



## Consanguinity

**For Prelims:** Consanguinity, [Genetic diseases](#), Inbreeding, [Cystic fibrosis](#)

**For Mains:** Benefits and Challenges Related to Consanguinity, Health

[Source: TH](#)

### Why in News?

Recent studies delve into the **influence of consanguinity** on [genetics](#) and health. It elucidates how this widespread tradition affects **disease susceptibility and the development of human traits within global populations**.

### What is Consanguinity?

- **Consanguinity** involves both **social and genetic dimensions**. Socially, it means marrying blood relatives, such as **cousins or siblings**, while genetically, it refers to unions between closely related individuals, often termed **inbreeding**.
  - It is a construct that has implications for both **family and population genetics**.

### What are the Key Takeaways from the Studies Related to Consanguinity ?

- Approximately **15-20% of the world's population practices consanguinity**, with higher prevalence in regions like **Asia and West Africa**.
  - Some ancient human civilizations, including the **Egyptians and Incas**, are believed to have practiced consanguinity.
  - Genetic evidence suggests that **King Tutankhamun of Egypt** was born to parents who were blood relatives.
- India has more than **4,000 endogamous groups** where people marry within the same caste/tribe or group, making it a fertile ground for consanguinity studies.
- It was found that consanguinity has **increased mortality rates** and the prevalence of **recessive genetic diseases** in populations where it is practiced.

### What are the Benefits and Challenges Related to Consanguinity?

- **Benefits:**
  - **Preservation of Cultural and Social Traditions:** In some societies, marrying within the family is a **long-standing tradition that helps preserve cultural and social norms**.
  - **Social Safety Net:** Consanguineous relationships can provide a **built-in social safety net**.
    - Relatives are more likely to assist each other during times of **financial, emotional, or medical crises**, reducing the burden on external social services.

- **Reduced Risk of Incompatibility:** In some cases, marrying a close relative may reduce the **risk of incompatibility in terms of cultural, religious, or social backgrounds**. This can lead to more stable marriages.
- **Genetic Improvement in Animal and Plant Breeding Programs:** In controlled breeding settings, mating closely related individuals is a widely used technique to **strategically eliminate harmful genetic traits** and enhance desirable qualities in plants and animals.
  - Through selective breeding, scientists can develop stronger and more productive strains, **leading to better [agricultural yields](#) and improved [livestock quality](#)**.
- **Challenges of Consanguinity:**
  - **Increased Risk of Genetic Disorders:** The most significant challenge of consanguinity is the **increased risk of offspring inheriting genetic disorders** due to the sharing of common recessive genes.
    - Conditions such as cystic fibrosis disability are more prevalent among offspring of close relatives.
  - **Limited Genetic Diversity:** Marrying close relatives can lead to **limited [genetic diversity](#)** in the population, potentially reducing the overall resilience to diseases and environmental changes.
  - **Complex Family Dynamics:** In consanguineous families, complex family dynamics can develop, as multiple roles and relationships intersect.
    - This can lead to conflicts and tensions related to **decision-making and family hierarchies**.
  - **Potential Erosion of Individual Autonomy:** In closely-knit consanguineous communities, there can be an **erosion of individual autonomy**, where decisions related to marriage, family planning, and other life choices are heavily influenced by the **family or community**, potentially limiting personal freedom.
  - **Silenced Voices in Domestic Violence Cases:** In consanguineous relationships, women may be **discouraged from reporting [domestic violence](#)** due to familial and cultural pressures to preserve family respect.
    - This silence can **perpetuate the cycle of abuse**, making it difficult to seek help or intervention in cases of domestic violence.

## Way Forward

Consanguinity, a practice entwined with culture, genetics, and societal norms, **necessitates a delicate balance**. To tackle its challenges, there is a need to respect cultural values while addressing social and health issues through **education, legal safeguards, and support services like personalized medicine and genetic counseling**. Empowering **individuals to make informed choices** while preserving cultural heritage is also crucial.

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## UN Approved Multinational Security Mission in Haiti

[Source: TH](#)

### Why in News?

Recently, the **United Nations Security Council (UNSC)** has approved the **Multinational Security Mission (MSS)**, led by [Kenya](#), to restore security, protect critical infrastructure and control spiraling violence in Haiti.

