

Biological Diversity (Access to Biological Resources and Knowledge Associated thereto and Fair and Equitable Sharing of Benefits) Regulations, 2025 Notified

Rules have been notified by the **National Biodiversity Authority (NBA)** in accordance with the **Biodiversity Act (BDA) 2002**.

- Rules aimed at guiding the **sharing of benefits** for the use of **biological resources**, including **Digital Sequence Information (DSI)** or associated knowledge.
- These rules have replaced the 2014 rules.

Key Highlights of Rules

- Prior Informed Consent (PIC):** Person/industry intending to access biological resources shall give **prior intimation** to the **NBA** for **approval**.
 - This shall not **apply** in case of access to **cultivated medicinal plants** notified under BDA 2002.
- Quantum of Benefit Sharing:** Rules delineate slabs based on annual turnover of person/industry. (see table)
 - All users with annual turnover of **over 1 crore** need to share a statement with **information on the resources used per year**.
 - For biological resources having **high conservation or economic value**, the benefit sharing shall **not be less than 5%** of the proceeds of the auction or sale amount or the purchase price and could be **more than 20%** in case of **commercial use**.
 - E.g. **red sanders, agarwood**, etc.
- Commercialisation of Intellectual Property Rights:** Applicant shall pay to the **NBA** such monetary benefit or share non-monetary benefit as agreed.

Annual turnover of the person (in Indian rupee)	Amount payable [Percentage of annual gross ex-factory sale price of product excluding Government taxes]
Up to 5 crore	Nil
Above 5 crore to 50 crore	0.2%
Above 50 crore to 250 crore	0.4%
Above 250 crore	0.6%

What is Access and Benefit Sharing (ABS)?

- ABS refers to the **way** in which **genetic resources** may be **accessed**, and **how** the **benefits** that result from their use are **shared** between the people/countries using the resources (users) and those that provide them (providers).
- Framework:** Covered under **Convention on Biological Diversity (CBD)**.
 - Bonn Guidelines** and **Nagoya Protocol (2010)** deal with the ABS.
 - Multilateral Mechanism** for the **use of DSI** adopted at **CBD COP16 (2024)**.

Centre launches Indian Institute of Creative Technology (IICT) to revolutionize AVGC-XR sector

IICT has been launched by **Ministry of Information and Broadcasting** in collaboration with **FICCI** and **CII**.

About IICT:

- It will serve as a National **Centre of Excellence (NcoE)** dedicated exclusively to **Animation, Visual Effects, Gaming, Comics, and Extended Reality (AVGC-XR)** sector.
 - Extended Reality (XR)** technologies blend physical and digital worlds e.g. **Virtual Reality (VR)**, **Augmented Reality (AR)**, and **Mixed Reality (MR)**.
- It will follow **same template** as **IITs and IIMs** in India to transform itself into a massive world-class **education and training hub** for students who aspire to be professionals in **AVGC-XR sector**.

Status of AVGC-XR sector





- Globally** AVGC-XR market was valued at **over \$366 billion** in 2021.
- India:** Currently accounts for **less than 1%** of the global market. **Indian AVGC-XR market** could reach **\$26 billion** by 2030.
 - Karnataka**, recognized as India's IT hub, is carving out a leadership position in the **AVGC-XR sector**.

Emerging key growth drivers of AVGC-XR sector in India

- Growing OTT User base:** In 2024, India had an estimated 547 million OTT users, representing a penetration rate of 38.4%.
- Growth of Smartphone Users:** India is set to have over **900 million internet users by 2025**, with a majority from rural areas, according to the **IAMAI and Kantar report**.
- Wider Spectrum of Applications:** Animation and VFX sector can be used in Gaming, EdTech, Architecture etc.
- Advent of New Technologies:** E.g. Investment in AR and VR is increasing year on year.
- Other reasons:** Increased R&D Investments, Growing 5G Presence etc.

Benefits of NCOE

National Centre of Excellence

 <p>Exponential Growth Potential Animation industry growth rate: 25% Estimated value: ₹46 billion (2023) (as per FICCI-EY Report 2023)</p>	 <p>Creation of Indigenous IP For domestic consumption and global outreach, Nurturing India's digital creative economy</p>
 <p>Employment Opportunities 5,00,000 Expected new jobs, Integrated focus on: Education Skilling, Industry Development, Innovation</p>	 <p>Enhancing India's Soft Power Cutting-edge training, Integration of rich cultural heritage with modern technology</p>

India becomes the first country in world to develop Genome-edited rice varieties

Indian Council of Agricultural Research (ICAR) has developed India's first genome-edited rice varieties named as **DRR Rice 100 (Kamla)** and **Pusa DST Rice**.

