



News Analysis (16 Oct, 2020)



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Saviour Sibling

Why in News

Recently, doctors successfully conducted **India's first 'saviour sibling' experiment.**

- The **Saviour Sibling named Kavya** saved her 6-year-old brother (suffering from Thalassaemia).
- 150- 200 ml bone marrow was harvested from Kavya in an hour-long procedure and then given to her brother Abhijeet through transfusion.
- **Kavya suffered low haemoglobin** for some time but it was **corrected with supplements** and she also **endured some pain** in the areas from where the marrow was taken for a few days. Presently, **both Kavya and Abhijeet are healthy.**

Key Points

- **'Saviour Sibling'** refers to **babies that are created to serve an older sibling as a donor of organs, bone marrow or cells.**

- They are **created with In vitro fertilisation (IVF)** so that they can **undergo pre-implantation genetic diagnosis (or testing)** to rule out any genetic disorders and also check bone marrow compatibility.
 - **Pre-implantation Genetic Testing (PGT)** refers to the genetic profiling of embryos. It is used to screen embryos for genetic diseases or chromosomal abnormalities.
 - From each embryo, PGT **takes a biopsy of only a few cells** and conducts a **genetic analysis**.
 - This analysis can search to **exclude embryos** carrying a genetic variant that causes a **hereditary disease**, and it can search to find **embryos that are an Human Leukocyte Antigen (HLA) match to a sibling**.
 - **HLA** is a type of molecule found on the surface of most cells in the body. These **play an important part in the body's immune response to foreign substances**.
 - These **make up a person's tissue type**, which varies from person to person.
 - **HLA typing is important in organ transplantation protocols**, as they determine the likelihood of rejection.
- The **world's first saviour sibling, Adam Nash**, was born in **2000** in the **USA**.
- **Need:**
 - For those families with a child that requires a stem cell transplant, often there is a **hurdle of finding a donor for the transplant**.
 - A successful transplant requires an **HLA match** between donor and recipient. However, the **probability of finding a suitable match among family members is about 30% overall**.
- **Ethical Considerations and Implications:** In a **2004 paper** published in the Journal of Medical Ethics, UK researchers debated **whether selecting saviour siblings should be banned**.
 - They studied the arguments to ban it:
 - That saviour siblings **would be wrongfully treated as means rather than ends**.
 - They would cause or **constitute a slide towards designer babies**,
 - They **would suffer physically and/or emotionally**.
 - **But the paper found these arguments to be flawed**. It concluded that the **selection of saviour siblings should be permitted**, especially given that prohibiting it would result in the preventable deaths of a number of existing children.

In vitro Fertilisation

- IVF is one of the more widely known types of **Assisted Reproductive Technology (ART)**.

- In vitro comes from the latin word **‘in glass’**, i.e. studies are done in a test tube rather than in a human or animal.

The **opposite** to ‘In-vitro’ is **‘In-vivo’**, which comes from the latin word **‘within the living’**. In vivo refers to experimentation being done in a living organism.

- In vitro means outside the body. Fertilization means the sperm has attached to and entered the egg.
- During IVF, mature eggs are collected (retrieved) from the ovaries and fertilized by sperm in a lab. Then the fertilized egg (embryo) or eggs (embryos) are transferred to a uterus.

Way Forward

Currently there is a significant gap between the biotechnology advancements in prenatal testing versus the necessary legal and ethical framework. It is imperative that legal and ethical standards be set for the benefit of both the families and professionals involved in the creation of savior children.

Source: TH

Gurkha Rights in Assam

Why in News

The **Gurkha** community in **Assam** has **sought gazette notification** ensuring that the **safeguards** according to **Clause 6 of the 1985 Assam Accord** are also extended to Gurkha people of Assam.

Key Points

- The demand for the safeguards by Gurkha community further intensified with the **recommendations of the high-level committee formed under the Chairmanship of Biplab Kumar Sharma** by the Union Home Ministry on **Clause 6 of Assam Accord**.
 - The committee recommended that **all Gurkhas of Assam are not indigenous Assamese people** as per the definition of Assamese people .
 - **Clause 6** of the Accord envisages **constitutional, legislative and administrative safeguards** for protecting, preserving and promoting the culture, social, linguistic identity and heritage of the **Assamese people**.

