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## News Analysis (27 Feb, 2019)

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## India Bombs Jaish-e-Muhammad Camp in Pakistan

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Twelve days after the Pulwama attack, in an aerial surgical strike, the Indian Air Force (IAF) has bombed the Jaish-e-Mohammad's (JeM) terror-training camp in Balakot in the Pakistani province of Khyber Pakhtunkhwa.

The operation was carried out by 12 Mirage-2000 fighter jets, after intelligence inputs that the said JeM facility is crowded with 200-325 terrorists.

## India's Statement

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- India has said that the **strike was based on hard intelligence inputs** about the presence of terrorists in the camp.
  - By calling it an intelligence-led operation, the government was trying to send a message to the global audience that the airstrikes were not done at some arbitrarily chosen place but were part of a well-considered action.
- India said that strike was **"non-military preemptive action"** was important for two reasons:
  - By calling it non-military, India wanted to reassure everyone that **it is not an act against the Pakistani military.**
  - The words "preemptive action" were to suggest that the **airstrike was not an act of revenge or retribution but an act of self-defense** to prevent a likely terror attack in the future.

## International Response

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- India has received **support for its air strike from several countries like Australia and France.**
  - The countries **recognized India's right to self-defense**, and asked Pakistan to put an end to operations of terrorist groups established on its territory,.
- The US said that India and Pakistan **should exercise restraint**, and avoid escalation

at any cost and avoid further military activity.

- The British government called on India and Pakistan to **pursue diplomatic solutions**.
- China has said that the two countries **should keep restraint** and do more to improve bilateral relations.
- With the exception of the **Organisation of Islamic Cooperation**, there has been no global criticism of India's statement on the strikes.

## Analysis

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- The Indian Air Force's strike on a Jaish-e-Mohammad terror training camp in Pakistan's Balakot **delivers a robust but calibrated message that India can strike deep inside Pakistan for its self-defense**.
- Airstrikes by the Indian Air Force **establishes a new threshold between the two nuclear neighbors** for an Indian response to a terror attack.
- This was the **first time Indian fighter jets have crossed Line of Control, since 1971**. Even during the Kargil war in 1999, Prime Minister Atal Bihari Vajpayee had drawn a red line over the IAF crossing the LoC, to avoid international recrimination.

### What is a Surgical Strike?

- A surgical strike is a **swift and targeted attack on a specific target** that aims to neutralize them while ensuring minimum collateral damage to the surrounding areas and civilians.
- India has conducted surgical strikes in **2015 in Myanmar against the insurgent groups** and in **2016 in Pakistan-Occupied-Kashmir against terror launch pads** along the line of control.

### How is it carried out?

These attacks can be carried out via air raids, airdropping special operations teams or a ground operation.

### The significance of Surgical Strike

- Neutralization of targets with surgical strikes also prevents escalation to a full-blown war.
- Surgical strikes are part of **India's Cold Start doctrine** and have proved effective in foiling infiltration bid by terrorist groups across the LoC.

### Cold Start Doctrine

- **The 'Cold Start' doctrine of the Indian Armed Forces envisages swift deployment of troops on the western border within days if a situation of a full-blown war arises.**

- This doctrine aims to allow Indian forces to conduct sustained attacks while preventing a nuclear retaliation from Pakistan. The operation would be carried out by a unified battle group involving various branches of India's military.
- **The Cold Start doctrine sought to prepare the army in such a manner that offensive operations could be undertaken within 48 hours of the orders being issued, enabling the Indian troops to take their Pakistani counterparts by surprise.**

## Way Forward

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- **Pakistan has denied that the Indian strike caused any damage on the ground.** This may obviate the need for retaliatory strikes, or if Pakistan responds this could escalate the situation with a military response.
- Pakistan could also make a break from its past, and begin to shut down the terror camps on its soil, which would win friends internationally and ensure peace in the region.
- Surgical strikes are not a one-stop solution, uprooting terrorism will require sustained efforts on by India diplomatically at the global level, which also includes the adoption of **Comprehensive Convention on International Terrorism (CCIT)**.

## Systems Used

### **Mirage-2000**

The Dassault Mirage 2000 is a French multirole, single-engine fourth-generation jet fighter manufactured by Dassault Aviation. It was designed in the late 1970s.

- **SPICE 2000**

SPICE stands for 'Smart, Precise Impact and Cost-Effective' a kit which converts a conventional bomb into a smart munition and is manufactured by Rafael of Israel. The '2000' refers to a bomb of 2,000 pounds (about 1,000 kg).

- **Crystal Maze Mk2**

- Crystal Maze Mk2 also called AGM 142 Popeye is a precision-guided munition (PGM).
- The PGM enable the aircraft to release them from stand-off distances while staying away from harm's way and the munitions glide to the target once launched.