- These new varieties were developed using **Genome editing technology** based on **CRISPR-Cas**, which makes precise changes in the organism's **genetic material without adding foreign DNA**.
 - Genome editing of **Site Directed Nuclease 1 (SDN1)** and **SDN 2 types of genes** has been approved under **India's biosafety regulations** for general crops.
- ICAR developed these varieties with the support of the **National Agricultural Science Fund (NASF)**.
 - NASF** supports basic and strategic research in agriculture.

About Genome-edited Rice Varieties

- DRR Dhan 100 Kamala**
 - Developed by **ICAR-IIRR** (Indian Institute of Rice Research), Hyderabad.
 - It is improvement of '**Samba Mahsuri**' by targeting the **CKX2 (Cytokinin Oxidase 2) gene**.
 - A **cytokinin** is a plant hormone that influences growth and the stimulation of cell division.
- Pusa DST Rice 1**
 - Developed by **ICAR-Indian Agricultural Research Institute (IARI)**, New Delhi.
 - This variety is an **improved version** of the fine-grain rice **MTU1010** (Cotondora Sannalu).

Benefits of Genome-edited Rice Varieties



Productivity: 19% increase in yield.



Climate adaptability: 20% reduction in greenhouse gas emissions.



Water conservation: Saving of 7,500 million cubic meters of irrigation water.



Others: Improved tolerance to drought, salinity, and climate stresses

About Site Directed Nuclease (SDN)

- SDN-1:** A site-directed mutagenesis **without using a DNA** sequence template.
- SDN-2:** A site-directed mutagenesis **using a DNA** sequence template.
- SDN-3:** A site-directed **insertion of gene/large DNA** sequence using a DNA sequence template.

Mediation a Key Instrument to Realize the Vision of Viksit Bharat by 2047: President

President was speaking at **First National Conference on Mediation** in New Delhi, which also led to **establishment of the 'Mediation Association of India'**.

- Mediation Association of India will **help institutionalize and promote mediation** as a preferred, organized, and accessible way to resolve disputes.

About Mediation

- It is one of the **alternate dispute resolution** mechanisms along with **Arbitration** and **Conciliation**.
- Between 2016 and early 2025, a staggering 7, 57,173 cases were settled using mediation.

Significance of Mediation

- Reduces Judicial Burden:** **India Justice Report (IJR) 2025** pointed that the number of pending cases in the judiciary has crossed the **five-crore** mark.
- Cheap and Speedy Justice Delivery:** Saves substantial legal fees, court costs, and the time involved in a protracted legal battle.
- Co-operative Problem Solving:** Neutrality of third party as an impartial facilitator assists communication and negotiation without taking sides.

Steps taken for promoting mediation in India

- Mediation Act, 2023:** Establishes a consolidated, institutional legal framework.
- Commercial Courts Act, 2015:** Amended in 2018 to provide inter-alia for Pre-Institution Mediation and Settlement (PIMS) mechanism.
- Consumer Protection Act of 2019:** Encourages mediation as a quick, easy, and affordable way to settle consumer disputes.
- Singapore Convention on Mediation:** India is a signatory.

Difference between Mediation, Arbitration and Conciliation

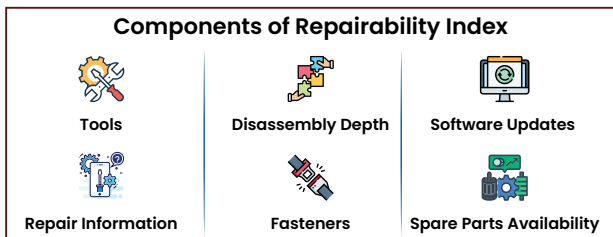
Aspect	Mediation	Arbitration	Conciliation
Nature	Voluntary and informal	Formal and legally binding	Voluntary and informal
Role of Third Party	Mediator (Neutral third party) facilitates dialogue; does not impose a decision	Arbitrator (Neutral third party) acts like a judge; gives a binding decision	Conciliator (Neutral third party) suggests solutions; may propose a settlement
Binding Decision	No	Yes	No
Enforceability	Not enforceable unless turned into a contract	Legally binding and enforceable	Not enforceable unless agreed upon

Report for Framework on Repairability Index (RI) in Mobile and Electronic Sector submitted

Committee formed under **chairmanship of Bharat Khera** to develop a framework for a RI has submitted its report to Department of Consumer Affairs (DoCA).

About RI Framework (Recommended by Committee):

- **Original Equipment Manufacturers (OEMs) are required to self-declare RI** based on standards scoring criteria provided in framework.
- RI should be **displayed at point of sale/purchase**, E-commerce platforms and in form of QR code on packaged products.
- Committee identified **smartphones and tablets as priority categories** for the initial phase of RI.
- RI is assessed on **six core parameters (Refer Infographic)**.
 - ⊕ Scoring criteria and weightages were **developed for each parameter**.
 - ⊕ A RI on a **five-point numeric scale** is calculated after aggregating **weightages for priority parts**.



