



## News Analysis (21 Apr, 2021)

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### State of the Global Climate 2020: WMO

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#### Why in News

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Recently, the **World Meteorological Organization (WMO)** released its annual **State of the Global Climate for 2020**.

- The report was released ahead of the **Leaders Summit on Climate**, hosted by the US.
- Extreme weather combined with **Covid-19** was a double blow for millions of people in 2020. However, the **pandemic-related economic slowdown failed to put a brake on climate change drivers and accelerating impacts**.

#### Key Points

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- **Global Temperature:**
  - **2020 was one of the three warmest years on record**, despite a cooling **La Niña** event.
    - The global average temperature was about **1.2° Celsius above the pre-industrial (1850-1900) level**.
    - The other two warmest years are **2016** and **2019**.
  - The **six years since 2015 have been the warmest on record**.  
**2011-2020 was the warmest decade on record**.

- **Greenhouse Gases:**

- **Emission** of major **greenhouse gases** increased in 2019 and 2020. It will be **higher** in 2021.
- **Concentrations** of the major greenhouse gases in the air **continued to increase in 2019 and 2020**.
- Globally, averaged **mole fractions** of carbon dioxide (CO<sub>2</sub>) have already exceeded 410 parts per million (ppm), and if the CO<sub>2</sub> concentration follows the same pattern as in previous years, it could reach or exceed 414 ppm in 2021.  
**Mole fraction** represents the **number of molecules of a particular component in a mixture divided by the total number of moles** in the given mixture. It's a way of expressing the concentration of a solution.

- **Oceans:**

- In 2019, the oceans had the **highest heat content** on record. In 2020, it has broken this record further. Over **80% of the ocean area experienced at least one marine heatwave in 2020**.  
A marine heatwave is defined when **seawater temperatures exceed a seasonally-varying threshold for at least 5 consecutive days**.
- The percentage of the ocean that experienced “**strong**” marine heat waves (**45%**) was greater than that which experienced “**moderate**” marine heat waves (**28%**).

- **Sea-level Rise:**

- Since record-taking started in 1993 using the satellite altimeter, sea-level has been rising. It is **due to the La Niña induced cooling**.
- Sea level has recently been rising at a higher rate **partly due to the increased melting of the ice sheets in Greenland and Antarctica**.

- **The Arctic and the Antarctica:**

- In 2020, the **Arctic sea-ice extent came down to second lowest** on record. The 2020 minimum extent was **3.74 million square kilometre**, marking **only the second time** (after 2012) on record that it shrank to **less than 4 million sq km**.
- In a large region of the Siberian Arctic, **temperatures in 2020 were more than 3°C above average**.  
A record temperature of 38°C was noted in the town of **Verkhoyansk, Russia**.
- The **Antarctic sea-ice extent remained close to the long-term average**.
  - However, the Antarctic ice sheet has exhibited a strong mass loss trend since the late 1990s.
  - This trend accelerated around 2005, and **currently, Antarctica loses approximately 175 to 225 Gigaton per year**, due to the increasing flow rates of major **glaciers** in West Antarctica and the Antarctic Peninsula.

- **Extreme Weather Events in India:**
  - India **experienced one of its wettest monsoons since 1994**, with a seasonal surplus of 9% that led to **severe floods and landslides**.
  - **Cyclone Amphan**, which hit Kolkata in May 2020, has been named as the **costliest tropical cyclone for the North Indian Ocean region** that brought about an estimated loss of USD 14 billion.
- **Climatic Impact:**
  - **Extreme Weather Situations:**
    - Along with the pandemic, people across the world struggled to survive as they faced extreme weather in the form of storms, cyclones, heavy rainfall and record heat.
    - **Response and recovery** to people hit by cyclones, storms and similar extreme weather was **constrained throughout the pandemic in 2020**.
  - **Human Mobility Issues:**
    - Mobility restrictions and economic downturns owing to Covid-19 **slowed down delivery of humanitarian assistance** to vulnerable and displaced populations, who live in dense settlements.
    - The **pandemic added further dimension to human mobility concerns**, highlighting the need for an integrated approach to understanding and addressing climate risk and impact on vulnerable populations.

## World Meteorological Organization

- **About:**
  - It is an **intergovernmental organization** with a **membership of 192 Member States and Territories**. **India is a member**.
  - It originated from the **International Meteorological Organization (IMO)**, which was established after the 1873 Vienna International Meteorological Congress.
- **Establishment:**

Established by the ratification of the WMO Convention on 23<sup>rd</sup> March 1950, WMO became the **specialized agency of the United Nations** for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- **Headquarters:**

Geneva, Switzerland.