- **NETRA AEW&C**

- The IAF also deployed the Israeli Phalcon and indigenous Netra early warning aircraft to monitor the mission — to direct the aircraft
- IAF also used a Heron long-range Unmanned Aerial Vehicle that was used for monitoring and assessment.

## Angkor City in Cambodia

- A study has suggested that the **Angkor, the ancient capital of the Khmer empire**, appears to have suffered a gradual decline rather than a catastrophic collapse.
- Previously many archaeologists and historians have said that the **abandonment of Angkor in 15th-century, was due to 1431 invasion by the Thai Kingdom from Ayutthaya.**
- The city of Angkor is also home to **UNESCO World Heritage Site, Angkor Vat.**
- **Angkor Archeological Park**
  - Angkor is one of the most important archaeological sites in South-East Asia.
  - Stretching over some 400 km<sup>2</sup>, including forested area, **Angkor Archeological Park contains the magnificent remains of the different capitals of the Khmer Empire, from the 9th to the 15th century.**
  - They include the famous **Temple of Angkor Wat and, at Angkor Thom, the Bayon Temple with its countless sculptural decorations.**



### Angkor Vat Temple

- **Angkor Wat is a temple complex in Cambodia** and one of the **largest religious monuments in the world.**
- It was **originally constructed as a Hindu temple** dedicated to the god Vishnu for the

Khmer Empire, it was **gradually transformed into a Buddhist temple** towards the end of the 12th century.

- It was built by the Khmer King Suryavarman II in the early 12th century in Yaśodharapura (present-day Angkor), the capital of the Khmer Empire, as his state temple and eventual mausoleum.

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## Looming Threat to Food Security

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A recent report titled “State of the World’s Biodiversity for Food and Agriculture” has warned of a growing threat to global food security as a result of severe loss of biodiversity — that is, plants, animals and microorganisms that contribute to food production.

It is released by the Food and Agriculture Organisation (FAO) of the United Nations.

### Findings

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- India was placed among the countries with a very high threat to soil biodiversity on an index that was created by combining eight stressors of soil biodiversity, which include loss of above-ground diversity, overgrazing, among others.
  - Soil biota is critical for release of nutrients to the crops as well as organic matter formation. With climate change soil biota will be impacted even more and there will be further loss of nutrients causing collapse of agriculture in some places.
- The global map shows almost all of India falls in the highly stressed zone along with some parts of Africa, Americas and Asia.
- The report also highlights the loss of biological control agents (BCAs) — insects and pests — as an important factor in declining biodiversity.
  - India has noted a decline of parasitoid wasps and parasitoid flies, which play an important role in biological pest control.
  - Bangladesh has reported a decline in spiders and predatory insects in fields.
  - Nepal has mentioned a general decline in the diversity of the natural enemies of pests.
  - The United States has reported a decline of almost 40% in its grassland bird index between 1968 and 2014.
- On climate change, it notes that extreme weather events are causing major disruptions to species distribution and yields.
  - For example, rising temperatures in the tropics are pushing coffee growing towards higher elevations in mountainous areas.
  - Frequent cold or windy days in spring can also disrupt pollination process.
  - Egypt has reported that rising temperatures will lead to northwards shifts in the range of fish species, with impacts on fishery production.

## Background

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- Biodiversity in agriculture is crucial to adapting to climate change.  
E.g.: Livestock diversity is a buffer against crop failure. In India, Small land holders and landless rural dwellers manage 75% of livestock resources and obtain nearly half of their income from them.
- Risk can be reduced, for example, by raising species, breeds or varieties that are well adapted to coping with shocks such as droughts or disease outbreaks or by raising a number of different types of crops, livestock or aquatic organisms so as to increase the likelihood that at least some will survive such events.
- Before the Green Revolution [of the 1960s], India was growing a large biodiversity of crops on a landscape level. There were different cropping and tree systems at a farm level. Even if there was a failure, all crops would not be affected at the same time.
- However, specialisation of crops for high yields has made farmers vulnerable. Crop failures are common when there is natural disaster or pest attack.

### **Food and Agriculture Organization (FAO)**

- The Food and Agriculture Organization is an agency of the United Nations that leads international efforts to defeat hunger.
- FAO is also a source of knowledge and information, and helps developing countries and countries in transition modernize and improve agriculture, forestry and fisheries practices, ensuring good nutrition and food security for all.
- Formation: 16 October 1945, in Quebec City, Canada
- Headquarters: Rome, Italy
- Every year, World Food Day (Theme for 2018- Zero Hunger) is celebrated on October 16 to commemorate the founding of the Food and Agriculture Organisation (FAO) of United Nations in the year 1945.
- The Sustainable Development Goal (SDG-2) also aims to “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” by 2030.