### Why is the UN Sending a Multinational Security Mission to Haiti?

- **Haiti's Plea for Urgent Help:**

- Haiti faced escalating gang violence, causing chaos and suffering throughout the country. A group of gangs known as "**G9 and Family**" disrupted the main fuel port and the Capital city **Port-au-Prince**, leading to a nationwide crisis.
  - This has resulted in widespread killings of **nearly 2,800 people**, between **October 2022 and June 2023**.
  - Human rights groups have reported a rise in sexual violence and crimes against women. In addition to this, mass looting and burning of houses have led to the displacement of thousands of people, with around 200,000 fleeing their homes. As per estimates, **almost half the population is in need of humanitarian assistance**.
- The Haitian Prime Minister reached out to the international community, seeking specialized armed forces to counter the gangs and their backers.
- **Multinational Security Mission:**
  - Unlike the Previous **UN peacekeeping mission** in Haiti that concluded in 2017, this new MSS will **not be operated by the United Nations**.
    - **Kenya has volunteered to lead the force**, with support from other countries like the Bahamas, Jamaica, and Antigua and Barbuda.
- **Role and Responsibilities:**
  - The mission aims to **provide operational support to the Haitian National Police**, enhance security conditions, protect vital infrastructure, and facilitate the conduct of elections.
  - The force will have the authority to make arrests in coordination with Haitian police.

## Haiti

- It is located between the **Caribbean Sea and the North Atlantic Ocean**. Haiti occupies the western one-third of the island of **Hispaniola**.
  - The **Dominican Republic borders Haiti on the eastern side** of the island. Haiti's neighbours include **Jamaica to the west and Cuba to the northwest**.
- **Official Languages:** French, Haitian Creole.
- **Major Mountain Ranges:** Massif de la Selle, Massif du Nord.
- It is the **world's first independent Black-led republic**.
- The nation underwent about two centuries of Spanish colonial rule and more than a century of French rule.



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## Methane Mitigation to Combat Global Warming

**For Prelims:** [Methane](#), [International Energy Agency](#), [United Nations Environment Programme \(UNEP\)](#), Convened Climate and Clean Air Coalition

**For Mains:** Methane Emissions - Impact, Agriculture and Methane Emissions, Initiatives to Curb Methane Emissions

**Source:** [DTE](#)

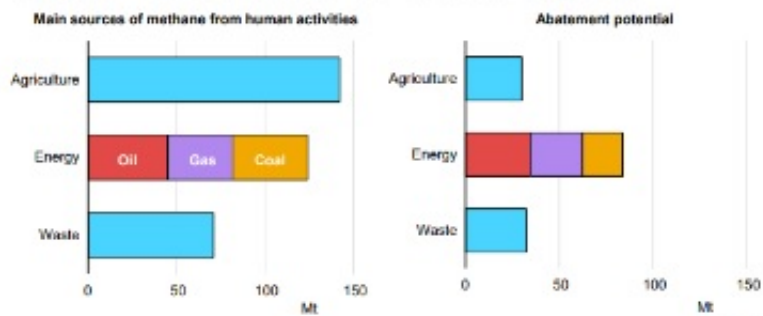
### Why in News?

Recently, a new report titled "**The Imperative of Cutting Methane from Fossil Fuels**" released jointly by the [International Energy Agency](#), the [United Nations Environment Programme \(UNEP\)](#) and the **UNEP-convened Climate and Clean Air Coalition**, emphasizes the significance of targeted **methane** mitigation to combat global warming.

### What are the Key Findings from the Report?

- **Methane Emissions and Global Warming:**
  - Mitigating methane emissions is essential to **limit global warming to 1.5°C above pre-industrial levels**.
    - Methane is a highly potent greenhouse gas responsible for about 30% of global warming since the **Industrial Revolution**.
  - These efforts could prevent approximately **0.1°C of warming by 2050**.
- **Current Methane Emission Scenario:**
  - Globally, approximately **580 million tonnes of methane** are emitted annually.
    - **Human activities contribute to 60%** of these emissions.
    - **Fossil fuel** operations alone were responsible for **about 120 million tonnes of methane emissions in 2022**.
  - Under current trajectories, total **anthropogenic methane emissions** could rise by up to **13% between 2020 and 2030**.