**Source: DTE**

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## World Press Freedom Index 2021

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### Why in News

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## **India has ranked 142<sup>nd</sup> yet again out of 180 nations in the recently unveiled World Press Freedom Index.**

The index is **published each year** by the international journalism not-for-profit body, **Reporters Without Borders (RSF)**.

### **Key Points**

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- **About the World Press Freedom Index:**
  - It has been published every year since 2002 by **Reporters Sans Frontieres (RSF)** or Reporters Without Borders.
  - Based in Paris, RSF is an independent NGO with consultative status with the **United Nations, UNESCO, the Council of Europe and the International Organization of the Francophonie (OIF)**.
    - OIF is a 54 french speaking nations collective.
  - The Index **ranks countries and regions according to the level of freedom available to journalists**. However it is **not an indicator on the quality of journalism**.
  - The **parameters include** pluralism, media independence, media environment and self-censorship, legislative framework, transparency, and the quality of the infrastructure that supports the production of news and information.
- **Global Scenario:**
  - **Journalism**, the main vaccine against disinformation, is **completely or partly blocked in 73% of the 180 countries**.
  - **Only 12 of the Index's 180 countries (7%)** can claim to **offer a favourable environment for journalism**.
  - **Covid-19 pandemic** has been used to perfection by nations to control the spread of information.
  - The Report has **raised concern about the larger Asia-Pacific region** as several nations in an attempt to curb freedom of press have in place **draconian laws on 'sedition,' 'state secrets' and 'national security'**.
  - **Norway has topped** yet again for the fifth year in the row, **followed by Finland and Denmark**.
  - **Eritrea is at the bottom** meanwhile **China is ranked 177**, and is only above North Korea at 179 and Turkmenistan at 178.

- **India's Performance Analysis:**

- India **was ranked 142 in the year 2020 as well**, thus showing no improvement in the environment it provides to its journalists.
- India **has fared poorly amongst its neighbours** with Nepal at 106, Sri Lanka at 127 and Bhutan at 65. Pakistan is a close follower at 145th spot.
- India is **among the countries classified "bad" for journalism** and is termed as one of the most dangerous countries for journalists trying to do their jobs properly.
- The report has blamed **an environment of intimidation created by the nationalist government for any critical journalist** often brandishing them as anti state or anti national.

The **situation is worrying in Kashmir**, where incidents of harassment of reporters by police and paramilitaries have surfaced.

- **Reasons Behind India's Poor Performance:**

- **Journalists are exposed to every kind of attack**, including police violence against reporters, ambushes by political activists, and reprisals instigated by criminal groups or corrupt local officials.
- The journalists **have often been subjected to coordinated hate campaigns** on social networks.

Such campaigns are **particularly violent when the targets are women**.

## **Freedom of Press**

- The Constitution, the supreme law of the land, guarantees **freedom of speech and expression under Article 19**, which deals with 'Protection of certain rights regarding freedom of speech, etc.
- Freedom of press is not expressly protected by Indian legal system but it is **impliedly protected under article 19(1) (a) of the constitution**, which states - "All citizens shall have the right to freedom of speech and expression".
- In 1950, the Supreme Court in ***Romesh Thappar v. State of Madras*** observed that freedom of the press lay at the foundation of all democratic organisations.
- However, Freedom of press is also **not absolute**. It faces certain restrictions under Article 19(2), which are as follows-

Matters related to interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.

**Source: IE**

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## **Kulbhushan Jadhav Case**

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## Why in News

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Pakistan has urged India to appoint a lawyer to represent death row convict Kulbhushan Jadhav to implement the verdict of the **International Court of Justice (ICJ)**.

## Key Point

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- **About the Kulbhushan Jadhav Case:**

- Kulbhushan Jadhav was **sentenced to death by a Pakistani military court** on charges of espionage and terrorism **in April 2017**.
- **India approached the ICJ against Pakistan for denial of consular access (Vienna Convention)** to Jadhav and challenging the death sentence.
- **ICJ ruled in July 2019 that Pakistan must undertake an “effective review and reconsideration” of the conviction** and sentence of Jadhav, and also **grant consular access to India** without further delay.

It had asked Pakistan to provide a proper forum for appeal against the sentence given to Jadhav by the military court.

- **Implications of 'Effective Review and Reconsideration' for India:**

- Effective review and reconsideration is a phrase which is different from ‘review’ as one understands in a domestic course.
- It **includes giving consular access and helping Jadhav in preparing his defence**.
- It means that **Pakistan has to disclose the charges and also the evidence** which it has been absolutely opaque about uptill now.
- Pakistan **would also have to disclose the circumstances in which Jadhav’s confession was extracted** by the military.
- It implies that **Jadhav will have a right to defend** whichever forum or court hears his case.