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## Global Leaders Adopt ‘Delhi Declaration’ on Digital Health

Recently, as part of the high-level summit, the ministers and delegation adopted the Delhi Declaration on digital health for sustainable development.

- It was adopted at the concluding session of the ‘**4th Global Digital Health Partnership Summit**’.
- The declaration calls for World Health Organization’s (WHO’s) leadership in digital health and for it to establish a specific mechanism to centrally coordinate digital health to assist its Member States.
- An example of application of Digital Health for sustainable development is

**telemedicine, remote care and mobile health delivering care in people's homes, instead of in hospitals and clinics.**

- The global intergovernmental meeting on digital health was hosted by the Ministry of Health and Family Welfare in collaboration with World Health Organization (WHO) and the Global Digital Health Partnership (GDHP).

## World Health Organisation

- The World Health Organisation (WHO) is a specialized agency of the United Nations that is concerned with international public health.
- It is headquartered in Geneva, Switzerland and the WHO's constitution came into force on April 7, 1948—a date now celebrated every year as **World Health Day**.
- The World Health Assembly is the supreme decision-making body in WHO. The assembly meets annually and is attended by delegations from 194 member states.

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## Aviation Conclave 2019

The Ministry of Civil Aviation, in association with Airports Authority of India (AAI), Airport Authority of India - Cargo Logistics & Allied Services Company Limited (AAICLAS) and Confederation of Indian Industry, is organizing the Aviation Conclave 2019.

- The theme of the conclave is "Flying for All".
- Aviation Conclave brings into focus new aviation business to India, in particular, drones systems, manufacturing of aircraft in India, financing and leasing of aircraft from India by Indian and foreign airlines, transforming Indian airports into next-gen aviation hubs, and unleashing the air cargo potential by integrating every village of India in global value chains.

## The 5 Key Areas of Deliberation

- Drone-Ecosystem Policy Roadmap,
- **Roadmap for Manufacturing Aircraft and associated equipment**, including Regional Transport Aircraft, in India,
- The **Project Rupee Raftaar**- which aims at Aircraft Financing and Leasing from India,
- **National Air Cargo Policy**: it seeks to make India among the top five air freight markets by 2025, besides creating air transport shipment hubs at all major airports over the next six years.

The policy will encourage code sharing/interline agreements between foreign and Indian carriers.

- **Mission to transform Indian Airports** into Next-Gen Aviation Hubs

## India's Aviation Industry



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- Indian civil aviation industry is undergoing an expansion, driven by factors such as **low-cost carriers (LCCs), modern airports, Foreign Direct Investment (FDI) in domestic airlines, advanced information technology (IT)** interventions and a strong **focus on regional connectivity**.
  - Growth in aviation is also **increasing demand for MRO** (maintenance, repair, and overhaul) facilities.
  - Greater focus is given on **infrastructure development** – increasing liberalization - Open Sky Policy; AAI driving modernization of airports and Air & Navigation Systems.
  - **Enhanced Skill Development** in the sector can leverage India's human capital potential and can create job opportunities.
  - **Innovation and Technology** – GPS Aided Geo Augmented Navigation (GAGAN): India's first satellite-based navigation system has been launched along with NO Objection Certificate Application System (NOCAS) which streamlines online process of timely NOC for height clearances of buildings around airports and E-Governance for Civil Aviation (eGCA) which regulates online delivery of licensing and regulatory processes of Directorate General of Civil Aviation.

## Government's Policy

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- **Regional connectivity scheme of UDAN (Ude Desh ka Aam Nagrik)** initiated by the government in 2016 aims to make flying affordable by connecting unserved airports across the country.
- **NABH Nirman**, announced in the 2018-19 budget, aims to expand airport capacity by more than five times to handle a billion trips in a year.
- **National Civil Aviation Policy (NCAP)** was framed to boost regional air connectivity, establish an integrated ecosystem to promote tourism and generate employment.

## Important Fact For Prelims (27th February 2019)

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### Exercise Sampriti 2019

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- The **8<sup>th</sup> edition of India-Bangladesh** joint military exercise, '**Exercise Sampriti 2019**' will be conducted at Tangail, Bangladesh from March 2<sup>nd</sup> to 15<sup>th</sup>.
- The exercise will involve tactical level operations in a counter insurgency and counter terrorism environment under the mandate of the United Nations.
- The Exercise Sampriti is hosted alternately by both the countries. The **7<sup>th</sup> edition was held in India at Mizoram**.
- The exercise aims to build, strengthen and promote positive relations between the Armies of India and Bangladesh.



