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Genetically Modified Seeds

Why in News

Recently, Shetkari Sanghatana, a Maharashtra based farmers' union body has announced agitation for use of unapproved genetically modified seeds of cotton, maize, rice, mustard, soybean and brinjal.

- Shetkari Sanghatana is a big supporter of GM seeds. Its main aim is to provide farmers, freedom of access to markets and technology.
- Last year its members had broken the law by planting Herbicide Tolerant Bt cotton seeds. This year too it's members are planning to repeat the same.

Key Points

- **Genetically Modified Seeds:**

- Conventional plant breeding involves **crossing species of the same genus** to provide the offspring with the desired traits of both parents.

Genus is a class of items such as a group of animals or plants with similar traits, qualities or features.

- **Genetic modification** aims to transcend the genus barrier by **introducing an alien gene** in the seeds to get the desired effects. The alien gene could be from a plant, an animal or even a soil bacterium.

- **Bt cotton** is the **only Genetically Modified (GM) crop** that is allowed in India. It has **alien genes from the soil bacterium Bacillus thuringiensis (Bt)** that allows the crop to develop a protein toxic to the common **pest pink bollworm**.
- **Herbicide Tolerant Bt (Ht Bt) cotton**, on the other hand is derived with the insertion of an additional gene, from another soil bacterium, which allows the plant to resist the common **herbicide glyphosate**.
- In **Bt brinjal**, a gene allows the plant to resist attacks of fruit and shoot borers.
- In **DMH-11 mustard**, genetic modification allows cross-pollination in a crop that self-pollinates in nature.

- **Legal Position of GM crops in India**

- In India, the **Genetic Engineering Appraisal Committee (GEAC)** is the apex body that allows for commercial release of GM crops.

In 2002, the GEAC had allowed the commercial release of Bt cotton. More than 95% of the country's cotton area has since then come under Bt cotton.

- Use of the unapproved GM variant can attract **a jail term of 5 years and fine of Rs. 1 lakh** under the Environment Protection Act, 1986.

- **Farmers Demand for GM Seeds:**

GM seeds reduce the production cost and increase productivity.

- Ht Bt cotton reduces the high cost of weeding.
- Bt brinjal reduces the use of pesticides.

- **Issues involved:** Genetic modification brings about changes that can be harmful to humans in the long run. The long-lasting effect of GM crops is yet to be studied. Some of the issues involved are:
 - **Threat to Biodiversity:**
 - Cross-pollination in GM crops paves the way for **herbicide-resistant superweeds** that can further threaten the sustenance of other crops and pests because of their uncontrolled growth. In short, biodiversity gets threatened.
 - GM crops because of their pest resistance characteristics could **eliminate important species of pests** that are responsible for sustaining domestic varieties and can pose serious threats to biodiversity. They Can **affect the food chain** also.
 - **Nutrition issues:**

Bt brinjal poses risks to human health as its **resistance to antibiotics** can turn medicines ineffective and may result in the formation of new toxins and allergens.
 - **Implications for consumers and farmers:**

It is claimed that patent laws give developers of the GM crops a dangerous degree of **control/dominance over the food supply** that results in the over domination of world food production by a few companies.

Way Forward

- **Environmental impact assessment** should be carried out by independent environmentalists, as farmers do not and cannot assess the long-term impact of GM crops on ecology and health.
- Ensure that an **unapproved variety of GM seeds is not available in markets.**
- In order to curb the illegal cultivation of GM seeds, the **Genetic Engineering Appraisal Committee** (GEAC) should:
 - Collaborate with state governments and launch a nation-wide investigation drive.
 - Take action on threats of deliberate GM crop cultivation.
 - Investigate and prosecute those involved in the illegal supply of GM Seeds.
 - Encourage organic farming.
- The government should go for commercialization of GM seeds only after the core and deep research on the long term prospects and benefits of commercialization of GM seeds in India.

Source: IE

Why in News

Recently, the **Kerala government** has approved the proposed **Athirapally Hydro Electric Project (AHEP)** on the **Chalakydy river** in **Thrissur** district of the state.

There are **already five dams for power and one for irrigation** and it will be the seventh along the 145 km course of the Chalakydy river.

Chalakydy River

- It **originates in the Anamalai region of Tamil Nadu** and is joined by its major tributaries Parambikulam, Kuriyarkutti, Sholayar, Karapara and Anakayam in Kerala.
- The river **flows through Palakkad, Thrissur and Ernakulam** districts of Kerala.
- It is the **4th longest river in Kerala** and one of very few rivers of Kerala, which is having **relics of riparian vegetation** in substantial level.
A **riparian zone** is the interface between land and a river or stream. Plant habitats and communities along the river margins and banks are called **riparian vegetation**, characterized by hydrophilic plants.
- It is the **richest river in fish** diversity perhaps in India as it contains 85 species of freshwater fishes out of the 152 species known from Kerala only.
- The famous waterfalls, **Athirappilly Falls and Vazhachal Falls**, are situated on this river.
- It **merges with the Periyar River near Puthenvelikkara** in Ernakulam district.

Key Points

- The total installed capacity of AHEP is **163 MW** and the project is supposed to make use of the tail end water coming out of the existing **Poringalkuthu Hydro Electric Project** that is constructed across the Chalakydy river.
AHEP envisages diverting water from the Poringalkuthu project as well as from its **own catchment of 26 sq km**.
- Kerala state government has given a **no-objection certificate (NOC)** to the **Kerala State Electricity Board (KSEB)** for a period of **seven years** and has permitted it to proceed with the project's implementation.
- KSEB officials are confident that they can manage approval from the **Ministry of Environment, Forest and Climate Change** as it was **approved in 2012 by an Expert Appraisal Committee (EAC)** for river valley and hydro-electric projects.
EACs are constituted for giving environmental clearance under the **Environmental Impact Assessment (EIA)**.

- **Opposition:**

- The government's move to revive the already controversial power project has gained **opposition from various political leaders and environmentalists.**
 - **KSEB first mooted the project in 1996** but it had been **suspended** due to strong opposition by the local community backed by environmentalists and politicians with green concerns.
 - A report by the **Kerala State Biodiversity Board** pointed out in **1997** that the power project would **adversely affect the ecology** of the fragile river ecosystem at Athirappilly.
- It is feared that it will cause people to **organise a protest on the lines of Silent Valley** in the coming days.

Silent Valley was an **ecological movement** with huge mass participation that forced the Kerala government to **abandon dam construction across the Kunthri River in Palakkad** district during the **late 1970s and early 1980s.**

- **Environmental Threats:**

- Athirappally is home to some **rarest species of birds, animals and plant species** which will be impacted.

Apart from being home to **hornbills**, tigers and leopards, the forests also host the Nilgiri langur, the **lion-tailed macaque** and the rare Cochin forest cane turtle.
- **Fish varieties** in the Chalakudy river would be impacted.
- Around 168 hectares of **biodiversity-rich forests in the Western Ghats** would be submerged.
- **Kadar tribal settlements** in the forests will be dismantled and displaced. The move seems to be violative of the forest rights granted to the Kadars under the **Forest Rights Act, 2006.**
- It would sever the only link between the **Peechi Vazhani Wildlife Sanctuary, Thrissur and the Idamalayar basin of the Periyar river.**
- The vital **elephant corridor between the Parambikulam Sanctuary** (also a **tiger reserve**) and the **Pooyamkutty forests** would also be affected.
- On the **tourism front**, the project would **wipe out the majestic Athirappally and Vazhachal waterfalls**, which draw 0.6 million domestic and foreign tourists every year.

Source: DTE

Rise in the Population of Asiatic Lions

Why in News

Recently, the Gujarat Forest Department has announced an **increase in the population of Asiatic lions in the Gir forest region.**

- Total **674 lions** were recorded compared to the **523 in the Lion Census of 2015.**
- The count was estimated from a **population observation exercise** called **Poonam Avlokan** in place of the **15th Lion Census.**
 - The 15th lion census was due to be conducted on 5th and 6th June, but was postponed indefinitely due to the **Covid-19 outbreak.**
 - Poonam Avlokan is a **monthly in-house exercise** carried out **every full moon.** It was a mechanism developed by the Forest Department in 2014 as part of preparations for the 2015 Lion Census.

Key Points

- **Numerical Analysis:**
 - The lion population has **grown by almost 29%** from the last count in 2015. The lion population in the state of Gujarat has **doubled since 2001.**
 - Moreover, the distribution of the lions has **expanded from 22,000 sq. km in 2015 to 30,000 sq. km in 2020.** Thus, the **geographical distribution area** for Gir forests's lions has been **increased by 36%.**
- **Significance of 2020 Count:**
 - The 2015 Census had counted 523 lions, **up from 411 in 2010.** But 12 lions were killed in a **flash flood in Amreli** just a month after the 2015 Census.
 - The deaths of lions in 2015 was followed by deaths of more than two dozen lions in an **outbreak of Canine Distemper Virus (CDV) and babesiosis in 2018.** Babesia is a tiny parasite that infects red blood cells and is usually transmitted by a tick bite. Infection with Babesia is called babesiosis.
 - Additionally, the **babesiosis outbreak was also reported in Gir in 2020,** and around two dozen lions were reported to be killed.
- **Reasons for Increase:**
 - Over the last several years, the lion population in Gujarat has been **steadily rising.**
 - This increase has been powered by **community participation, emphasis on technology, wildlife healthcare, proper habitat management and steps to minimise human-lion conflict.**

Regular Lion Census

- **History:**
 - The **first Lion Census** was conducted by the **Nawab of Junagadh** in **1936**.
 - **Since 1965, the Forest Department** has been regularly conducting the Lion Census every five years.
- **Procedure:**
 - **Time Period:**
 - The regular Lion Census is conducted **once every five years**. The **last Census** was conducted in **2015**.
 - The Lion Census usually runs **for more than two days**, including a preliminary census and a final census.
 - However, the Poonam Avlokan is carried out for **24 hours assessing the number of lions** and their locations in their respective jurisdictions.
 - **Participation:**
 - The Forest Department **invites NGOs, experts and wildlife enthusiasts** to join the Census for transparency and augmenting manpower.
 - Whereas the Poonam Avlokan exercise is conducted **only by forest staff**.
 - Thus, the Lion Census experiences **larger participation** of the people compared to the Poonam Avalokan exercise.
 - **Methodology Used:**
 - The Lion Census is done using the **block counting method** — in which census enumerators remain stationed at water points in a given block and estimate abundance of lions in that block, based on direct sighting of lions who need to drink water at least once in 24 hours during the summer.
 - Under Poonam Avlokan exercise, the teams keep moving in their respective territories and make their estimates based on **inputs provided by lion trackers and on chance sightings**.

Gir National Park

- The Gir National Park and Wildlife Sanctuary is located in the **Junagadh district of Gujarat**.
- The Gir Forests is the **only natural habitat of Asiatic lions**. It was declared as a sanctuary in 1965 and a national park in 1975.
- Gir is often linked with "**Maldharis**" who have survived through the ages by having a symbiotic relationship with the lions.
 - Maldharis are religious **pastoral communities** living in Gir. Their settlements are called "**nesses**".

Protection for Asiatic Lions

- **Protection Status:**
 - **IUCN Red List:** Endangered
 - **CITES:** Appendix I
 - **Wildlife (Protection) Act 1972:** Schedule I
- **Conservation Efforts:**
 - The “**Asiatic Lion Conservation Project**” has been launched by the Union Ministry of Environment, Forests and Climate Change (MoEFCC).
 - The project has been approved for **three financial years from 2018 to 2021.**
 - The project envisages scientific management with the involvement of communities in coordination with multi-sectoral agencies for disease control and veterinary care for overall conservation of Asiatic lions.

Way Forward

- Earlier, the lions from the gir forest had faced the **threat of extinction** but **timely intervention** has shown **extraordinary recovery.**
- Lions have recorded a healthy growth in population due to **effective conservation and management efforts** by the state government with support from the Centre.
- Further, **more focussed protection programmes and health care programmes** need to be implemented to control diseases like CDV, babesiosis which continue to take lives of lions from the Gir forest.

Source:PIB

International Religious Freedom Report 2019

Why in News

Recently, the **US State Department** has released its annual **International Religious Freedom (IRF) Report 2019**, which is a survey of the state of **religious freedom** across the world.

- It published a report i.e. **the country report for India** to highlight the issue of religious freedom in the country.
- Earlier, **the US Commission on International Religious Freedom (USCIRF report)** downgraded India’s religious freedom to the lowest grade — in the ‘Country of Particular Concern (CPC)’ category.

Key Points

- The IRF report listed countries for **positive developments in religious freedom** and **negative examples**.
 - **Nicaragua, Nigeria and China** were cited as negative examples.
 - It stated that in China, state-sponsored repression against all religions continues to intensify because of the Chinese Communist Party.
 - **India is not cited in either list.**
- **The Country Report for India:**
 - It highlighted the developments that took place in 2019 i.e. **the status of Jammu and Kashmir, the Citizenship (Amendment) Act (CAA) and the National Register of Citizens (NRC)**.
 - It discussed in detail about **mob lynchings, anti-conversion laws, cow vigilantism** and related issues.
 - Taking note of the alleged attacks and discrimination **against religious and ethnic minorities in India, the report emphasised the need to ensure full protection to minorities in the country as guaranteed under the Constitution.**
 - It also outlines the U.S. engagement with India on these issues.
- **India's Stand:**
 - The Indian government **has rejected the report by asserting** that there is no locus standi **for a foreign government to comment on the state of its citizens' constitutionally protected rights.**
 - It also emphasised that the report **did not talk about the religious freedom given to various communities** in India.

Freedom of Religion in India

- Freedom of religion in India is a **fundamental right** guaranteed by **Article 25-28 of the Constitution of India.**
 - **Article 25** (Freedom of conscience and free profession, practice and propagation of religion)
 - **Article 26** (Freedom to manage religious affairs)
 - **Article 27** (Freedom as to payment of taxes for promotion of any particular religion).
 - **Article 28** (Freedom as to attendance at religious instruction or religious worship in certain educational institutions)
- Further Article 29 and 30 of the Constitution deal with the protection of interest of minorities.

Religious Freedom in the US:

- The US government has signed an executive order which included a move to formally prioritise religious freedom in the U.S. foreign policy.
- The order also directed the **United States Agency for International Development (USAID)** to allocate \$50 million in its yearly budget towards programmes that sought to promote religious freedom.
- Recently, the US faced domestic protests in response to the death of George Floyd, an unarmed black man at the hands of a white police officer.

Source: TH

World Accreditation Day 2020: QCI

Why in News

Recently, the **World Accreditation Day (WAD)** was celebrated on **9th June** by the **Quality Council of India (QCI)** to highlight as well as to promote the **role of accreditation in trade & economy**.

The **theme** for WAD 2020 was “**Accreditation: Improving Food Safety**”.

Key Points

- **Accreditation** is a **formal, independent verification** that a program or institution meets established quality standards in terms of **testing, inspection, or certification**.
- **Importance of Accreditation:**
 - It is an important tool to **improve the quality** of product and services in the field of health, education, food as well as other areas.
 - It also promotes the **adoption of quality standards** relating to Quality Management Systems, Food Safety Management Systems and Product Certification.
 - Overall, it helps in realizing the objective of **improving quality competitiveness** of Indian products and services.

- **The International Accreditation Forum:**
 - It is the **world association of Conformity Assessment Accreditation bodies and other bodies** interested in conformity assessment in the fields of management systems, products, services, personnel and other similar programs of conformity assessment.
 - **Conformity Assessment Bodies:** These are bodies that can certify product, process or services, management systems or persons. E.g. **International Organization for Standardization (ISO)**.
 - **India is also a member.**
- **Quality Assessment in the Food Sector:**
 - The **Food Safety and Standards Authority of India (FSSAI)** has recognized the role of credible, competent accreditation inputs in overall services.
 - There is an urgent need for **development of conformity assessment infrastructure** and **consumer empowerment** in the country.
 - There is a **need to institutionalize the virtual assessment** and the **accreditation of state food testing laboratories**.
 - There is a need to encourage accredited laboratories to undertake **Proficiency Testing (PT)** and increase the number of **accredited Reference Materials Producers (RMPs)**.
 - An **Integrated System for information exchange** is also necessary for the food sector.
 - **Suggested Measures:**
 - **Six Point Programme for Future:**
 - Scaling up conformity assessment systems in different parts of the country.
 - Encourage PPP model of FSSAI to work forward for “**Saajha Nivesh, Saajha Vikas, Saajha Vishwas**”.
 - Working in direction of Certified in India and accepted globally.
 - Informal Market formalization.
 - **Rashtriya Gunavatta Abhiyan:** It will help in **crowdsourcing to check quality issues** in the local market and to **develop a robust Market Surveillance**.
 - **Rapid Alert System** with all Regulators on **one single e-platform**.

Quality Council of India

- The **Quality Council of India (QCI)** set up in 1997 is an **autonomous body** attached to the Department of Industrial Policy & Promotion, **Ministry of Commerce and Industry**.

- **The Chairman of QCI** is appointed by the **Prime Minister** on recommendation of the industry to the government.
- Its **mandate is to establish and operate the National Accreditation Structure (NAS)** for conformity assessment bodies and providing accreditation in the field of health, education and quality promotion .
- **National Accreditation Board for Certification Bodies (NABCB)** and **National Accreditation Board for Testing and Calibration Laboratories (NABL)** are the two **accreditation boards** of the **QCI**.
 - **These two bodies** work closely to support the Government and regulators to ensure that the data provided by **accredited conformity assessment bodies** is **robust, reliable, trustworthy in terms of decision making, compliance testing and standards setting**.
- Indian industry is represented in QCI by three premier industry associations namely **ASSOCHAM; CII; and FICCI**.

Source: PIB

Border Adjustment Tax

Why in News

Recently, a **NITI Aayog** member has favoured imposing a **Border Adjustment Tax (BAT)** on imports to provide a level-playing field to domestic industries.

This suggestion comes in the backdrop of the **USA-China trade tensions (trade war)** which are expected to rise even further **post-Covid-19**.

Key Points

- **BAT** is a duty that is proposed to be **imposed on imported goods in addition to the customs levy that gets charged at the port of entry**.
- BAT is a **fiscal measure** that imposes a charge on goods or services in accordance with the **destination principle of taxation**.
 - Under this principle, a government taxes products based on the location of their sale to the final consumer rather than on the location of their production or origin.
- Thus, to adjust a tax **“at the border,”** a country:
 - taxes imported products and domestically produced products sold on its market on the same basis and at the same rate; and
 - exempts from this tax products exported for sale to foreign consumers.

- Generally, BAT seeks to **promote “equal conditions of competition”** for foreign and domestic companies supplying products or services within a taxing jurisdiction.
 - The **World Trade Organisation** (WTO) rules allow for the adjustment of certain types of internal taxes at the border under certain conditions. The main conditions are:
 - The tax must be applied equally to imports and "like" domestic products.
 - The tax must be "borne" by a product and not be "direct".
 - A permitted border tax adjustment must not subsidize exports.
 - **Impact of BAT on trading partners:**
 - At the macro level, with imports reduced and exports increased, a country can cut its trade deficit.
 - If a country is a major export market for many developing countries, the tax plan will have serious adverse effects on them after implementation.
 - BAT may render some firms less profitable and if the prices are forced upwards they may lose competitiveness with substitute products or locally-made similar products.
 - Various taxes such as electricity duty, mandi tax, clean energy cess and royalty are **imposed on domestic goods leading to the escalation of price. This gives imported goods a price advantage** in India.
 - Complaints have always been raised by Indian industries about such domestic taxes that get charged on domestically produced goods as these duties get embedded into the product.
 - However, many imported goods do not get loaded with such levies in their respective country of origin and this gives such products a price advantage in India.
 - It was highlighted that advocating self-reliance under **Atmanirbhar Bharat** vision, **should not imply that India would embrace isolationist policies.** India has to go global but with a supply chain which is more local.
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