Philippines, Taiwan and Vietnam** contest China's claims. Indonesia, southeast Asia's biggest nation, has also taken umbrage to Chinese attempts to encroach into its territorial waters.
8. Beijing claims a vast portion of the area, bound by what is known as the '**nine-dash**

Flashback

1. The **United Nations Convention on the Law of the Sea (UNCLOS)** is an international treaty which was **adopted and signed in 1982**.
2. It replaced the **four Geneva Conventions of April, 1958**, which respectively concerned the territorial sea and the contiguous zone, **the continental shelf**, the **high seas, fishing and conservation of living resources** on the high seas.
3. The Convention has created three new institutions on the international scene : the **International Tribunal for the Law of the Sea**, the **International Seabed Authority** and the **Commission on the Limits of the Continental Shelf**.

line,' and has backed its claims with island-building and patrols.

9. In 2016, an international tribunal ruled against China, saying there was no evidence it had historically exercised exclusive control over the sea's waters or resources. China rejected the judgment.

INDIAN, US WARSHIPS CONDUCT EXERCISE

In a **strong strategic signal to China** amidst the **military confrontation in eastern Ladakh**, a US carrier strike group led by aircraft carrier **USS Nimitz** on 20 July 2020 **conducted an exercise with Indian warships near the Andaman and Nicobar archipelago**. The **PASSEX (passing exercise) between the two navies**, which have built **"interoperability"** through a series of **"Malabar"** and other exercises, comes after the mammoth nuclear-powered USS Nimitz and her accompanying warships entered the Indian Ocean by crossing the Malacca Strait.

What

1. The USS Nimitz carrier strike group, along with another one led by **USS Ronald Reagan**, has just completed an operational deployment and **"freedom of navigation"** mission in the **South China Sea** in a major show of support for US allies and partners in the region against an aggressive and expansionist China.
2. The US has 10 Nimitz-class **"super-carriers"**, each of which is around 100,000-tonne and capable of carrying 80-90 fighters, deployed around the globe.
3. **Several Indian warships**, including **destroyers, frigates and submarines** as well as **maritime patrol aircraft**, are taking part in the exercise led by eastern naval fleet commander Rear Admiral Sanjay Vatsayan.
4. It includes warships and aircraft from both the **Andaman and Nicobar Command (ANC)** and the **Eastern Naval Command (ENC)** headquartered at Visakhapatnam. IAF ready for long haul amid row with China, to induct 5 Rafales on July 29
5. The eastern fleet exercise comes soon earlier this month that **India was now finally looking to fast-track plans for basing additional military forces**, along with developing the requisite infrastructure, in the strategically-located ANC.
6. The **ANC, the country's only theatre command with all assets and manpower of Army, Navy, IAF and Coast Guard** placed under one operational commander, can be used as an effective pivot to counter China's expanding footprint in the Indian Ocean Region as well as ensure security of sea lanes converging towards the **Malacca Strait**.
7. In January this year, **India was considering inviting Australia to take part in the Malabar exercise**.
8. If the move translates into reality, a military construct will firmly be added to the so-called **"Quad"** countries that have a shared interest in building a free, open and stable Indo-Pacific region against an aggressive and expansionist China.

ECONOMY

NEW RULES FOR E-COMMERCE ENTITIES

The **Government has notified new rules for e-commerce companies**, including **mandatory display of 'country of origin' on their products**, and said any non-compliance will attract penal action. The **'Consumer Protection (E-Commerce) Rules, 2020'** were notified. The **new rules will be applicable to all electronic retailers (e-tailers)**

registered in India or abroad but offering goods and services to Indian consumers. The violation of the rules will attract penal action under the **Consumer Protection Act, 2019**.