Significance of RI:

- **Improved repair accessibility:** There has been significant rise in complaints in mobiles and tablets product category from 19,057 in 2022-2023 and further to 22,864 in 2024-2025.
- **Promoting Sustainable Economy:** RI **emphasizes on LiFE (Lifestyle for the Environment) movement** through Promoting sustainable consumption.
- **Address issue of 'planned obsolescence':** i.e. devices are designed specifically to last a limited amount of time and to be replaced.
- **Employment generation:** By allowing third-party repairs.

About Right to Repair:

- It calls for companies to **make spare parts, tools and information on how to repair devices** available to customers and repair shops to increase lifespan of products.
 - ⊕ DoCA launched **Right to Repair Portal India in 2022**, to facilitate relevant repair associated information.

DRDO conducts maiden flight-trials of Stratospheric Airship Platform (SAP)

With the successful first flight tests of SAP by the Defence Research and Development Organisation (DRDO), India has joined the few countries to have an **indigenous high-altitude platform system**.

- It has been developed by **Aerial Delivery Research and Development Establishment, Agra**.
- It will enhance India's **earth observation** and **Intelligence, Surveillance & Reconnaissance (ISR)** capability.

About the Stratospheric Airship Platform (SAP)

- It is a high-altitude, unmanned airship designed to operate in the stratosphere, typically between 17 to 22 kilometers above Earth.
- It functions as a **High-Altitude Pseudo-Satellite (HAPS)** that can remain airborne for extended durations.
 - ⊕ **HAPS** can be classified as **aerodynamic** (or heavier-than-air, e.g. fixed wing/airplanes) and **aerostatic** (or lighter-than-air, e.g. balloons and airships).
- **Lift Mechanism:** Uses helium for buoyancy
- **Power Source:** Generally powered by **solar energy** with onboard batteries for night-time operation

Strategic Advantages of SAP

- Unlike satellites or aircraft, it can **stay over a specific area for days or weeks**, providing persistent surveillance and communication support.
- They can carry **imaging sensors, radar**, and telecom payloads, making them useful for border monitoring, disaster response, and intelligence missions.
- They bridge the gap between **drones** and **satellites**, providing space-like coverage with faster deployment, lower costs, and more flexibility.

Also in News



Di(2-ethylhexyl) Phthalate (DEHP)

Recent study identified a link between exposure to Di(2-ethylhexyl) Phthalate (DEHP) and heart disease deaths.

About DEHP (also known as bis(2-ethylhexyl) phthalate)

- It is a **manufactured chemical** that is commonly added to plastics to make them flexible.
- It is a **colorless liquid** with almost **no odor**.
- It **does not evaporate easily**, and little will be present in the air even near sources of production.
- It dissolves more easily in materials such as **gasoline, paint removers, and oils** than it does in **water**.
- It is prevalent in numerous household items, **including food containers, medical equipment, toys, shampoos and lotions**.
- The developing fetus and male reproductive system are targets of **DEHP toxicity**.



Santhara

Santhara, a Jain ritual, has been recently in the news.

About Santhara/Sallekhana/Pandit-maran/Sakham-maran:

- It is a Jain religious practice in which an individual voluntarily chooses to **end their life through fasting**.
- Believed to have been practised since the foundation of Jainism and **finds mention in agams**.
- **Types** — Trivihar (giving up food but not water) and Chauvihar (giving up food as well as water).
- According to Jain scriptures, Santhara should only be observed **when death is near, or when a person is unable to follow religious duties** due to old age, incurable illness, or extreme conditions like famine.
- **Legal Status:** In 2015, Rajasthan HC ruled that Santhara should be considered illegal, equating it to **suicide under Section 306 of IPC (Later Stayed by SC)**.



Igla-S

Indian Army received new Russian Igla-S missiles to counter drones, choppers, jets.

About Igla-S

- It is a man-portable, shoulder-launched **surface-to-air missile (SAM) system** designed for mobile ground units operating in high-threat environments
- It is an improved version of **Very Short Range Air Defence Systems (VSHORADS)**.
- Key Features:**
 - It uses infrared (IR) homing to detect and lock onto the heat signatures of aerial targets.
 - Once the missile is launched, it automatically follows the heat coming from the target's engine.
 - This makes it very good at hitting fast and small targets like drones and helicopters.
 - Range:** It can engage targets at ranges up to 6 km and altitudes up to 3.5 km.