## Space Flight of First UAE Astronaut

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- The **first astronaut from the United Arab Emirates (UAE)** will head to the **International Space Station (ISS)** via the Russian Soyuz rocket on 25th September, 2019.
- After this UAE will join the list of **eighteen countries that have sent their people to ISS.**
- The pioneering mission to the ISS is part of the UAE Astronaut Programme that aims to fulfil the UAE's aspirations in taking part in scientific missions and manned space exploration missions.
- In 2018, UAE launched its **first locally made satellite KhalifaSat from Japan.** It has planned a Mars probe named as Hope Mars Mission, for the next year.

### International Space Station (ISS)

- ISS is a **habitable artificial satellite - the single largest man-made structure in low earth orbit.**
- It circles the Earth in roughly 92 minutes and completes 15.5 orbits per day.
- The ISS programme is a joint project between **five participating space agencies: NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada)** but its ownership and use has been established by intergovernmental treaties and agreements.
- Its first component was launched into orbit in 1998 and its development and assembly continues, with components scheduled for launch this year.
- It serves as a microgravity and space environment research laboratory in which crew members conduct experiments in biology, human biology, physics, astronomy, meteorology, and other fields.
- Continuous presence at ISS has resulted into the longest continuous human presence in the low earth orbit.
- It is expected to **operate until 2030.**

## Gynandromorphs

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- According to Scientists, the **study of gynandromorphs** could offer clues as to why some human diseases strike one gender more than the other.
- Gynander or gynandromorphs are the organisms in which the **body consists of both male and female parts.**
- The term is derived from the **Greek words (gyne = woman; aner = man and morphe = form).** Thus, in these animals one part of the body shows female and the other part male features. The phenomenon has been **documented in birds, crustaceans and butterflies.**
- However, it still remains a mystery as to how gynandromorphs are born.

**Gynandromorphs occur naturally, usually resulting from a random genetic error.**

- These instances of split-sex animals and insects could offer clues to why some human diseases strike one sex more than the other.
- Diseases like multiple sclerosis, obesity, metabolic syndrome, autoimmune disease, Alzheimer's, even ageing **differs by sex**. Few decades back, scientists did not think that sex chromosomes played any role in causing sex differences in these diseases.

## Climate-Smart Varieties of Rice

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- Recently, the **National Rice Research Institute (NRRI)**, has released **four new rice varieties**, including two high-protein and two climate-smart varieties.
- The four new varieties comprises of:
  - **Two high-protein rice varieties (CR Dhan 310 and CR Dhan 311)** and
  - **Two climate-smart varieties (CR Dhan 801 and CR Dhan 802)**, which are tolerant to both submergence and drought and few biotic stresses to face the challenges of climate change.
- NRRI also developed a **Mobile App 'riceXpert' to provide information** to farmers in real time besides facilitating the flow of information from scientist to farmers.
- NRRI is the **nodal agency** for planning, implementation and monitoring of the **Bringing Green Revolution in Eastern India programme**.
- It was **established in 1946** and subsequently the administrative control of the Institute was transferred to the Indian Council of Agricultural Research (ICAR) in 1966.
- NRRI is one of the **institutes of Indian Council of Agricultural Research (ICAR)** and is located at **Cuttack in the state of Odisha**.

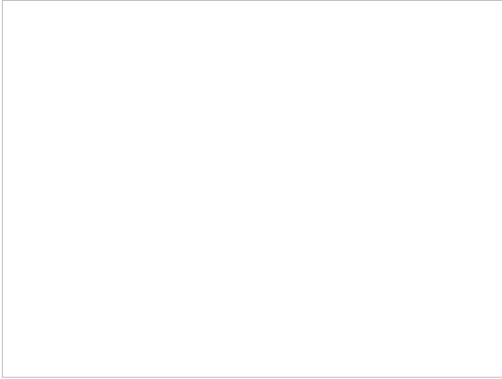
## Quick Reaction Surface-to-Air Missile

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- Defence Research and Development Organisation test fired **indigenously** developed **Quick Reach Surface-to-Air missiles (QRSAM)** from Integrated Test Range Chandipur, in Odisha.
- The test flights successfully demonstrated the robust Control, Aerodynamics, Propulsion, Structural performance and high manoeuvring capabilities thus proving the design configuration.
- It is a state-of-the-art missile with all weather weapon system, a strike range of 30 km and capable of engaging multiple targets.

## Bagru Block Printing

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**Union Council Minister Smriti Irani** inaugurated

the '**Titanwala Museum**' in Bagru village of Rajasthan that showcases the **Chippa community's (literally meaning people who stamp or print)** Hand-block printing.

- Bagru printing is one of the traditional techniques of printing with **natural colour** followed by the chippas of a remote place of Rajasthan.
  - Bagru printers use a technique called dabu in which a mixture of black clay, acacia gum, spoiled wheat flour, limestone is printed onto the fabric. The fabric can then be dyed and left in the sun to dry.
-