What

1. According to the new rules, the **e-commerce players will have to display the total price of goods and services** offered for sale along with a break-up of other charges.
2. They are also **required to mention the 'expiry date' of goods offered for sale** and the **'country of origin'** of goods and services that are necessary for enabling the consumer to make an informed decision at the pre-purchase stage.
3. **E-commerce players have to display details about return, refund, exchange, warranty and guarantee**, delivery and shipment, and any other information that may be required by consumers to make informed decisions.
4. Sellers offering goods and services through a **marketplace e-commerce entity** will have to provide the above details to the e-commerce entity to be displayed on its platform or website.
5. Under the new rules, e-commerce entities **should not impose "cancellation charges"** on consumers cancelling orders after confirmation unless sellers are ready to pay similar charges in case cancellation of orders are from their side.
6. They are also **not allowed to "manipulate the price"** of the goods and services offered on their platforms to gain unreasonable profit and discriminate between consumers of the same class or make any arbitrary classification of consumers affecting their rights under the Act.
7. Further, e-commerce entities **will have to provide information on available payment methods**, the **security of those payment methods**, any fees or charges payable by users, and the contact information, among other details, of the relevant payment service provider.
8. That apart, **e-commerce entities are required to display prominently to its users details** about the 'sellers' offering goods and services, including the name of their business, whether registered or not.
9. They must also **display sellers' geographic address, customer care number**, and any rating or other aggregated feedback about such sellers, among others, as per the new rules.
10. They are also **required to provide a ticket number for each complaint lodged**, through which the consumer can track the status of the complaint.
11. The new rules **do not permit any inventory e-commerce entity** to "falsely represent itself as a consumer and post reviews about goods and services or misrepresent the quality or the features of any goods and services".
12. The **inventory e-commerce entities** will also have to ensure that the advertisements for marketing of goods and services are consistent with the actual characteristics, access and usage conditions of such goods or services.
13. Under the new rules, **no inventory e-commerce entity will be allowed to refuse to take back goods or withdraw or discontinue services purchased** or agreed to be purchased, among others, subject to various conditions.
14. Consumer Affairs Secretary Leena Nandan had said **rules have been finalised after taking inputs from the Department for Promotion of Industry and Internal Trade**, under the **aegis of the commerce ministry**, so that they do not contravene with the overall e-commerce policy.

AMENDED FDI POLICY ON CIVIL AVIATION

The government has notified changes in Foreign Direct Investment (FDI) norms on civil aviation, which will permit non-resident Indian nationals to own 100 per cent stake of Air India. The gazette notification comes amid the ongoing process of strategic disinvestment of Air India.

What

1. These rules may be called the **Foreign Exchange Management (Non-debt Instruments) (Third Amendment) Rules, 2020**, the official notification.
2. Foreign investments in M/s Air India Limited, including that of **foreign airlines shall not exceed 49 per cent either directly or indirectly** except in case of those NRIs, who are Indian Nationals, where foreign investments are **permitted up to 100 per cent under automatic route**.
3. Substantial ownership and effective control of Air India Limited shall continue to be vested in Indian Nationals as **stipulated in Aircraft Rules, 1937**.
4. As per the present FDI Policy, **100 per cent FDI is permitted in scheduled Air Transport Service/Domestic Scheduled Passenger Airline** (Automatic up to 49 per cent and Government route beyond 49 per cent).
5. **However, for NRIs 100 per cent FDI is permitted under automatic route in Scheduled Air Transport Service/Domestic Scheduled Passenger Airline.**
6. The government **permits 100 per cent FDI under automatic route in helicopter services/seaplane services** requiring Directorate General of Civil Aviation (DGCA) approval.
7. Foreign airlines are allowed to invest in the capital of Indian companies, operating scheduled and non-scheduled air transport services, **up to the limit of 49 per cent of their paid-up capital**, subject to certain conditions.
8. The conditions includes that inflow must be made under the government approval route and the **49 per cent limit will subsume FDI and FII/FPI investment**.
9. The investments made would need to comply with the relevant regulations of the **Securities and Exchange Board of India (Sebi)**.
10. Earlier in March, the Union Cabinet approved a proposal to permit foreign investment up to 100 per cent by those NRIs, who are Indian Nationals, in case of Air India.