- **Biplab Kumar Sharma Committee Recommendation:**

- **Definition of Assamese:** The report **proposes 1st January 1951 as the cut-off date** for any Indian citizen residing in Assam **to be defined as an Assamese** for the purpose of implementing **Clause 6**.
- **Reservation for Assamese:** It seeks reservation for Assamese in Parliament, state assembly, local bodies. It recommended creating an Upper House (Legislative Council of Assam) whose seats will be reserved for the 'Assamese people'.

The report also seeks **quotas in government jobs**.

- **Regulation of Outsiders:** Recommends regulation of entry of people from other states into Assam, which include the implementation of an **Inner Line Permit (ILP)** regime in the state.
 - The ILP is a system in which a special permit is required by people from other regions of India to visit the state.
 - Currently the ILP is applicable in **Manipur, Arunachal Pradesh, Nagaland and Mizoram**.
- **Other Rights:** It also talks about issues related to land and land rights, linguistic, cultural and social rights and protection of the state's resources and biodiversity.
- **Concern:** It did not mention anything about the constitutional, legislative and administrative safeguards of local Gorkhas.

This means the **exclusion from the rights under the Clause 6 of the Accord**.

- **Government Assurance**

- The Gurkhas in Assam are "one of the old communities".
- The government would treat them **"at par** with other indigenous communities and protect their constitutional rights **while implementing Clause 6"**.

- **Gorkhas in Assam:**

- There are currently 25 lakh Gurkhas in Assam.
- The Gurkhas were permanently settled in **the Scheduled Areas** in the last part of the **18th century** as **grazers and cultivators**.
- They fought for Assam against the **Burmese invaders** in **1826** resulting in the **Treaty of Yandaboo**.

It was a peace treaty that resulted in the end of the First Anglo Burmese War. This treaty was signed on February 24, 1826 after two years of the war between British and Burmese.

- They were declared **as protected class** by the British in the tribal belts and blocks according to the **Assam Land and Revenue Regulation Act, 1886**.

Assam Accord

- It was a **tripartite accord** signed between the **Government of India, State Government of Assam and the leaders of the Assam Movement** in 1985.
- **The Accord** ended the anti-foreigners Assam Agitation from 1979-1985.
 - The signing of the Accord **led to the conclusion of a six-year agitation** that was launched by the All Assam Students' Union (AASU) in 1979, **demanding the identification and deportation of illegal immigrants** from Assam.
 - It sets a **cut-off** of midnight of **24th March 1971**, for the detection of **illegal foreigners in Assam**.

However, the **demand** was for detection and deportation of migrants who had illegally entered Assam after **1951**.

Source: TH

GST Compensation: Centre to Borrow on Behalf of States

Why in News

Recently, the **Centre has decided to borrow an estimated revenue shortfall of Rs. 1.1 lakh crore as loans to States** to meet the **Goods and Services Tax (GST)** shortfall.

Key Points

- **Borrowing:**
 - The borrowing **will not have any impact on the fiscal deficit of the Government of India** as the Centre is acting as mediator only. The Centre is borrowing the loan and passing that on to the states.
 - The **amounts will be reflected as the capital receipts of the state governments** and as part of financing of its respective fiscal deficits.

- **Background:**

- The **economic slowdown had reduced both GST and cess collections** in FY 2019-20, resulting in a 40% gap (shortfall) between the compensation paid and cess collected.
- The state's **GST revenue gap in 2020-21** is expected to be about Rs. 3 lakh crore, while cess collections are only projected to reach Rs. 65,000 crore, leaving a **shortfall of Rs. 2.35 lakh crore.**
- The Centre **distinguished the GST shortfall into two types:**
 - Due to GST implementation itself.
 - Caused by the impact of **Covid-19.**
- The Finance Minister termed the fall of GST revenue due to Covid-19 as an **act of God.** However, the **GST Compensation Act, 2017** did not foresee an act of God.

The GST Compensation Act, 2017 **guaranteed states that they would be compensated for any loss of revenue in the first five years of GST implementation, until 2022, using a cess levied on sin and luxury goods.**
- The Centre has been at loggerheads with many states over the compensation issue due to GST shortfall. In August 2020 at **GST Council** meet, the **Centre had proposed two options to states to meet the shortfall:**
 - A special window could be provided, in consultation with the **Reserve Bank of India (RBI)**, so that the states can get Rs. 97,000 crore at a reasonable rate of interest, the amount can be repaid after five years (of GST implementation) ending 2022 from cess collection.
 - Another option is that this entire gap of Rs. 2.35 lakh crore can be met by the borrowing by the states in consultation with RBI.
- However, many states were against these two options and were planning to move the Supreme Court over the issue.