## Main sources of methane emissions and current abatement potential



Notes: Methane emissions and abatement potential for oil, gas and coal is based on the IEA's [Global Methane Tracker](#). Abatement potential for agriculture and waste it is based on the [Global Methane Assessment](#). Emissions from bioenergy and from biomass burning, each totalling around 10 Mt per year, are not shown.

IEA. CC BY 4.0.

### ▪ Need for Targeted Methane Mitigation:

- Even with deep cuts in **fossil fuel** use, not addressing methane could lead to **global temperatures exceeding 1.6°C by 2050**.
- Targeted methane mitigation measures are imperative and should complement **decarbonization efforts**.
  - Existing technologies can help avoid **over 80 million tonnes of annual methane emissions from fossil fuels by 2030**.
  - These solutions are estimated to be cost-effective, often at low or even negative cost.
- Around **USD 75 billion is required by 2030** for all methane reduction measures in the oil and gas sector in the [Net Zero scenario](#).
  - Actions such as eliminating **routine venting and flaring and repairing leaks** are a must to reducing methane emissions from the energy sector and for this, the organisations called for appropriate regulatory frameworks.
- Most measures can and should be financed by the **industry itself**, but a number of **low- and middle-income countries may face barriers** to accessing capital for some interventions, which may not be implemented without concessional financing.

### ▪ Economic and Health Benefits:

- Methane is the **primary reason for ground-level ozone pollution** and mitigation efforts will help prevent **“nearly one million premature deaths through 2050, which is equivalent to the current population of Amsterdam, Netherlands”**.
- Achieving methane reduction targets will result in the prevention of **95 million tonnes of crop losses** for wheat, rice, soy and maize (corn).
  - These savings are equivalent to roughly 60% of the volume of wheat, rice, soy and maize produced in Africa in 2021.
- Avoiding such losses of crops, labour and forestry will “provide direct economic benefits valued at more than USD 260 billion between 2020 and 2050”.

### ▪ Regulatory Frameworks:

- Appropriate regulatory frameworks are crucial for effective methane reduction.

## What is Methane?

### ▪ About:

- Methane is the simplest hydrocarbon, consisting of one carbon atom and four hydrogen atoms (CH<sub>4</sub>).
  - It is flammable and is used as a fuel worldwide.
- Methane is a **powerful greenhouse gas (GHG)**, which has an atmospheric lifetime of **around a decade** and affects the **climate for hundreds of years**.
- Methane has more than 80 times the warming power of carbon dioxide over the first 20 years of its lifetime in the atmosphere.
- The common sources of methane are oil and natural gas systems, agricultural



activities, coal mining and wastes.

▪ **Initiatives to Tackle Methane Emissions:**

◦ **India:**

- [Harit Dhara \(HD\).](#)
- [BS VI Emission Norms.](#)
- [National Action Plan on Climate Change \(NAPCC\).](#)

◦ **Global:**

- [Methane Alert and Response System \(MARS\).](#)
- [Global Methane Pledge.](#)

▪ **International Energy Agency**

- It is an autonomous Intergovernmental Organisation established in 1974 in Paris, France.
- It mainly focuses on its energy policies which include economic development, energy security and environmental protection.
- **Mission:** Ensure reliable, affordable and clean energy for its member countries and beyond.
- **Major Reports:** [World Energy Outlook Report](#), [World, Energy Investment Report](#), and [India Energy Outlook Report](#).
- India joined the IEA in 2017.

▪ **United Nations Environment Programme**

- The UNEP is a leading global environmental authority established on 5th June 1972.
- It sets the global environmental agenda, promotes sustainable development within the [United Nations](#) system, and serves as an authoritative advocate for global environment protection.
- **Major Reports:** [Emission Gap Report](#), [Adaptation Gap Report](#), [Global Environment Outlook](#), [Frontiers](#), [Invest into Healthy Planet](#).
- **Major Campaigns:** Beat Pollution, UN75, World Environment Day, Wild for Life.
- **Headquarters:** Nairobi, Kenya.
- UNEP supports its 193 Member States to achieve the [Sustainable Development Goals](#) and live in harmony with nature.
- India is a member of the UNEP.