INDIA RANKING IN MRI 2020

India ranks **third** in the list of **most-suitable locations** for **global manufacturing among 48 countries in terms of cost competitiveness and operating conditions**, according to property consultant Cushman & Wakefield. **China and the US retain the top two positions**, while **India has moved one place** higher to rank **third**, the consultant said in its **Global Manufacturing Risk Index (MRI) report**.

What

1. In its annual ranking of the most suitable locations for global manufacturing **among 48 countries in Europe, Americas and the Asia-Pacific**, the consultant said **India is in top-3 countries this year** and an upcoming manufacturing hub globally from an operating conditions and **cost-competitiveness perspective**.
2. **From a baseline scenario ranking** that looks equally at operating conditions and **cost-competitiveness but does not consider impact from the current**

- pandemic, China retains the top spot**, followed by the US at second and India at third positions, the report said.
- In cost scenario, India is at 3rd position after China and Vietnam.** However, **India ranks 30th in risk scenario.** Countries that present lower levels of political and economic risks are ranked higher.
 - The **MRI cost scenario places greater emphasis on cost reduction** to give a higher score to countries where operating costs, including labour, are lower. While **China retains its lead position, Vietnam and India jumped to second and third positions**, respectively.
 - The **annual Global MRI scores each country against 20 variables** that make up the three final weighted rankings that **cover conditions, cost and risk.**
 - The **MRI 2020 includes analysis of the impact of COVID-19 on the global manufacturing sector** and ranked countries by their projected ability to restart their manufacturing sectors once confinement measures are relaxed and business starts to return to normal.

SCIENCE AND TECHNOLOGY

'HALOARCHAEA' TURNED LONAR PINK

The **colour of Lonar lake water in Maharashtra's Buldhana district turned pink** due to a large presence of the salt-loving '**Haloarchaea**' microbes, a probe carried out by a Pune-based institute has concluded. **Haloarchaea or halophilic archaea** is a **bacteria culture** which **produces pink pigment** and is found in water saturated with salt. The **oval-shaped Lonar lake**, formed after a **meteorite hit the earth some 50,000 years ago**, is a popular tourist hub.

What

- Haloarchaea** produces a pink pigment; it formed a **pink colour mat on the water surface.**
- The **absence of rain, less human interference and high temperature resulted in the evaporation of water** which **increased its salinity and pH.**
- The increased salinity and pH facilitated **the growth of halophilic microbes**, mainly Haloarchae.
- The scientist said the colour of the lake is now returning to original as the rainy season has kicked in, allowing dilution of the water.
- Because of that, the **salinity and pH/alkalinity levels have also come down and green algae have started growing in the water body.**
- The plumage of the bird is pink or reddish in colour because of ingestion of carotenoids-rich food.
- This bacterium, which produces a pink pigment, is ingested by these birds and they get **carotenoid-rich food**, because of that their plumage is pink in colour.

'AL AMAL' TOWARDS MARS

The **UAE made history** on 20 July 2020 by **successfully launching its spacecraft "Al Amal" towards Mars** from a **Japanese launch centre**, marking the **Arab world's first**

interplanetary mission. Al Amal, or Hope Probe, weighing 1.3 tonnes was launched from the **H-2A rocket from Japan's remote Tanegashima spaceport**.