- **Vienna Convention:**

- The **Vienna Convention on Consular Relations** is an international treaty that defines consular relations between independent states.  
A consul (who is not a diplomat), is a representative of a foreign state in a host country, who works for the interests of his countrymen.
- **Article 36 of the Vienna Convention** states that foreign nationals who are arrested or detained in the host country must be given notice without delay of their right to have their embassy or consulate notified of that arrest.
- If the detained foreign national so requests, the police must fax that notice to the embassy or consulate, which can then verify the detained person.  
The notice to the consulate can be as simple as a fax, giving the person's name, the place of arrest, and, if possible, something about the reason for the arrest or detention.

## International Court of Justice

- ICJ is a **principal judicial organization of the United Nations (UN)**. It was established in 1945 by a UN Charter and began working in 1946 as the successor to the Permanent Court of International Justice.
- It **settles legal disputes between member countries** and gives advisory opinions to authorized UN Organs and Specialized Agencies.
- An Indian, Judge Dalveer Bhandari has been a member of the ICJ since April 2012.
- It is **seated in the Peace Palace of Hague, Netherlands**.

**Source: TH**

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## **Chimera Research: Human Cells in Monkey Embryos**

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### **Why in News**

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Recently, researchers at the **Salk Institute for Biological Studies in the US** in a research called **Chimera Research** have **for the first time grown human cells in monkey embryos**.

### **Key Points**

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- **About the Research:**

**By integrating human cells into the embryos of macaque monkeys, a chimeric tool** has been created.

- **Chimeras** are organisms that are **made up of the cells of two distinct species**, in this case humans and monkeys.
- For instance, if this hybrid embryo was placed in the womb of a monkey, **it could possibly grow into a new kind of an animal** (however this was not the aim of this study).

- **Purpose of the Research:**
  - **Understanding Human Development & Drug Evaluation:**
    - Ability to grow cells of two different species together offers scientists a **powerful tool for research and medicine**, advancing current understanding about early human development, disease onset and progression and ageing.
    - It could also **help in drug evaluation and address the critical need for organ transplantation.**
  - **Provides New Platform to Study Diseases:**
    - Chimeric tools provide a new platform to study **how certain diseases arise**. For instance, a particular gene that is associated with a certain type of cancer could be engineered in a human cell.
    - It can help in **studying the course of disease progression** using the engineered cells in a chimeric model, which may be able to tell them more about the disease than results obtained from an animal model.
- **Reason for Choosing Macaque:**
  - In a 2017 study, researchers **integrated human cells into pig tissues** as they thought that pigs, whose organ size, physiology and anatomy are similar to that of humans, could help them in creating organs that could ultimately be transplanted to humans.
  - As the **experiment failed** due to **evolutionary distance between pigs and humans** (about 90 million years) the researchers **decided to pick a species that was more closely related to humans**, hence macaque monkeys were chosen.



- **Concerns:**

- **Not Natural and have Survival Issue:**

Some rare hybrid animals exist naturally and were probably the result of **unintentional cross breeding** between animals of different species.

- In 2014, a rare hybrid animal called **Geep (Goat+Sheep)** was born in an Irish farm. Geep was a hybrid between a goat and a sheep, a result of the two mating.
- Generally, different species don't cross-breed and if they do, their **offspring don't survive** for long and are prone to infertility.

- **Infertility:**

- **Mules** are another example of a hybrid animal that are the result of mating between a female horse and a male donkey.

As per the American Mule Museum, **these hybrid animals are the result of intentional breeding by humans**, which they first undertook in the ancient times.

- While mules can live a long healthy life, **they are infertile** which means that they cannot have offspring of their own.

- **Injustice Against Animals for Human Benefit:**

- Although researchers have made it clear that the chimeras created with macaques will not be used for human organs still **there is skepticism since others feel that one of the goals of chimera research is to create organs that can be transplanted to humans.**

- Chimera research **has the potential to worsen injustice against animals** and also point out the fairness in using part-human animals to meet human needs.

In 2018 a scientist in China claimed to have produced genetically modified babies using the gene editing technique **CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats)**. He was sentenced to prison for three years, with a fine of 3 million yuan (approx. Rs 3 crore), for illegal medical practice.