- **Benefits:**

- The borrowing by the Centre would **avoid differential rates of interest** that individual states may be charged for their respective **State Development Loans (SDLs)** and would be an **administratively easier arrangement.**
- The **country's general government debt**, which includes both the Centre's and States' borrowings **will not increase due to this step.**
- The States that get the benefit from the Special Window are likely to borrow a considerably lesser amount from the additional borrowing facility of 2% of Gross State Domestic Product under **Atma Nirbhar Package.**

The borrowing limits of state governments was increased from 3% to 5% of GSDP for the year 2020-21 under **Atma Nirbhar Package.**

Goods and Services Tax

- GST was introduced through the **101st Constitution Amendment Act, 2016**.
- It is an **indirect tax** levied on the supply of final goods and services. The GST has **subsumed indirect taxes** like excise duty, Value Added Tax (VAT), service tax, luxury tax etc.
- It is essentially a **consumption tax** and is levied at the final consumption point.
- It is **levied only on the value addition** and is collected on goods and services at each point of sale in the supply line.
- The GST that a merchant pays to procure goods or services (i.e. on inputs) can **be set off** later against the tax applicable on supply of final goods and services. The set off tax is called **input tax credit**.
- The GST avoids the cascading effect or tax on tax which increases the tax burden on the end consumer.
- **Tax Structure under GST:**
 - **Central GST** to cover Excise duty, Service tax etc, **State GST** to cover VAT, luxury tax etc.
 - **Integrated GST** to cover inter-state trade.
IGST per se is not a tax but a system to coordinate state and union taxes.
 - It has a **4-tier tax structure** for all goods and services under the slabs- **5%, 12%, 18% and 28%**.

Source: TH

Right of Passage of the Animals

Why in News

Recently, the **Supreme Court (SC) upheld the 2011 order of the Madras High Court (HC)** on the **Nilgiris elephant corridor**, affirming the **right of passage of the animals** and the closure of resorts in the area.

Key Points

- **Madras HC Judgement:**

- In 2011, the Madras HC upheld the validity of the Tamil Nadu government's notification (of 2010) declaring an 'Elephant Corridor' in the Sigur Plateau of Nilgiris District.
- It said that the government is fully empowered under the **'Project Elephant'** of the Union government as well as **Article 51 A(g)** of the Constitution to notify the elephant corridor in the state's Nilgiris district.

Article 51 A(g): It shall be the **duty of every citizen of India** to protect and improve the **natural environment** including forests, lakes, rivers and wildlife and to have **compassion for living creatures**.

- Further, it **upheld directions to the resort owners** and other private landowners **to vacate lands falling within the notified elephant corridor**.

- **Highlights of the SC Judgement:**

- It's the State's duty to protect a **"keystone species"** like elephants, which are immensely important to the environment.

Keystone species, in ecology, a species that has a disproportionately large effect on the communities in which it lives.

- Elephant corridors **allow elephants to continue their nomadic mode of survival**, despite shrinking forest cover, by facilitating travel between distinct forest habitats. These corridors **play a crucial role in sustaining wildlife by reducing the impact of habitat isolation**.
- The court also allowed the formation of **a committee** led by **a retired HC judge and two other persons** to hear the individual **objections of resort owners and private landowners** within the corridor space.
- However, during the hearings, the SC opined that the area is a fragile ecosystem, where the will of men must give way to elephants.

'ECOSYSTEM COULD BE UNALTERABLY UPSET'	
<p>“ The precautionary principle makes it mandatory for the state government to anticipate, prevent and attack causes of environmental degradation... it was necessary for it to limit commercial activity in areas falling in the corridor</p> <p>The corridors allow elephants to continue their nomadic mode of survival, despite shrinking</p>	<p>forest cover, by facilitating travel between distinct forest habitats</p> <p>In their absence, elephants would be unable to move freely, which would affect other species and the ecosystem balance of several wild habitats would be unalterably upset</p> <p>— SC bench comprising CJI S A Bobde, Justices S Abdul Nazeer & Sanjiv Khanna</p>

- **Nilgiris Elephant Corridor:**

- The corridor is situated in the ecologically fragile **Sigur plateau**, which **connects the Western and the Eastern Ghats** and sustains elephant populations and their genetic diversity.

It is situated near the **Mudumalai National Park** in the Nilgiris district.