▪ **UNEP-Convended Climate and Clean Air Coalition (CCAC)**

- It is a voluntary global partnership of governments, intergovernmental organizations, businesses, scientific institutions, and civil society organizations working to reduce **short-lived climate pollutants (SLCPs)** that have a significant impact on climate change and public health.
- India is a CCAC Partner since 2019.

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### Prelims

**Q1. Which of the following statements is/are correct about the deposits of 'methane hydrate'? (2019)**

1. Global warming might trigger the release of methane gas from these deposits.
2. Large deposits of 'methane hydrate' are found in Arctic Tundra and under the sea floor.
3. Methane in atmosphere oxidizes to carbon dioxide after a decade or two.

**Select the correct answer using the code given below.**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (d)

## Mains

Q. "Access to affordable, reliable, sustainable and modern energy is the sine qua non to achieve Sustainable Development Goals (SDGs)". Comment on the progress made in India in this regard. (2018)

## Bio-Decomposer to Address Stubble Burning

**For Prelims:** [Bio-Decomposer](#) to Address Stubble Burning, [Stubble Burning](#), Air Pollution, [Southwest Monsoon](#), [Indian Council of Agricultural Research \(ICAR\)](#), Commission for Air Quality Management (CAQM).

**For Mains:** Bio-Decomposer to Address Stubble Burning, e-technology in the aid of farmers, Conservation, Environmental Pollution and Degradation.

[Source: IE](#)

### Why in News?

Recently, the Delhi Government has initiated the spraying of a [Bio-Decomposer](#) to tackle [Stubble Burning](#). However, the effectiveness of the microbial solution largely depends on its timing of application, according to farmers.

- Stubble burning in Delhi is not a **major contributor to its pollution levels**, with a minimal number of instances reported in recent years.

### What is the Issue of Stubble Burning?

- **About:**
  - **Stubble (parali)** burning is a method of **removing paddy crop residues** from the field to sow wheat from the **last week of September to November**, coinciding with the withdrawal of [Southwest Monsoon](#).
  - Stubble burning is a **process of setting on fire the straw stubble**, left after the harvesting of grains, like paddy, wheat, etc. It is usually required in areas that use the combined harvesting method which leaves crop residue behind.
  - It is a common **practice in October and November across North West India**, but primarily in Punjab, Haryana, and Uttar Pradesh.
- **Effects of Stubble Burning:**
  - **Pollution:** Emits large amounts of toxic pollutants in the atmosphere which contain harmful gases like **methane (CH<sub>4</sub>)**, **Carbon Monoxide (CO)**, **Volatile Organic compounds (VOC)** and carcinogenic polycyclic aromatic hydrocarbons.
    - These pollutants disperse in the surroundings, may undergo a physical and chemical transformation and eventually adversely affect human health by causing a thick blanket of smog.
  - **Soil Fertility:** Burning husk on the ground destroys the nutrients in the soil, making it less fertile.
  - **Heat Penetration:** The heat generated by stubble burning penetrates into the soil,

leading to the loss of moisture and useful microbes.

▪ **Alternatives to Stubble Burning:**

- **In-Situ Treatment of Stubble:** For example, crop residue management by zero-tiller machine and Use of bio-decomposers.
- **Ex-Situ (off-site) Treatment:** For example, Use of rice straw as cattle fodder.
- **Use of Technology:** For example Turbo Happy Seeder (THS) machine, which can uproot the stubble and also sow seeds in the area cleared. The stubble can then be used as mulch for the field.

## What is Bio-Decomposer to Tackle Stubble Burning?

▪ **About:**

- Biodecomposer is designed to accelerate the **natural decomposition process of crop residues**.
- It is typically a **concoction of various microorganisms like fungi, bacteria, and enzymes** that work together to **break down the plant material** into organic matter that enriches the soil.
- **Examples:**
  - **Bacteria:** Bacillus, Clostridium, E. coli, Salmonella
  - **Fungi:** Mushrooms, Molds, Yeasts
  - **Earthworms**
  - **Insects:** Beetles, Flies, Ants, Maggots
  - **Arthropods:** Millipedes, Woodlice

▪ **Pusa-Biodecomposer:**

- It is a **fungi-based liquid solution** that can soften **hard stubble** to the extent that it can be easily mixed with soil in the field to act as compost.
  - The fungi thrive at 30-32 degree Celsius, which is the temperature prevailing when paddy is harvested and wheat is sown.
- It produces enzymes to digest cellulose, lignin and pectin in paddy straw.
  - It is developed by the [Indian Council of Agricultural Research \(ICAR\)](#) and named after **ICAR's campus at Pusa in Delhi**.
- It rapidly converts crop residues, animal waste, dung and other waste into organic manure.