- **Indian Laws on Hybrid Animals:**

- In India production of hybrid animals has been banned since 1985..
- **Genetically Modified Organisms (GMOs)** and the products are regulated under the “**Rules for the manufacture, use, import, export & storage of hazardous microorganisms, genetically engineered organisms or cells, 1989**” (referred to as Rules, 1989) notified under **the Environment (Protection) Act, 1986**.
  - These Rules are **implemented by the Ministry of Environment, Forest and Climate Change**, Department of **Biotechnology** and State Governments through six competent authorities.
  - The Rules, 1989 are **supported by a series of guidelines** on contained research, biologics, confined field trials, food safety assessment, environmental risk assessment etc.

## Way Forward

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- Genetic modification like chimera studies continues to be a **subject of major debate**. In developing countries like India, **genetically modified crops are also a contentious topic**.
- Tampering with the genetic code in human beings is more controversial, **as any such change can be passed down to future generations**.

## Source: IE

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## Startup India Seed Fund Scheme

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### Why in News

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Recently, the Government has launched the **Startup India Seed Fund Scheme (SISFS)**.

The Scheme was announced during the ‘**Prarambh: StartupIndia International Summit**’ which marked **the five-year anniversary of the Startup India initiative**.

### Key Points

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- **About the Startup India Seed Fund Scheme (SISFS):**

- **Aim:** To provide financial assistance to startups for proof of concept, prototype development, product trials, market entry, and commercialization.
- **Launched by:** Department for Promotion of Industry and Internal Trade (DPIIT) with an outlay of Rs. 945 Crore.
- **Some Eligibility Conditions:**
  - A startup, recognized by DPIIT, **incorporated not more than 2 years ago** at the time of application.
  - Startups **should not have received more than Rs. 10 lakh of monetary support** under any other Central or State Government scheme.
- **Features:**
  - It will **support an estimated 3,600 entrepreneurs through 300 incubators** in the next 4 years.
  - An **Experts Advisory Committee (EAC)**, constituted by DPIIT, will be **responsible for the overall execution** and monitoring of the Scheme.
  - **Grants of upto Rs. 5 crore will be provided to the eligible incubators** selected by the committee.
  - The **selected incubators will provide grants of up to Rs. 20 lakh** for validation of proof of concept, or prototype development, or product trials to **startups**.
  - **Investments of up to Rs. 50 lakh will be provided to the startups** for market entry, commercialization, or scaling up through convertible debentures or debt-linked instruments.
- **Expected Benefit:**

It will **help in creating a robust startup ecosystem in Tier 2 and 3 regions**, as the smaller towns in India are often not provided with appropriate funding.

- **About Startup India Initiative:**

- It **envisages building a robust Startup ecosystem in the country** for nurturing innovation and providing opportunities to budding entrepreneurs. It was launched in 2016.
- The **action plan** of this initiative **focuses on following three areas:**
  - Simplification and Handholding.
  - Funding Support and Incentives.
  - Industry-Academia Partnership and Incubation.

- **Related Government Initiatives:**

- **Startup Innovation Challenges:** It is a fantastic opportunity for any startup to leverage their networking and fund-raising efforts.
- **National Startup Awards:** It seeks to recognize and reward outstanding startups and ecosystem enablers that are contributing to economic dynamism by spurring innovation and injecting competition.
- **Ranking of States on Support to Startup Ecosystems:** It is an evolved evaluation tool aimed to strengthen the support of States and UTs to holistically build their startup ecosystems.
- **SCO Startup Forum:** The first-ever **Shanghai Cooperation Organisation (SCO)** Startup Forum was launched in October 2020 to develop and improve startup ecosystems collectively.
- **Prarambh:** The 'Prarambh' Summit aims to provide a platform to the startups and young minds from around the world to come with new ideas, innovation and invention.

## **Seed Funding**

- It typically **represents the first official money** that a business venture or enterprise raises.
- It helps a company to finance its first steps, including things like market research and product development.
- There are many potential investors in a seed funding situation: founders, friends, family, incubators, venture capital companies and more.
- One of the most common types of investors participating in seed funding is a so-called "**angel investor.**"

Angel investors tend to appreciate riskier ventures (such as startups with little by way of a proven track record so far) and expect an equity stake in the company in exchange for their investment.

## **Department for Promotion of Industry and Internal Trade**

- The department was earlier called Department of Industrial Policy & Promotion and was renamed as DPIIT in January, 2019.
- It comes under the **Ministry of Commerce and Industry.**
- In 2018, matters related to **e-commerce** were transferred to the Department and in 2019, the Department was given charge for matters related to Internal Trade, welfare of traders and their employees and Startups.
- The role of DPIIT is to promote/accelerate industrial development of the country by facilitating investment in new and upcoming technology, **foreign direct investment** and support balanced development of industries.