- It has the Nilgiri hills on its **southwestern** side and the **Moyar river valley** on its northeastern side.
- There are about **100 elephant corridors** in India of which almost 70% are used regularly.
 - 75% of the corridors are in the southern, central and north-eastern forests.
 - There are an estimated 6,500 elephants in just the **Brahmagiri-Nilgiris-Eastern Ghats ranges**.

- **Challenges for Elephant Corridors: ‘Right of Passage’**, an 800-page study released in August 2017, authored by experts and **published by the Wildlife Trust of India (WTI)** identifies and records details pertaining to 101 elephant corridors across India.

- **Narrowing Passage Width:** Only 22% corridors are of a width of one to three kilometres in 2017, compared with 41% in 2005, pointing to how constricted corridors have become in the past 12 years.
- **Human Encroachment of Corridors:** 21.8% of corridors were free of human settlements in 2017 compared with 22.8% in 2005, and 45.5% have 1-3 settlements in 2017 compared with 42% in 2005.
- **Intercepted Corridors:** About 36.4% of the elephant corridors in northwestern India, 32% in central India, 35.7% in northern West Bengal and 13% of the elephant corridors in northeastern India have a **railway line passing through** them.
 - Almost **two-thirds of the corridors** have a **National or State Highway passing** through them, **fragmenting habitats** and hindering elephant movement further.
 - 11% of corridors have **canals passing through them**.
 - 12% are affected by **mining** and the extraction of boulders.
- **Land-use Along Corridors:** In terms of land use, only 12.9% of the corridors are totally under forest cover in 2017 compared with 24% in 2005.
 - Two in every three elephant corridors in the country are now affected by agricultural activities.
 - All the corridors in northern West Bengal (100%) and almost all in central India (96%) and northeastern India (52.2% under **settled cultivation** and 43.4% under **slash and burn cultivation**) have agricultural land.

- There are **three subspecies of Asian elephant – the Indian, Sumatran and Sri Lankan.**

The Indian has the widest range and accounts for the majority of the remaining elephants on the continent.

- Escalation of poaching, habitat loss, **human-elephant conflict** and mistreatment in captivity are some common threats to both African and Asian elephants.
- **African elephants** are listed as “**vulnerable**” and **Asian elephants** as “**endangered**” in **IUCN Red List** of threatened species.
- **CITES status:**
 - **Appendix I** for **Asian Elephants.**
 - **Appendix II** for **African elephants** in Botswana, Namibia, South Africa and Zimbabwe.
- **Conservation Efforts:**
 - **Project Elephant** launched by the **Government of India in the year 1992** as a **Centrally Sponsored Scheme. Elephant census** is conducted once in 5 years under the aegis of Project elephant.
 - Establishment of elephant reserves and adoption of the “**World Elephant Day**” (**August 12**) to help conserve and protect elephants in India.
 - ‘**Gaj Yatra**’ a nationwide awareness campaign to celebrate elephants and highlight the necessity of securing elephant corridors.
 - The **Monitoring the Illegal Killing of Elephants (MIKE) programme, launched in 2003**, is an international collaboration that tracks trends in information related to the illegal killing of elephants from across Africa and Asia, to monitor effectiveness of field conservation efforts.

Way Forward

- The judgement sets the pace for better, more effective laws for the protection of elephant corridors across India.
 - Illegal structures in these pathways should be removed without delay as the first step.
 - Elephant Corridors are not fully protected areas. Therefore, the need is to ensure their protection. This needs political will.
 - People should be encouraged to avoid critical elephant migratory routes.
- Conservation is an achievement only if local communities are also involved in the process.

Source:DTE

SC on Crimes and Violence Against Women

Why in News

Recently, **the Supreme Court** has said that crimes against women continued in a “never-ending cycle” in India.

Key Points

Judgement:

- The judgement dealt with the statutory scheme of the **Protection of Women from Domestic Violence Act, 2005**. It has allowed women fighting domestic violence cases the **right to reside in the ‘shared household’** even if her husband had no legal right to the house and the same was owned by the father-in-law or mother-in-law.
- **Making the Act Comprehensive:** The court observed that the **relief granting right to residence** to a married woman under the domestic violence law by a **criminal court** is relevant and could be **considered even in civil proceedings** seeking her **eviction from the matrimonial home** (the residence in which a husband and wife have lived together).

The wife would have the right to claim the “**shared household**” of the joint family under the Domestic Violence Act, 2005.

Section 2(s) of the domestic violence act defines “**shared property**”, as the property owned by a woman’s husband, or by the joint family of which the husband is a member.

- **Reversed Earlier Judgement:** The court reversed the law held by a previous decision of the Supreme Court in December 2006 in SR Batra v Taruna Batra where on similar facts, it refused permission to the wife to continue staying in her husband’s house as it was owned by her mother-in-law. This part of the ruling was held wrong in law as it did not give full meaning to the 2005 act.
- **Least Reported Form of Cruel Behaviour:** The court noted that the domestic violence in India is rampant yet underreported. Women in India faced **violence and discrimination** in one form or the other in their various roles as daughter, sister, wife, mother, partner or single woman.
 - The **National Family Health Survey-4 (2015-16) (NFHS-4)** suggests that 30% women in India in the age group of 15-49 have experienced physical violence.
 - As per the **UN Women**, globally in 2019-20, 243 million women and girls (aged 15-49) across the world have been subjected to sexual or physical violence by an intimate partner.
 - Less than 40% of women who experience violence seeking help of any sort or reporting the crime.
 - Less than 10% of those women seeking help go to the police.

- **Reasons:** Women continue to be vulnerable to these crimes because of:
 - **Non-Retaliati**on,
 - **Absence of laws** addressing their rights comprehensively.
 - **Ignorance of the existing statutes.**
 - **Societal attitude, stigma and conditioning** also made women **vulnerable** to domestic violence and these are the main factors for **under-reporting** of cases.
 - This set of circumstances ensured that a majority of women preferred to suffer in silence, **not out of choice but of compulsion.**

Acts of Domestic Violence

- **Physical violence**, such as slapping, hitting, kicking and beating.
- **Sexual violence**, including forced sexual intercourse and other forms of sexual coercion.
- **Emotional (psychological) abuse**, such as insults, belittling, constant humiliation, intimidation, threats of harm, threats to take away children.
- **Controlling behaviors**, including isolating a person from family and friends, monitoring their movements and restricting access to financial resources, employment, education or medical care.

Way Forward

- The increase in **violence against women should be dealt with urgently** with measures embedded in **economic support and stimulus packages** that meet the gravity and scale of the challenge and reflect the needs of women who face multiple forms of discrimination.
- **Grassroots and women's organizations and communities** need to be supported strongly in their current frontline role.
- **Helplines, psychosocial support and online counselling** should be boosted, using technology-based solutions such as SMS, online tools and networks to expand social support, and to reach women with no access to phones or internet.
- **Police and justice services should** ensure that incidents of violence against women and girls are given high priority with no impunity for perpetrators.

Source: TH

65th Anniversary of Bandung Conference: NAM

Why in News

The year **2020** marks the **65th anniversary** of the landmark **Bandung Conference** that resulted in the adoption of the founding principles of the **Non-Aligned Movement** (NAM).

The basic concept for NAM originated in **1955** during discussions that took place at the **Asia-Africa Bandung Conference** held in **Indonesia**.

Key Points

- The milestone of the 65th anniversary is a **good time to reflect upon the philosophy** behind the movement.
- India reiterated that NAM **never was and can never be a platform for pursuits that undermine the territorial integrity** of a State by another State.
India will deploy her rich developmental experience for the peace and welfare of humanity, treating the world as one family.
- India also **emphasized** that in order to make NAM a relevant entity in the global decision making process, its **members must avoid raising issues that divide the forum**.
- **Covid-19** is a reminder of the interconnectedness and dependence of NAM members on each other.
Members must work to reduce the socio-economic impact of the pandemic on the most vulnerable sections of society. NAM's unique tradition of promoting **South-South cooperation** can provide a way out as societies look to rebuild and regenerate in the wake of this crisis.
- Apart from the global **pandemic, terrorism, climate change, cybersecurity threats** and the uneven **impact of frontier technologies (Artificial Intelligence, robotics, Internet of Things, etc.) and development concerns** are few other challenges which can only be tackled if all the members work together.
- The strength of the NAM lies in its **diversity**, its **shared developmental experience**, and its **youthful populations**.

Non-Aligned Movement

- **Background:**
It was formed during the **Cold War** as an organisation of **States that did not seek to formally align** themselves with either the **USA (Capitalism)** or the **Soviet Union (Socialism)** but sought to **remain independent or neutral**.

- **Foundation:**

- Six years after the Bandung Conference, the **Movement of Non-Aligned Countries was founded** on a wider geographical basis at the **First Summit Conference of Belgrade**, which was held in **September 1961**.
- It was held under the leadership of **Josip Broz Tito of Yugoslavia, Gamal Abdel Nasser of Egypt, Jawaharlal Nehru of India, Kwame Nkrumah of Ghana, and Sukarno of Indonesia**.

- **Purpose:**

The purpose of the organisation was enumerated in the **Havana Declaration of 1979** to ensure "**the national independence, sovereignty, territorial integrity and security of non-aligned countries**" in their struggle against imperialism, colonialism, neo-colonialism, racism, and all forms of foreign subjugation.

- **Members and Observers:**

- It has **120 members as of April 2018** comprising 53 countries from Africa, 39 from Asia, 26 from Latin America and the Caribbean and 2 from Europe.
- There are **17 countries and 10 international organisations** that are **Observers** at NAM.

- **Headquarters:**

- NAM **does not have a formal constitution or permanent secretariat**, and its **administration is non-hierarchical and rotational**.
- **Decisions** are made by **consensus**, which requires substantial agreement, but not unanimity.

Way Forward

- Even if members call for effective and reformed multilateralism, they need to introspect, reform and revitalise the current arrangements of their own movement, which will enable them to pursue a focused, positive and transformative agenda going forward.
- The NAM has a glorious past but the future will depend on how the member nations perform in addressing the defining challenges of the current era, which could be solved easily with the help of the principles of solidarity and cooperation.

Source: BS

Geneva Conventions

Why in News

After the **Galwan (India-China) clash** in Ladakh in June 2020, the **International Committee for the Red Cross (ICRC)** urged both the Indian and Chinese governments

that they **observe the Geneva Conventions to which both countries are signatories.**

Key Points

- The **Geneva Conventions (1949)** and **their Additional Protocols** are **international treaties** that contain the most important rules **limiting the barbarity of war.**
- They **protect people who do not take part in the fighting** (civilians, medics, aid workers) and those **who can no longer fight** (wounded, sick and shipwrecked troops, prisoners of war).
 - The **first Geneva Convention** protects wounded and sick soldiers on land during war.
 - The **second Geneva Convention** protects wounded, sick and shipwrecked military personnel at sea during war.
 - The **third Geneva Convention** applies to **prisoners of war.**
 - The **fourth Geneva Convention** affords protection to civilians, including in occupied territory.
- **Article 3**, common to the four Geneva Conventions, covers **situations of non-international armed conflicts.** They include traditional civil wars, internal armed conflicts that spill over into other States or internal conflicts in which a third State or a multinational force intervenes alongside the government.
- **Two Protocols of 1977:** Additional to the four 1949 Geneva Conventions were adopted in **1977.** They strengthen the protection of victims of international (Protocol I) and non-international (Protocol II) armed conflicts and place limits on the way wars are fought.
- In **2005**, a **third Additional Protocol** was adopted creating an additional emblem, the Red Crystal, which has the same international status as the Red Cross and Red Crescent emblems.
- The **International Committee for the Red Cross (ICRC)**, an international humanitarian organisation, has the mandate to monitor that signatories follow the rules in situations of conflict.
 - Established in **1863**, the ICRC operates worldwide, helping people affected by conflict and armed violence and promoting the laws that protect victims of war.
 - An **independent and neutral organization**, based in **Geneva, Switzerland.**
 - The ICRC is **funded** mainly by voluntary donations from governments and from National Red Cross and Red Crescent Societies.

Source: IE

Uranium Supply From Australia to India

Why in News

Recently, the **Department of Atomic Energy (DAE)** has turned down the offers submitted by the two Australian companies for commencing supply of uranium ore to India citing lack of viability of the proposals.

Key Points

- **India-Australia** ties have been on an upswing since 2012, when the **Australian government decided to sell uranium to India** despite India not being a signatory to the nuclear **Non Proliferation Treaty**.
- The above decision was **formalised by way of a bilateral agreement in 2014** known as **Cooperation in the Peaceful Uses of Nuclear Energy**.
- The uranium imports from Australia **were to be used to meet fuel requirements of Indian nuclear reactors** that are under **International Atomic Energy Agency (IAEA)** safeguards.
- However, the **progress on uranium supply has been very low**, despite efforts from both sides. In 2017, Australia had sent its first uranium shipment to India but that was cited as “a small sample of uranium” transferred “purely for testing purposes”.

India's Civil Nuclear Capacity

- India has **22 reactors** with an **installed capacity of 6,780 megawatt**. Of these, **eight reactors are fuelled by indigenous uranium** while the remaining **14 are under IAEA safeguards** and qualify to use imported uranium.
- India was required to bring 14 reactors under IAEA safeguards in a phased manner under the **separation plan** announced by India in 2006, which was negotiated after the 2005 nuclear deal with the USA.
- Currently, India imports uranium fuel from **Russia, Kazakhstan, Uzbekistan, France and Canada**.
Kazakhstan is the world's largest producer of uranium.
- A steady supply of uranium is expected to boost the performance of Indian nuclear power plants, as well as of several fuel cycle facilities.

Non-Proliferation Treaty

- The NPT is an **international treaty** whose objective is to prevent the spread of nuclear weapons and weapons technology, to foster the peaceful uses of nuclear energy, and to further the goal of disarmament.

- The treaty was signed in **1968** and entered into force in 1970. Presently, it has 190 member states.
- It **requires countries to give up any present or future plans to build nuclear weapons** in return for access to peaceful uses of nuclear energy.
- It represents the **only binding commitment in a multilateral treaty** to the goal of disarmament by the nuclear-weapon States.

Nuclear-weapon states parties under the NPT are defined as those that manufactured and exploded a nuclear weapon or other nuclear explosive devices before 1st January 1967.

India's Stand on NPT

- India is **one of the five countries that have not signed the NPT**, the others include **Pakistan, Israel, North Korea, and South Sudan**.
- India always considered the NPT as discriminatory and had refused to sign it.
- India has opposed the international treaties aimed at non-proliferation since they were selectively applicable to the non-nuclear powers and legitimised the monopoly of the five nuclear weapons powers.
- India believes that nuclear **disarmament can be achieved through a step-by-step process** underwritten by a **universal commitment** and an **agreed multilateral framework** after meaningful dialogues among all States possessing nuclear weapons, for building trust and confidence.

Way Forward

- The India-Australia bilateral relationship has been largely a case of "**one step forward, two steps back**". However, Australia's overturning of a ban on uranium sales to India was **seen as a removal of a diplomatic thorn** between the two nations and potentially opening up a new and growing market for Australian suppliers.
- In June 2020, India and Australia had decided to elevate their relationship to a **'Comprehensive Strategic Partnership'**.
- In view of the above development both India and Australia can work to remove the obstacles in supplying Uranium from Australia to India.

Source: IE

Wheat Variety MACS 6478

Why in News

The **wheat variety** called **MACS 6478** has **doubled the crop yield** for farmers in Karanjkhop, a village in Maharashtra.

Key Points

- **Developed By:** Scientists from **Agharkar Research Institute (ARI), Pune**- an autonomous institute of the Department of Science and Technology (DST).



- **Features:**

- A **common wheat or bread wheat** (*Triticum aestivum*).
Other popular wheat varieties are **durum wheat** (*T. durum*) and **club wheat** (*T. compactum*).
- **Hybrid Crop**, i.e. produced by the cross-breeding of two genetically different varieties or species. Hybrids are often spontaneously and randomly created in nature when open-pollinated plants naturally cross-pollinate with other related varieties (not genetically modified).
- **Matures in 110 days** and is **resistant to** most races of **leaf and stem rust**.
This is **against the normal maturing attained after 140 to 150 days**, required for wheat varieties cultivated commonly in northern India.
- This **amber colored medium sized grain** contains **14% protein, 44.1 ppm (parts per million) zinc** and **42.8 ppm iron** which is higher than other cultivated varieties.
- Farmers get a **yield of 45-60 quintal per hectare** with the new variety as against earlier average yield ranging 25-30 quintal per hectare when they cultivated Lok 1, HD 2189 and other old varieties.

- **Other ARI Wheat Variety (MACS 4028):**

- This **bio-fortified durum variety** has very high protein (14.7%), iron (46.1 ppm) and zinc (40.3 ppm) content, compared to the corresponding levels of 8-10%, 28-32 ppm and 30-32 ppm in normally-grown varieties.

Biofortification is the process by which the nutritional quality of food crops is improved through agronomic practices, conventional plant breeding, or modern biotechnology.

- Maturing in just over **100 days**, it is **suitable for cultivation in rainfed and low fertility conditions in Maharashtra and Karnataka**.
- It was **chosen for a UNICEF-funded Farming System for Nutrition project**, operated through the **Indian Council of Agricultural Research's (ICAR) Krishi Vigyan Kendras (KVK)**, as part of the **National Nutrition Strategy**.
- ARI has also bred **MACS 2971**, a high-yielding variety of the traditionally cultivated dicoccum (also known as 'khapli') wheat that is rich in dietary fibre.
- The **Karan Vandana** (DBW 187) wheat variety, developed by the **Indian Institute of Wheat and Barley Research (IIWBR)** under the **Indian Council of Agricultural Research (ICAR)**, is used for cultivation in North Eastern Plains Zones.

Other Recent Activities by ARI

- Found the **first synthetic route for producing flavonoids molecules** related to the treatment of tuberculosis and chikungunya.
- Found that the **colour of Lonar lake water** in Maharashtra's Buldhana district turned pink due to a large presence of the **salt-loving 'Haloarchaea' microbes**.
- **Mapped two alternative dwarfing genes Rht14 and Rht18** in wheat that can help in reducing rice crop residue burning i.e. stubble burning.
- Isolated and cultivated **45 different strains of methanotrophs** (methane-utilising bacteria) and created the first indigenous methanotroph culture.
- A **study on biogenic methane hydrate in the Krishna-Godavari (KG) Basin**.

Source: PIB

Vehicle Scrapping in India

Why in News

Recently, the **Centre for Science and Environment (CSE)** has released a report titled **"What to do with old vehicles: Towards effective scrappage policy and infrastructure"**, which suggests **parameters of an effective vehicle scrapping**

policy for India.

CSE is a **non-profit, public interest research and advocacy organisation** based in New Delhi. It researches into, lobbies for and communicates the **urgency of development that is both sustainable and equitable.**

Key Points

- **About the Policy:**
 - The **Ministry of Road Transport and Highways** has formulated a note for the Cabinet on the creation of an **ecosystem for voluntary and environment-friendly phasing out of unfit and old polluting vehicles.**
 - The proposed policy **awaits for Cabinet's approval** and once approved, will be **applicable on all vehicles.**
- **Concerns on Vehicles:**

India will have **over two crore old vehicles nearing the end of their lives by 2025.** These, along with other unfit vehicles, will cause **huge pollution and environmental damage.**
- **Existing Initiatives:**
 - **Bharat Stage VI (BS-VI) Emissions Standards:**

It provides an opportunity to renew the fleet with significantly cleaner vehicles as BS-VI heavy-duty vehicles are **designed to emit 35 times lesser particulates** compared to BS-I vehicles.
 - **Electric Vehicle (EV) Incentives:**

In August 2020, Delhi government notified the **Electric Vehicles Policy 2020**, which lays the maximum emphasis on replacement of two-wheelers, public transport and shared vehicles and goods-carriers instead of private four-wheelers, with EVs.
 - **National Clean Air Programme:**

Under it, polluted cities have **included old vehicle phase-out** as part of their **clean air action.**

- **Suggestion by the Report:**

- **Safe disposal and material recovery** should be the **critical parameters** of an effective vehicle scrapping policy.
- The policy must **leverage the opportunities to maximise emissions gains** from the replacement of end-of-life vehicles and **recover material from the wasted clunkers** (dilapidated vehicle or machine) **for reuse and recycling**.
- There is a **need to link economic recovery and fiscal stimulus with the replacement of older heavy-duty vehicles with BS-VI vehicles**.
- The scrappage scheme should **incentivise replacement with EVs for personal cars and two-wheelers**.
- Vehicles **should not contain toxic metals like lead, mercury, cadmium or hexavalent chromium** other than specified conditions.
- There should be efforts to **include Extended Producer Responsibility (EPR) and making the rules legally binding**.
- **Environmentally sound vehicle scrappage infrastructure should be scaled up** country-wide for safe disposal of waste and for material recovery for recycling like steel, aluminium and plastics.
- India needs a well-designed scrappage policy to **lower emissions, reduce environmental damages and recover material from clunkers** as part of post-**Covid-19** efforts towards a green India.

WHAT IS VEHICLE SCRAPPAGE POLICY

After numerous delays, India may soon implement the policy for old vehicles

The What...

- Old and polluting cars to be sent to scrapyards.
 - Owners of such vehicles to be compensated based on certain conditions.
 - The compensation amount may be equal or more to resale value of such vehicles.
-

The Why...

- Taking old and polluting vehicles off roads can help the environment.
 - Many parts from old vehicles can be recycled. Parts that cannot be recycled need to be disposed off in an environmentally-safe manner.
 - Can create boost in demand for new vehicles.
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...and The Concerns

- Who will bear the cost of compensation?
 - Which vehicles would be eligible?
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Source: DTE