▪ **Benefits:**

- The decomposer **improves the fertility and productivity** of the soil as the stubble works as manure and compost for the crops and lesser fertiliser consumption is required in the future.
- It is an efficient and **effective, cheaper, doable and practical technique** to stop stubble burning.
- It is an eco-friendly and environmentally useful technology and will contribute to achieving the [Swachh Bharat Mission](#).

▪ **Efficacy:**

- The microbial solution aims to decompose paddy straw left in the field post-harvest. It needs to be sprayed after harvest, ploughed into the soil, and lightly **irrigated for the stubble to decompose over a period of 20-25 days**.
- Farmers have emphasized the importance of aligning the spraying process with the timing of **harvest to maximize the effectiveness of the decomposer**.
- Factors like crop rotation, labor availability, and the type of crop grown **affect the relevance and usability of the decomposer** for farmers.
- The effectiveness of the microbial solution is also **dependent on weather conditions**, with less rain in September and October favoring its application.

## What are the Other Initiatives to Tackle Stubble Burning?

- The State Governments of Punjab, National Capital Region (NCR) States and the Government of National Capital Territory of Delhi (GNCTD) have developed [detailed monitorable action plans](#) based on the framework by the Commission for Air Quality Management (CAQM) to tackle the problem of air pollution.



## Way Forward

- It is important to Encourage farmers to **adopt alternative farming practices** such as zero tillage, direct seeding, and crop diversification. These practices can reduce the generation of crop residue and minimize the need for stubble burning.
- Promote the use of **modern harvesting machinery** like combine harvesters that can cut crops at a lower height, leaving less stubble behind. This can significantly reduce the need for stubble burning.
- Conduct awareness campaigns to educate farmers about the harmful effects of stubble burning and the available alternatives. Engage with farmer groups, agricultural universities, and local communities to disseminate information effectively.

### UPSC Civil Services Examination, Previous Year Question (PYQ)

**Q. Mumbai, Delhi and Kolkata are the three mega cities of the country but the air pollution is much more serious problem in Delhi as compared to the other two. Why is this so? (2015)**

## Rapid Fire Current Affairs

### 5<sup>th</sup> National Water Awards for 2023

The Ministry of Jal Shakti has announced the commencement of the 5<sup>th</sup> [National Water Awards \(NWA\) for 2023](#), aiming to **recognize and encourage outstanding efforts** in the field of water conservation and management.

- This initiative aligns with the government's vision of a '**Jal Samridh Bharat**' and emphasizes the significance of responsible water usage practices.
- The NWA were introduced in 2018. The first distribution ceremony was held in 2019.
  - The awards are open to various entities, including states, districts, government bodies, educational institutions, industries, NGOs, and individuals, who have made notable contributions to water conservation and management.
- **Award Categories:**
  - 'Best State,' 'Best District,' 'Best Village Panchayat,' 'Best Urban Local Body,' 'Best School/College,' 'Best Institution (other than school/college),' 'Best Industry,' 'Best Civil Society,' 'Best Water User Association,' and 'Best Individual for excellence.'
- **Prizes and Recognition:**
  - Winners in the categories of 'Best State' and 'Best District' will receive a **trophy and citation**.
    - In other categories, including 'Best Individual for Excellence,' cash prizes ranging from **Rs. 1 lakh to Rs. 2 lakhs** will be awarded along with trophies and citations.

**Read more:** [National Water Awards \(NWA\)](#)

### RITES Ltd, and IRCON Awarded Navratna Status

The Ministry of Finance has conferred the esteemed '[Navratna status](#)' upon two Central Public Sector Enterprises (CPSEs) under the **Ministry of Railways, Ircon International Limited (IRCON) and RITES Ltd (RITES)**.