What

1. Hope's arrival in February 2021 is set to coincide with the 50th anniversary of the UAE's formation.
2. **Around 200 days from now**, the spacecraft will reach the Mars orbit and begin its mission to study the **Red Planet's atmosphere**.
3. Most Mars missions orbit at a single local time that allows the atmosphere to be measured at only one time of day but **Hope Probe will circle Mars for the entire Martian year**, which is equivalent to almost two Earth years.
4. The **UAE -- which is better known for its skyscrapers, palm-shaped islands and mega attractions --** has in recent years been pushing to expand its space sector.
5. While the **objective of the Mars mission is to provide a comprehensive image of the weather dynamics in the Red Planet's atmosphere** and pave the way for scientific breakthroughs, the probe is a foundation for a much bigger goal -- building a **human settlement on Mars within the next 100 years**.
6. The UAE also wants the project to serve as a source of inspiration for Arab youth, in a region too often wracked by sectarian conflicts and economic crises.
7. Last September, **Hazza al-Mansouri became the first Emirati in space**, part of a three-member crew that blasted off on a **Soyuz rocket from Kazakhstan**, returning home after an eight-day mission in which he became the first Arab to visit the International Space Station.

CHINA LAUNCHES MARS PROBE

China launched a rover to Mars on 23 July 2020, the Chinese mission is named **Tianwen-1 ("Questions to Heaven")** -- a nod to a classical poem that has verses about the cosmos.

What

1. It launched on the **southern island of Hainan** as it lifted off into blue sky aboard a **Long March 5 --** China's biggest space rocket.
2. The **five-tonne Tianwen-1** is expected to arrive in February 2021 after a seven-month, **55-million-kilometre (34-million-mile) voyage**.
3. The mission includes a **Mars orbiter, a lander and a rover** that will study the **planet's soil**.
4. China has made huge strides in the past decade, sending a human into space in 2003.
5. The Asian powerhouse has laid the groundwork to assemble a space station by 2022 and gain a permanent foothold in Earth orbit.
6. **China has already sent two rovers to the Moon**. With the second, **China became the first country to make a successful soft landing on the far side**.
7. The **Moon missions gave China experience in operating spacecraft beyond Earth orbit**, but Mars is another story.
8. The majority of the dozens of missions sent by the **US, Russia, Europe, Japan and India to Mars since 1960 ended in failure**.

9. **Tianwen-1 is not China's first attempt to go to Mars.** A previous mission with Russia in 2011 ended prematurely as the launch failed.

ROVER PERSEVERANCE BLASTS OFF

NASA launched its latest Mars rover, dubbed **Perseverance**, on 30 July 2020, the first step in the space agency's newest effort to **hunt for signs of ancient microbial life** and collect samples that will eventually be returned to Earth. The **rover blasted off from Cape Canaveral** in Florida atop an **Atlas V rocket**, beginning its **6 ½ month trip to the red planet**. Destined to land in **Jezero Crater on Feb. 18**, this is the latest effort by the U.S. space agency to learn more about the **Martian atmosphere and surface**.

What

1. **Perseverance is also carrying a small helicopter** named **Ingenuity**, which if successful will be **“the first aircraft to fly in a controlled way on another planet.**
2. The most dramatic goal of the mission will be the **rover's attempt to demonstrate a technology** that **converts carbon dioxide in the Martian atmosphere into oxygen.**
3. In the future, **oxygen generated this way could be used by astronauts as rocket propellant and for breathing**, NASA said. The ability to do so will be a critical consideration in **planning human landings and bases on Mars.**
4. The **2,260-pound, 10-foot long rover** is the **biggest and heaviest robotic Mars rover NASA** has ever built (its name came from a Virginia seventh-grader). **It's the fourth sent to Mars** by the National Aeronautics and Space Administration.
5. Previous rovers were named **Curiosity, Opportunity** and **Sojourner. Opportunity's mission was declared complete in February 2019** after 15 years of work when NASA lost contact with the vehicle. **Curiosity continues to explore the planet**, and **Sojourner finished its mission in 1997.**
6. The agency also operates the **InSight Mars Lander platform**, which is exploring below the planet's surface.

INDIAN ANTIGEN TESTING KITS GET ICMR NOD

Molecular diagnostics company, **MyLab Discovery Solutions**, which **launched the first indigenous RT-PCR testing kit**, has got the **nod to commercially make antigen testing kits for Covid-19**. It will be the **first Indian firm to get approval from the Indian Council of Medical Research (ICMR)** that has developed the kit in India and will be making it here too. MyLab's kit named **Pathocatch** will be available for orders immediately and will be priced at Rs 450.