**Source: PIB**

# Chad President Idriss Deby Dies

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## Why in News

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**Chad's President Idriss Deby** has been killed on the frontline against rebels in the north.

He was battling rebels belonging to the group '**FACT** (the **Front for Change and Concord in Chad**)'.

## Key Points

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- **About Chad's President:**

- The news of his death came only the day after he was proclaimed the winner of a presidential election that had given him **a sixth term in office**.
- He **had been ruling Chad since 1990**, taking power on the back of a coup. His rebel forces overthrew **then-President Hissene Habre**, who was later **convicted of human rights abuses** at an **international tribunal in Senegal**.
- Deby was a **major French ally** in the fight against **Islamic extremism in Africa**, hosting the base for the **French military Operation Barkhane** and supplying **critical troops to the peacekeeping effort in northern Mali**.

- **About the Group FACT:**

The Front for Change and Concord in Chad (FACT), is a **political and military organisation in the north of Chad**, with the **goal of overthrowing the government of Chad**.

- **Some Locational Aspects of Chad:**



- It is a **landlocked state in north-central Africa.**
- It is named after **Lake Chad.**
  - This is the **second-largest lake in Africa** (after Lake Victoria) and its **basin** covers parts of **Nigeria, Niger, Chad and Cameroon.**
- The **Sahara Desert** roughly covers one **third of the country.**
- **The south** has large expanses of wooded **savannas and woodlands.**
- **Chad** is also a part of the **Sahel** region.
  - **Sahel** is a **semiarid region** of western and **north-central Africa** extending from **Senegal eastward to Sudan.**
  - It forms a **transitional zone** between the **arid Sahara** (desert) to the **north** and the belt of **humid savannas to the south.**
- **Chad** became an **oil-producing nation in 2003**, with the completion of a USD 4bn pipeline linking its oilfields to terminals on the **Atlantic coast.**

- **India-Chad Relations:**

- Chad is a member country of **International Solar Alliance (ISA)**, an India-France initiative.
- The country is a member of **TEAM-9 initiative (Techno Economic Approach for African Movement)** comprising **eight West and Central African countries** seeking to benefit in technical and economic spheres **through cooperation with India.**
- The increase in the **import of Crude Oil from Chad** is the main reason for the significant increase in the **bilateral trade** (USD 513.59 million in 2018-19).
- India has offered a **Line of Credit of USD 27.45 million** for **establishment of Solar PV Module Manufacturing Plant at N'djamena.**
- India implemented a **Technical Assistance Programme (TAP) for cotton** in six African countries, namely Benin, Burkina Faso, Chad, Malawi, Nigeria and Uganda, from 2012 to 2018.
- Many civilians and Chad public servants have been offered courses and provided **training under ITEC (Indian Technical Economic Cooperation).**

**Source: TH**

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## **RESPOND Program : ISRO**

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### **Why in News**

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Recently, **Indian Space Research Organisation (ISRO)** has announced that it will support eight joint research projects mooted by the **Space Technology Cell (STC), IIT-Delhi.**

The ISRO has extended support to the projects under its **RESPOND programme.**

### **Key Points**

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- ISRO **started the RESPOND (Research Sponsored) programme in the 1970s,** with the objective of **encouraging academia to participate and contribute in various Space related research activities.**
- Under the Programme, **ISRO provides financial support** for conducting research and development activities related to **Space Science, Space Technology and Space Applications** in Academic Institutions in India.

- This is the **flagship programme of ISRO to promote extramural research** in emerging areas of Space at Academia.
  - It looks to **enhance the Academic base, generate human resources and infrastructure** at the Academic Institutions to **support the Space Programmes**.
  - India is on course to launch its first human spaceflight mission, **Gaganyaan**, where Indian astronauts will spend time to conduct space experiments. This ambitious mission will help the country prepare for future deep-space missions.
- RESPOND is also participating in the National Missions like **IMPRINT (IMPacting Research INnovation and Technology)** programme and **Uchhatar Avishkar Yojana (UAY)**.

### **IMPRINT Programme**

- The scheme was **released in 2015** by the Ministry of Human Resource Development (now Ministry of Education).
- It is a **first-of-its-kind Pan-IIT and IISc joint initiative** to address the major science and engineering challenges that India must address and champion to enable, empower and embolden the nation for inclusive growth and self-reliance.
- IMPRINT provides the overarching vision that **guides research into areas that are predominantly socially relevant**.

### **Uchhatar Avishkar Yojana**

- It was launched by the Ministry of Human Resource Development in 2015.
- It **promotes innovation of a higher order that directly impacts the needs of the Industry** and thereby improves the competitive edge of Indian manufacturing.

**Source: TH**

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