- RITES is a leading transport infrastructure consultancy and engineering firm in India. It provides services in the diverse sectors of transportation.
- IRCON, initially named **Indian Railway Construction Company Limited**, was incorporated by

the Central Government (Ministry of Railways) under the **Companies Act, 1956 in 1976**. It serves as a premier public-sector construction company.

- Navratna Companies in India are a group of **CPSEs that have enhanced financial autonomy** and flexibility to compete in the global market. They are given certain privileges, such as **investing up to Rs 1,000 crore without explicit government approval**.
- The **Navratna status was first introduced in 1997**. There are currently 16 Navratna Companies in India.
  - To attain Navratna status, a firm must initially hold the **Miniratna designation** and it needs to achieve a score of **60 or more (out of 100) according to six performance criteria**, which include metrics like Net Profit to Net Worth, Earnings per Share, and Inter-Sectoral Performance.

Read more: [Sectors of Indian Economy](#)

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## World Spine Day 2023

Every year on **October 16<sup>th</sup>**, **World Spine Day (WSD)** raises awareness about **spine health**.

- **Theme for 2023:** "Move Your Spine", which emphasizes the role of physical activity and movement in preventing and managing spinal pain and disability.
- WSD was initiated in **2008 by the World Federation of Chiropractic (WFC)**, which coordinates the event in collaboration with various organizations around the world.
  - The purpose of WSD is to educate people about the causes, prevention, and treatment of spinal disorders, and to **encourage them to take care of their spines**.

Read more: [Multiple Sclerosis](#)

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## World White Cane Day

**World White Cane Day** is observed **globally on 15<sup>th</sup> October** aimed at promoting accessibility and inclusion for **individuals with disabilities**, particularly the visually impaired.

- Also known as White Cane Safety Day, the day was first recognised in **1964** in the United States by **President Lyndon B Johnson**.
- A white cane is a **navigation or identification aid** for people living with sight loss. It is a powerful symbol for visually impaired individuals, representing **independence, mobility, freedom, and confidence**.

Read more: [Person with Disabilities in India](#)

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## Balancing Reproductive Autonomy and Unborn Child's Rights

For Prelims: [Supreme Court of India, Medical Termination of Pregnancy \(MTP\) Act, 1971, Abortion Law in India](#), Reproductive Rights

**For Mains:** Legal Provisions Related to Abortion in India, Major Issues Related to Women.

Source: TH

Why in News?

The [Supreme Court of India](#) recently **denied permission to terminate a 26-week pregnancy** for a married woman under the provisions of the [Medical Termination of Pregnancy \(MTP\) Act, 1971](#).

## What was the Issue in the Case?

- **Case:**
  - The case involved a 27-year-old married woman who was in her 26th week of pregnancy, seeking legal permission to terminate her pregnancy.
    - The woman asserted her physical, emotional, mental, financial, and medical inability to carry, deliver, or raise another child, citing her pre-existing conditions and experiences with postpartum depression.
  - The woman sought recourse to the [Medical Termination of Pregnancy \(MTP\) Act of 1971](#) to plead her case.
- **Judgment:**
  - The Court expressed **reluctance to order a medical termination when the pregnancy is viable** and does not pose an **immediate threat to the woman's life**.
    - The decision is grounded in the interpretation of **Section 5 of the MTP Act, 1971**, which allows abortion only if the woman's **life** and health are in immediate danger.
    - The three-judge Bench, led by the [Chief Justice of India \(CJI\)](#), emphasized that a **woman cannot claim an "absolute, overriding right" to abort**, particularly when medical reports confirm that the **pregnancy doesn't pose immediate danger to her life or that of the fetus**.
      - CJI distinguished the term 'life' in Section 5 of MTP Act, 1971 from its **broader usage in Article 21 of the Constitution**, emphasizing its application to life-and-death situations.
        - Article 21 protects an individual's **fundamental right to a dignified and meaningful life**.
- **Government Stance:**
  - The government argues that the **woman's reproductive autonomy cannot infringe upon the rights of her unborn child**.
  - Refers to the **Medical Termination of Pregnancy (Amendment) Act of 2021**, which extended the abortion deadline to **24 weeks** in cases of substantial foetal abnormalities.
    - Believes that **once a viable baby is present**, the relief should not be one-sided, and the **woman's right to bodily autonomy should not go beyond the Act**.
  - Argues that the woman's fundamental right to choice can be curtailed.
- **Implications and Challenges**
  - The case raises fundamental questions about **women's reproductive rights**, even in **late stages of pregnancy**, and the ethical considerations surrounding abortion.
    - Legal experts and advocates have differing opinions on whether an absolute right to terminate pregnancy should exist, especially in the absence of abnormalities.
  - This complex legal and ethical dilemma highlights the need for further discourse and clarity on reproductive rights in India.
  - The case also highlights the **challenges women face in accessing legal abortion services in India**.

## What are the Legal Provisions Related to Abortion in India?

- Until the 1960s, abortion was illegal in India. The **Shantilal Shah Committee** was formed in the mid-1960s to examine the need for regulations. As a result, the **Medical Termination of Pregnancy (MTP) Act, of 1971** was passed, legalizing safe **abortions and protecting women's health**.
  - The MTP Act, of 1971, permits licensed medical professionals to perform abortions in specific predetermined situations as provided under the legislation.
  - The **MTP Act was amended in 2021** to allow certain categories of women, such as rape victims, minors, mentally ill women, etc., to **obtain abortions up to 24 weeks of gestation**, raising it from the previous 20 weeks.
    - It sets up state-level **Medical Boards to decide if a pregnancy may be terminated after 24 weeks** in cases of substantial fetal abnormalities.

- The MTP Act also provides for the protection of women's privacy, confidentiality, and dignity in accessing safe abortion services.
- The [Preconception and Prenatal Diagnostic Techniques \(PCPNDT\) Act, 1994](#), which **prohibits sex-selective abortions** and regulates the use of prenatal diagnostic techniques for detecting genetic or chromosomal abnormalities in the foetus.
- The Constitution of India, which guarantees the right to life and **personal liberty to all citizens under Article 21**. This right has been interpreted by the Supreme Court of India to include the right to reproductive choice and autonomy for women.

## Conclusion

- The case underscores the need for a **delicate balance between women's reproductive rights and the protection of unborn children**, involving all stakeholders. It emphasizes the ongoing importance of maintaining open dialogues and legal frameworks to address these complex ethical challenges while respecting the **dignity and autonomy of women**.

**Legal Insight:** [Supreme Court Rejects Plea to Abort 26-Week Pregnancy](#)

**Drishti Judiciary:** <https://www.drishtijudiciary.com/en>

## Green Credit Program

**For Prelims:** [Green Credit program](#), [LiFE campaign](#), [Carbon credits](#), [Kyoto Protocol](#), [Sovereign Green Bond](#), [Green Energy Corridor](#)

**For Mains:** Covered Activities under Green Credit Programme, Concerns Regarding Green Credit Programme

**Source:** [BL](#)

### Why in News?

The government has recently unveiled an innovative and voluntary [Green Credit program](#) designed to **reward and incentivize individuals** and entities for their positive **environmental contributions**.

- Participants can earn Green Credits for a wide range of activities that promote environmental sustainability.

### What is Green Credit?

- **About:**
  - **Green Credit** refers to a unit of **incentive** provided to individuals and entities engaged in activities that deliver a **positive impact on the environment**.
    - It is a voluntary program initiated by the government to incentivize **various stakeholders in contributing to environmental preservation** and sustainable practices.
  - This program is part of the broader ['LiFE' campaign \(Lifestyle for Environment\)](#), and it encourages and rewards voluntary environmentally-positive actions.
- **Covered Activities:**



- The Green Credit program encompasses **eight key types of activities** aimed at enhancing environmental sustainability:
  - **Tree Plantation:** Planting trees to increase [green cover](#) and combat deforestation.
  - **Water Management:** Implementing strategies to efficiently manage and conserve water resources.
  - **Sustainable Agriculture:** Promoting eco-friendly and sustainable agricultural practices.
  - **Waste Management:** Implementing effective [waste management](#) systems to reduce environmental pollution.
  - **Air Pollution Reduction:** Initiatives aimed at **reducing** [air pollution](#) and improving air quality.
  - **Mangrove Conservation and Restoration:** Protecting and restoring [mangrove ecosystems](#) for ecological balance.
- **Earning and Calculation of Green Credit:**
  - To earn Green Credits, participants need to register **their environmental activities through a dedicated website**. The activities will then be subject to verification by a designated agency.
    - Based on the agency's report, the administrator will grant the applicant a certificate of Green Credit.
  - The calculation of Green Credit is determined by factors such as **resource requirements, scale, scope, size, and other relevant parameters** necessary to achieve the desired environmental outcomes.
- **Green Credit Registry and Trading Platform:**
  - A critical component of the program is the establishment of a **Green Credit Registry**, which will help track and **manage earned credits**.
  - Additionally, the administrator will create and maintain a trading platform, enabling the **trading of Green Credits on a domestic market**.
- **Independence from Carbon Credits:**
  - It is important to note that the **Green Credit program operates independently of the [carbon credits](#)** provided under the **Carbon Credit Trading Scheme, 2023**, which is governed by the Energy Conservation Act of 2001.
  - An environmental activity generating **Green Credits may have climate co-benefits**, such as **reducing or removing carbon emissions**, which can potentially lead to the acquisition of carbon credits in addition to Green Credits.

**Note:** A **carbon credit** is a unit of exchange that can be used to **offset greenhouse gas emissions**. One carbon credit is equivalent to **one metric ton of carbon dioxide or equivalent greenhouse gases** removed from the atmosphere.

- The concept of carbon credit originated from the [Kyoto Protocol](#).

## What are the Concerns Regarding Greed Credit Programme?

- **Verification and Validation Complexity:** The process of verifying and validating environmentally-positive actions can be complex and time-consuming.
  - Concerns exist regarding the administrative burden on both participants and regulatory bodies.
- **Risk of Greenwashing:** There is a risk that **some participants may engage in greenwashing**, where they falsely claim environmentally-friendly activities to earn Green Credits without genuinely contributing to environmental conservation.
- **Compatibility with Carbon Credits:** While the program is intended to be independent of carbon credits, there are **concerns about potential overlaps** and the complexity of evaluation between the two types of environmental credits.
- **Accounting for Regional Differences:** The program may **struggle to account for regional variations in environmental impact**, making it challenging to establish uniform credit values



for diverse geographical areas.

What are the Other Government Initiatives to Promote the Green Economy?

- [Sovereign Green Bond](#)
- [Green Energy Corridor](#)
- [National Green Hydrogen Mission](#)

## Conclusion

- Advancing the Green Credit Mechanism requires a **multi-faceted approach**, focusing on **standardization, transparency, regional customization, and regulatory oversight** while promoting long-term sustainability and public awareness. By doing so, the program can contribute to achieving **the United Nations Sustainable Development Goals, including SDG 12** (Responsible Consumption and Production), **SDG 13** (Climate Action) **and SDG 15** (Life on Land).

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

**Q1. The concept of carbon credit originated from which one of the following? (2009)**

- (a) Earth Summit, Rio de Janeiro
- (b) Kyoto Protocol
- (c) Montreal Protocol
- (d) G-8 Summit, Heiligendamm

**Ans: (b)**

**Q2. Regarding “carbon credits”, which one of the following statements is not correct? (2011)**

- (a) The carbon credit system was ratified in conjunction with the Kyoto Protocol
- (b) Carbon credits are awarded to countries or groups that have reduced greenhouse gases below their emission quota
- (c) The goal of the carbon credit system is to limit the increase of carbon dioxide emission
- (d) Carbon credits are traded at a price fixed from time to time by the United Nations Environment Programme.

**Ans: (d)**

### Mains

**Q1. Should the pursuit of carbon credits and clean development mechanisms set up under UNFCCC be maintained even though there has been a massive slide in the value of a carbon credit? Discuss with respect to India’s energy needs for economic growth. (2014)**

**Q2. Discuss global warming and mention its effects on the global climate. Explain the control measures to bring down the level of greenhouse gases which cause global warming, in the light of the Kyoto Protocol, 1997. (2022)**

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