What

1. At present, Korean company **SD Biosensor makes the antigen kits in use.**
2. It was the **only firm approved by ICMR for these kits.** It has a plant in Manesar.
3. Another company called **Vishat Diagnostic** — that **supplies an antigen kit from Belgium's Coris BioConcept** — also got ICMR approval.
4. The launch of the antigen testing kit is in line with the **government's expectation to increase rapid testing**, which is the point-of-care method and complements the more rigorous RT-PCR test to detect coronavirus.
5. **India is using a combination of both antigen and RT-PCR testing as its testing**

strategy. This will save both time and cost, speeding up the process of testing and isolation.

ASTHROS MISSION

The **National Aeronautics and Space Administration (NASA)** has begun work on a balloon that **will carry a 2.5-meter telescope into the stratosphere to observe wavelengths of light** that are not visible from the ground. The mission named **Astrophysics Stratospheric Telescope for High Spectral Resolution Observations at Submillimeter-wavelengths, or ASTHROS** in short, will tentatively be launched by December 2023 from Antarctica. It will spend three weeks in the air, observing and collecting crucial data.

What

1. **ASTHROS will observe far-infrared light**, which is light with wavelengths much longer than what is visible to the naked eye, and to do that the balloon will reach heights of about 40 kilometers — altitudes that are roughly **four times higher than what commercial airliners fly**.
2. The mission will still be well under the **boundary of space (100 kilometers above Earth's surface)**, the altitude will be high enough for it to **observe light wavelengths that are blocked by Earth's atmosphere**.
3. The mission will carry instruments that can measure speed and the motion of gas around newly-formed stars.
4. It will attempt to study four main targets — that will include **two star-forming regions in the Milky Way galaxy**. In a first, it will also **map and detect the presence of two specific types of nitrogen ions**.
5. The **mission is managed by NASA's Jet Propulsion Laboratory**. The balloon missions are at a **higher-risk than space missions**, they still yield high-rewards at lower costs. The ASTHROS, scientists are aiming to accomplish some never-before astrophysics observations.
6. The **ASTHROS mission will be carried on a big balloon that will be about 150 meters wide** — or roughly the size of a football stadium — and will be **inflated with helium**.

ITER PROJECT BEGINS

The **machine assembly phase of the world's largest nuclear fusion program** symbolically **kicked off on 28 July 2020** as dignitaries from the **seven International Thermonuclear Experimental Reactor (ITER)** members acknowledged the importance of the moment during a virtual event. **ITER project is a collaborative project** between the European Union, the United States, Japan, South Korea, China, India, and Russia. After years of delays and challenges, scientists can finally begin the assembly phase on the **\$20 billion megaproject** as announced during the event on 28 July 2020.

What

1. The **megaproject was started** when a group of industrial nations agreed on a project to develop a new, cleaner, and more **sustainable source of energy through nuclear fusion**.

2. ITER was set in motion at the **Geneva Superpower Summit in November 1985** after the idea was proposed by the then head of states of the USSR and the United States.
3. One year later an agreement was reached between the **US, Russia, Japan, and the European Union. China and South Korea joined the project in 2003** followed by **India in 2005**.
4. The construction of the **ITER tokamak facility started in 2013** where the world's largest tokamak device is being built.
5. A **tokamak is an experimental machine designed to harness the energy of fusion**. Inside a tokamak, the energy produced through the fusion of atoms is absorbed as heat in the walls of the vessel.
6. The ITER is celebrating the start of assembly of the ITER Tokamak with a ceremony at **Saint-Paul-Lez-Durance, France** where all the heads of states of ITER member countries are participating, either in person or electronically, or conveying his/her message.
7. **ITER Organisation (IO)** is the central team responsible for construction at the site and operation, while the ITER partners created their own domestic agencies to deliver their commitments to ITER. **ITER-India is the Indian domestic agency**.
8. The **European Union being the host party contributes 45 per cent** while the rest of the parties contribute nine per cent each. Most of these contributions are through 'in-kind' procurement of ITER components.

MISCELLANEOUS

ADVANCED WEATHER FORECAST SYSTEM

Researchers at IIT Kharagpur have developed an advanced weather forecast system to help farmers in **agricultural activities and reduce climatic risks**, an official said on 18 July 2020. **The institute in collaboration with the India Meteorological Department** started offering an **agro-advisory to cultivators to improve their production** in different weather conditions. **Sponsored by the Ministry of Earth Sciences**, two projects – **'Gramin Krishi Mausam Sewa'** and **'Forecasting Agricultural output using Space, Agrometeorology and Land- based observations'** – provide weather information to farmers to improve their economic return.

What

1. **The agro-advisory offers crop selection, planting time, land preparation, input management and yield.** It is **based on future weather and land characteristics of a specific location**, agricultural and food engineering department's professor Dilip Kumar Swain said.
2. Farmers get awareness on managing inputs such as fertiliser, irrigation and pesticide every week throughout the cropping season.
3. Based on a five-day weather forecast, the agro-advisory is prepared on Tuesday and Friday every week and sent to farmers' cell phones.
4. The advisory is being sent in Bengali to about three lakh farmers of West Medinipur, Jhargram, Bankura, Birbhum, and Purulia in West Bengal.
5. Using the advisory, they can protect their crop from extreme weather events and reduce production cost by need- based irrigation, fertiliser and pesticide applications, the professor said.

- IIT Kharagpur director professor Virendra Kumar Tewari said, “**Besides sending the agro-advisory**, we also conduct training and awareness programmes regularly in villages on organic and integrated farming and advanced production technology for sustainable agricultural growth.”

PORTRAIT OF TWO PLANETS AROUND BABY SUN

For the first time, a telescope has captured a family portrait of another solar system with not just one, but two planets posing directly for the cameras while orbiting a star like our sun. **This baby sun and its two giant gas planets are fairly close by galactic standards at 300 light-years away.** The snapshot released on 22 July 2020 was taken by the European Southern Observatory’s **Very Large Telescope in Chile’s Atacama Desert.**

What

- This is the first time astronomers were able to capture such a shot. The **observations can help scientists better understand the evolution of our own solar system.**
- Astronomers typically confirm worlds around other stars by observing brief but periodic dimming of the starlight, indicating an orbiting planet. Such indirect observations have identified thousands of planets in our **Milky Way galaxy.**
- It’s much harder and less common for a telescope to directly observe these so-called **exoplanets.** To directly spot two of them around the same star is even rarer.
- Only two multi-planet solar systems have been spotted using the direct method,** both with stars quite different from our sun, according to the observatory.
- Of the 4,183 exoplanets confirmed to date,** only 48 of them have been directly imaged, just 1 percent, according to NASA statistics.
- Direct imaging provides humanity’s best chance to detect life outside our solar system,** if it exists. By observing light from the planets themselves, the atmospheres can be analysed for molecules and elements that might suggest life.
- The work published in Astrophysical Journal Letters reveals a snapshot of an environment that is very similar to our solar system, but at a much earlier stage of its evolution.
- The star officially **known as TYC 8998-760-1** and located in the **Musca, or the Fly,** constellation is barely 17 million years old. By contrast, our sun is 4.5 billion years old.
- The two newly discovered gas giants around this young star orbit at a much greater distance than Jupiter and Saturn do our sun requiring a few thousand years to complete one revolution, or calendar year. They also weigh in with greater masses than our own outer planets.
- The main mirror will span 128 feet (39 meters), more than four times the size of the **Very Large Telescope,** making it the world’s biggest eye on the sky.

INDIA’S FIRST IN-ORBIT SPACE DEBRIS MONITORING

Digiantra Research and Technology (DRT), a space tech startup founded by **Lovely Professional University alumni,** has been **selected for the SID (Society for Innovation and Development) incubation program** at the **Indian Institute of Science (IISc) Bangalore.** Started by Anirudh Sharma & Rahul Rawat in 2018 from their dormitory

at their university, **Digantara is India's first air and space Surveillance Company.**

What

1. It has developed **India's first In-orbit Space Debris Monitoring and tracking system**, which is based on **LIDAR (Light Detection and Ranging) technology**, which will provide global real-time earth coverage by **deploying a constellation of cost-efficient nanosatellites in LEO** (Low Earth Orbit) and a space-based air surveillance payload for accurate tracking of both aircraft and space objects.
2. **Digantara will help international space agencies to track and map the space debris** and minimize the major threat to the future of space exploration.
3. India is well known as a **low-cost space-faring nation**. Taking the legacy forward, **Digantara was set up to build cost-effective and affordable space systems**, which is only possible if we are stationed in India.
4. It plans to establish a **Small Satellite Assembly Line and Production unit (Ford T Model for Space)** for developing **agile small satellites** for our surveillance satellite constellation.
5. Robust **Nanosatellite Constellation to cater to commercial and defence needs for the country** in Surveillance of Space & Air. And, expanding capabilities of our constellation for asset and vessel tracking.
6. **With no space policy in place**, critical requirements of a space mission such as frequency allocation, approval and licenses for satellites built by private companies were in the grey area in India.

PIED CUCKOO'S MIGRATION PATTERN

In an attempt to **decipher changes in the monsoon patterns** and other climate conditions, the **Wildlife Institute of India (WII)** along with the **Indian Institute of Remote Sensing (IIRS)** has begun a study on the **migration of the pied cuckoo**, which will entail tracing the **path taken by the bird through different seasons and regions across the world.**

What

1. **In the first of its kind study**, the scientists **chose the pied cuckoo because the bird's arrival has traditionally been associated with the onset of the monsoon.**
2. The bird is also known by other names including **Clamator jacobinus and Jacobin Cuckoo.**
3. The researchers attached the **transmitter chips, manufactured by Microwave Telemetry** (an American company specialised in such Wildlife Satellite Tracking technology) only last week on two of the birds which will track their movement and bring salient insights on the issue of climate change.
4. **Terming 'site fidelity'** as an **essential feature of the pied cuckoos**, Dr Suresh Kumar, a scientist with WII's department of Endangered Species Management told that the birds come back to the same location every year because they have high **site fidelity.**
5. The research is part of a larger project known as **Indian Bioresource Information Network (IBIN)** which is being funded by the central government's Department of Biotechnology (DBT).

KARGIL VIJAY DIWAS

Kargil was a military, political and diplomatic victory for India which **observes the 21st anniversary of Kargil Vijay Divas** on 26 July 2020 in **honour of the men who lost their lives in the war**. The day commemorates the success of "**Operation Vijay**" **launched by the Indian Army to recapture the Indian territories** from Pakistani intruders in the **Kargil-Drass sector in 1999**.

What

1. **Since 1999, July 26 is celebrated as the Kargil Vijay Divas every year** to commemorate the victory of Operation Vijay.
2. **60-day long war resulted in the loss of several lives on both the sides**, India eventually won the war by regaining control of all the previously held territory, **re-establishing the status quo ante-bellum**.
3. The Kargil War or the Kargil Conflict **took place between May 3 and July 26, 1999**, in the Kargil district of Kashmir and elsewhere along the **Line of Control (LOC)**.
4. **Kargil was the first war between India and Pakistan after 1971**
5. The war took place despite the two nations signing the **Shimla Agreement**
6. **Safed Sagar**, the Indian Air Force's operation, was a major part of the Kargil war

UN WORLD WILDLIFE CRIME REPORT

According to the released **United Nations World Wildlife Crime Report, India and Thailand are the two main countries which are the suppliers of the illegal tiger products** in the world. Quoting the World Wise data for the period between 2007 and 2018, the report said that **India and Thailand are the main source countries** which were traced in the shipments seized in international trade of tiger parts. It also said that the shipments traced to both the countries accounted for 82 percent of the total whole tiger equivalents seized in the world in the same period.

What

1. The report also highlighted the fact that since a **very small population of tigers in India is captive tigers**, most of the illegal seized tiger body products traced to India was likely from the wild life tigers.
2. In contrast to India which houses the maximum number of wildlife tigers in the world, **Thailand has one of the world's biggest captive tiger populations** and only fewer than 200 tigers are reported to be living in the Wild in the country.
3. Apart from India being on top in the supplies of the illegal tiger products, the report also highlighted that **out of the 155 cases where the nationality of the trafficker could be identified, 18 percent belonged to India**, followed by **14 percent Vietnamese** and **8 percent Indonesian traffickers**. The highest number of traffickers belonged to China at 29 percent.
4. All the parts of tiger are traded in the international illegal wildlife products market and they are used mostly for medicinal purposes across the world.
5. The **biggest destination of the tiger parts was China, followed by Thailand and Vietnam**. The most valuable body part of the tigers is their bones which are the most sought after parts of their body. The medicines made of the bones of the tiger are used to heal bone, joint and ligament injuries.

INTERNATIONAL TIGER DAY 2020

The **International Tiger Day** is celebrated annually on **29 July** to spread awareness about the **need to protect tigers** which are an endangered species. Tigers have **lost 90% of their natural habitat** and their world population is less than 4,000. The realisation that the **wild tiger population has dropped by more than 95%** since the beginning of the 20th century, led to the creation of **International Tiger Day**.

What

1. The **day was marked for the first time in November 2010** at the '**Saint Petersburg Tiger Summit**' in **Russia**, which aimed to promote a global system **for protecting the natural habitats of the big cats** and to raise public awareness and support for tiger conservation issues around the world.
2. **Thirteen tiger-range countries participated in the Summit**, namely: **India**, Bangladesh, Nepal, Bhutan, Myanmar, China, Indonesia, Malaysia, Laos, Thailand, Vietnam, Cambodia and the Summit host Russia.
3. The Summit decided on the goal to **increase the population of wild tigers to over 6,000 by 2022** –the next Chinese year of the tiger.

India's Tiger success story

1. As per '**Status of Tigers, Co-predators & Prey in India**' report released by Union forest and environment minister Prakash Javadekar on the eve of International Tiger Day, **total big cat population in India stands at 2,967** as compared to 1,400 in 2014. As per estimates, **India is home to 75% of the world tiger population**.
2. **India's Project Tiger was launched in 1973** with just **9 tiger reserves**. Today, **India has 50 reserves** having 2,967 tigers.
3. **With 231 tigers, Jim Corbett national park in Uttarakhand is the largest habitat of the big cats** in India. Corbett's tiger count has been rising — from 137 in 2006 to 174 in 2010 and 215 in 2014.
4. **Corbett is followed by Nagarhole (127) and Bandipur (126)**, both in Karnataka; Bandhavgarh in Madhya Pradesh and Kaziranga in Assam (104 each). Among states, Madhya Pradesh topped the tiger estimation, with 526 (it had 308 last time), going past Karnataka (524 this time, 406 earlier).
5. **Corbett is the only reserve with more than 200 tigers** and with the **highest tiger density in India at 14**. The count in Dudhwa Tiger Reserve has also gone up from 58 to 82. Pilibhit reserve's population is also up by two to 57.
6. Sohagi Barwa Wildlife Sanctuary which used to be a non-tiger zone in Uttar Pradesh, now has one tiger. However, Mizoram's Dampa reserve and Bengal's Buxa lost the six tigers they had between them..