Mangar Bani

Archeologists' unearthed pre-historic tools from the Lower Paleolithic age in Mangar Bani.

About Mangar Bani

- It is a **Paleolithic site** and a sacred grove hill forest in the Aravalli ranges along the Delhi-Haryana border.
- It is located in the **only primary forest** of Delhi NCR.
 - A **primary forest** is one which is largely undisturbed by human activities and consists of naturally regenerated forest of native tree species.
- Key Features:**
 - Continuous occupation is demonstrable from 100,000 year before present (BP) to 1000 AD.
 - Rock shelters, rock paintings and cave paintings dating back some 20,000-40,000 years ago.



Agriphotovoltaics (APVs)

Recently, it has been highlighted that Agriphotovoltaics (APVs) provide a model that **maximises land-use efficiency** and **augments farmers' income**.

About APVs (Agrivoltaics or solar farming)

- Definition:** Combined use of the same area of **land** for **agricultural production** as the primary use and for **electricity production** utilizing a solar PV system as a secondary use.
- Components:** **Solar panels**, **solar tracking systems** (follow the sun for maximum efficiency), and **shade-tolerant crops** (protection against strong solar irradiation, winds).
- Benefits:**
 - For farmers:** **Financial buffer** in times of crop failure, optimize **food and energy security**.
 - For environment:** Reduced **carbon emissions**, preservation of **land, water conservation** by reducing evaporation.



Kaleshwaram Lift Irrigation Project (KLIP)

National Dam Safety Authority (NDSA) reported significant **damage** to the KLIP barrages post-2023 flooding incident.

- NDSA, India's **national safety regulator for large dams**, is a statutory body set up under the **National Dam Safety Act, 2021**.

About KLIP

- KLIP is a **multi-purpose irrigation project** on the **Godavari River** in **Kaleshwaram, Telangana**.
 - Godavari river**, also known as **Dakshin Ganga**, is the largest Peninsular river.
 - It rises from slopes of Western Ghats in **Nasik district** of **Maharashtra** and drains into **Bay of Bengal**.
- It will be the **world's largest multi-stage lift irrigation project**.
 - In a **lift irrigation** project, water is **lifted** by means of **pumps or surge pools** to a main delivery chamber at the **highest point** in the project, from where it is **distributed to beneficiary fields**.
- It spans over **~500kms** in 13 districts with a canal network of **1800kms**.



Chenab River

India has reduced the flow of water through the **Baglihar Dam** after Indus Treaty suspension.

- Bahlihar is run-of-river Hydropower Project, located on **Chenab river** in **Jammu & Kashmir**.

About Chenab river

- It is the **largest tributary** of the **Indus**.
 - It joins Indus at **Mithankot (Pakistan)**.
- Origin:** It is formed by the confluence of two streams, **Chandra and Bhaga**
 - These streams rise on the opposite sides of the Baralacha pass of Himachal Pradesh.
- It is also known as **Chandrabhaga**.
- The **Jhelum joins the Chenab** near Jhang in Pakistan.
- Key Tributaries:** Miyar Nalla, Sohal, Marusudar, Lidrar, etc.



HawkEye 360 Technology

The US has recently approved sale of HawkEye 360 technology to India to boost the country's surveillance capabilities.

About HawkEye 360 technology

- It uses clusters of **three satellites** in **Low Earth Orbit** to detect, geolocate, and **analyze radio frequency (RF) signals**.

Significance for India

- It can detect vessels that **turn off their Automatic Identification System (AIS)** to avoid tracking in disputed or sensitive areas.
- It will boost India's **maritime domain awareness** in the Indo-Pacific.
 - Indian forces can now more effectively monitor illegal fishing, smuggling, and conduct surveillance.

Place in News



Angola (Capital:Luanda)

India announced a \$200 million Defence credit line for Angola.

Political Features:

- It is located in **southwestern Africa**.
- Boundaries:** Republic of the Congo (North) ,Democratic Republic of the Congo(Northeast), Zambia (southeast), Namibia(South),
- Maritime Boundary:**Atlantic Ocean (West).

Geographical features:

- Natural resources:**Petroleum, diamonds, iron ore, phosphates, copper, feldspar, gold, bauxite, uranium.
- Major Rivers:** Zambezi,Cuango (Kwango),Cuanza (Kwanza) etc.
 - Cuango (Kwango)** forms the boundary between **Angola and Democratic Republic of Congo**.
- Climate:** Tropical climate with a marked dry season.
 - Climate is largely affected by **northward flow of cold Benguela Current** (Flows northwards along the west coast of southern Africa).



AHMEDABAD



BENGALURU



BHOPAL



CHANDIGARH



DELHI



GUWAHATI



HYDERABAD



JAIPUR



JODHPUR



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI