26 APRIL 2019

GLOBAL FOREST WATCH

In news:

- According to Global Forest Watch, the world lost 12 million hectares of tropical tree cover in 2018. It was the fourth-highest annual decline since records began in 2001.

In brief:

- Much of the loss occurred in primary rainforests. Mature trees that absorb more carbon and are harder to replace.
- India has lost over 1.6 million hectare of tree cover between 2001 and 2018, according to a new study released by the World Resources Institute (WRI).
- Five north-eastern states — Nagaland, Tripura, Meghalaya, Mizoram and Manipur were responsible for over 50% of all tree cover loss in the same period
- But Global Forest Watch's findings are vastly different from that of the Forest Survey of India which has been recording a gradual increase in tree and forest cover. According to FSI, in the last two years forest and tree cover has increased by 1% in India.
- Indonesia has the world's third-largest total area of tropical forest and is also the biggest producer of palm oil. Environmentalists blame much of the forest destruction on land clearance for oil palm plantations.

About Global Forest Watch (GFW):

- World research Institute (WRI) established GFW in 1997. GWD 2.0 was started in 2014.
- Global Forest Watch (GFW) is an online platform that provides data and tools for monitoring forests. By harnessing cutting-edge technology, GFW allows anyone to access near real-time information about where and how forests are changing around the world.
- The Global Forest Watch uses a dataset collated by the University of Maryland, Google, US Geological Survey, and the National Aeronautics and Space Administration (NASA), besides satellite images, to map tree cover (at 30 metre resolution) globally.
- The dataset defines all vegetation taller than 5 metres in height to be tree cover.

About WRI:

- The **World Resources Institute** (WRI) is a global research non-profit organization that was established in 1982 with funding from the MacArthur Foundation.
- It is headquartered in Washington D.C. It also has branch in India.
- The organization's mission is to promote environmental sustainability, economic opportunity, and human health and well-being.
- WRI partners with local and national governments, private companies, publicly held corporations, and other non-profits, and offers services including global climate change issues, sustainable markets, ecosystem protection, and environmental responsible governance services.
- Reports published: World Resources Report

Note

State of Forest Report (SFR):

It was prepared by the FAO Forestry Policy and Resources Division in collaboration with a number of international organizations involved in forestry programmes.

Indian State of Forest Report (ISFR):

- It is a biennial publication of Forest Survey of India(FSI).
- First report was published in 1987. Since then 15 reports were published totally.
- It provides state/district wise forest cover of the country and changes thereon with respect to previous assessment.
- Report is based on remote sensing and intense ground verification and field data from National Forest Survey.
  * Very dense forests (>70% canopy density)
  * Moderately dense forest (40 – 70 % canopy density)
- Open forest (10 – 40 % canopy density)
- All lands more than 1 hectare in area with a tree canopy of more than 10 %, irrespective of land use, ownership and legal status is considered as forests.
- It may include even orchards, bamboo, palm etc.,
- Madhya Pradesh has the large area of forest cover – 94,689 million hectares.

GLOBAL VACCINATION SCENARIO

In News:

- WHO says one in 10 children did not get vaccinated in 2016. And it is worried about immunisation levels"

In Brief:

- Despite immunisation being one of the most successful and cost-effective means to help children grow into healthy adults, worldwide 12.9 million infants — nearly 1 in 10 — did not receive any vaccination in 2016.
- The figures released by the World Health Organisation (WHO) during the immunisation week added that this means infants missed the first dose of diphtheria-tetanus-pertussis (DTP) vaccine putting them at serious risk of these potentially fatal diseases.

Statistics:

- Global vaccination coverage remains at 85%, with no significant changes during the past few years.
- An additional 1.5 million deaths could be avoided if global immunisation coverage improves.
- According to WHO in 2017, the number of children immunised – 116.2 million – was the highest-ever reported.
- Since 2010, 113 countries have introduced new vaccines, and more than 20 million additional children have been vaccinated.

What's the problem even after attaining a good number?

- But despite gains, all of the targets for disease elimination — including measles, rubella, and maternal and neonatal tetanus — are behind schedule, and over the last two years, the world has seen multiple outbreaks of measles, diphtheria and various other vaccine-preventable diseases.

Note

- Most of the children missing out are those living in the poorest, marginalised and conflict-affected communities.

Why immunisation?

- Immunisation prevents illness, disability and death from vaccine-preventable diseases including cervical cancer, diphtheria, hepatitis B, measles, mumps, pertussis (whooping cough), pneumonia, polio, rotavirus diarrhoea, rubella and tetanus.
- An estimated 169 million children missed out on the first dose of the measles vaccine between 2010 and 2017 according to the UNICEF.

About WHO:

- The World Health Organization (WHO) is a specialized agency of the United Nations that acts as a coordinating authority on international public health.
- It was established on 7 April 1948, it succeeded the Health Organization, which was an agency of the League of Nations.
- It is a member of the United Nations Development Group and its headquarters are located at Geneva.

Functions

1.WHO coordinates international efforts to control outbreaks & sponsors programs to prevent and treatment of infectious diseases such as SARS, malaria, tuberculosis, influenza, and HIV/AIDS.

2.The WHO supports the development and distribution of safe and effective vaccines, pharmaceutical diagnostics, and drugs, such as through the Expanded Program on Immunization.

3.After over two decades of fighting smallpox, the WHO declared in 1980 that the disease had been eradicated – the first disease in history to be eliminated by human effort.

Members

- The WHO has 193 Member states, including 192 members of the UN (all except Liechtenstein), the Cook Islands and Niue.
- Non-state territories of UN Member States may join as Associate Members (with full information but limited participation and voting rights) if approved by an Assembly vote: Puerto Rico and Tokelau are Associate Members.
- Palestine, Holy See, Order of Malta and Republic of China (Taiwan, under the name of "Chinese Taipei") are observers.
- Non-members of the WHO are Liechtenstein and the rest of states with limited diplomatic recognition.

Publications

- Bulletin of the World Health Organization
- Eastern Mediterranean Health Journal
- Human Resources for Health, journal published in collaboration with BioMed Central
- Pan American Journal of Public Health
- World Health Report, series of global health policy reports

Note

BHARAT STAGE VI NORMS

In News:

- Car buyers eyeing a diesel powered vehicle from the Maruti Suzuki stable will have less than a year to make their choice as the company plans to stop manufacturing such vehicles from the next financial year.

In Brief:

What are Bharat Stage Emission Standards?

- Bharat Stage emission standards, introduced in 2000, are emission standards that have been set up by the Central government to regulate the output of air pollutants from internal combustion engine equipment, including motor vehicles.
- The different norms are brought into force in accordance with the timeline and standards set up by the Central Pollution Control Board which comes under the Ministry of Environment and Forests and Climate Change.

What is the mechanism that is followed under BS?

BS is based on Euro norms.

- Euro norms define the maximum limit of pollutant that a vehicle can emit. (CO_2, nitrogen oxide, sulfur and suspended particulate matter)
- If vehicle emits more than this limit, it cannot be sold in Europe.
- In India, we follow Euro norms under the label "Bharat stage" norms. We are gradually implementing them in more and more cities

What is the benefit of these norms?

- Bharat stage emission standard regulates the output of air pollutants from internal combustion engine equipment, including motor vehicles.
- How are they adopted/ their timelines?
- India has been following European emission norms, though with a time lag of five years, with BS-IV norms currently applicable in 33 cities where the required grade of fuel is available while the rest of the country follows BS-III standards.
- As per the original timeline in the Auto Fuel Policy, BS-IV is to be adopted across the country by 2017, BS V by 2020 and BS-VI by 2024.

Current status:

- BS-III (equivalent to Euro-III) across the country
- BS-IV in major cities

Is the fuel available to all type of vehicles across country?

- No, there is a lack of BS standard fuel availability. At present, while passenger vehicle manufacturers have been selling BS-IV variants even beyond the 33 cities where that fuel is available, all commercial vehicles (heavy trucks and buses) comply with BS-III norms. These vehicles travel inter-state and therefore have to refuel at BS-III stations.
- Using BS-III fuel in BS-IV vehicles lowers efficacy of the engine. Its performance too is affected. The objective of addressing pollution issue by upgrading to higher emissions norms too remain defeated without uniform fuel availability across the country.

Note

Why BS thing in news now?

- Government is aiming to implement introduction of the cleaner Bharat Stage- VI fuel in the country by 2020. It intends to skip BS-V.
- The Ministry of Petroleum and Natural Gas has set a deadline of 2017 by which time all the vehicles in the country must be BS-IV-compliant and 2020 for the rollout of BS-VI fuel.

Why Government skipping BS V?

- Hydrocarbon usage in the country is growing rapidly and it is imperative that technology moves apace to ensure the damage to the environment is limited.

What are the challenges?

- The government's decision to leapfrog the Bharat Stage (BS)-V Emission Standards and implement the BS-VI norms by April 2020, four years ahead of the earlier schedule, will make diesel vehicles costlier by Rs.70,000 to Rs.1,50,000
- Technology holds the key to achieving the government's goals of reducing carbon dioxide emissions and oil imports by 10 per cent and introducing BS-VI-compliant fuel across the country.
- Availability of technology would not be an issue, the key challenge for Original Equipment Manufacturers (OEMs) would be adapting the available solutions to Indian market conditions in a short time-frame, in a cost-effective manner

SC orders ban of all BS-III vehicles from 1st April 2017:

- The Supreme Court has banned the sale and registration of Bharat Stage (BS)-III emission norm-compliant vehicles from April 1, 2017, when environmentally friendly BS-IV emission norms will come into force across the country.
- The SC bench held that health of the citizen is more important than the commercial interests of the automobile industry.
- All the vehicle registering authorities under the Motor Vehicles Act, 1988 are prohibited from registering such vehicles on and from April 1, 2017 that do not meet BS-IV emission standards.
- Vehicles that have already been sold on or before March 31, 2017 will be not included in this ban. From 1 April 2017, BS-IV fuel emission standards will kick in and all new vehicles have to comply it.

BT BRINJAL

In News:

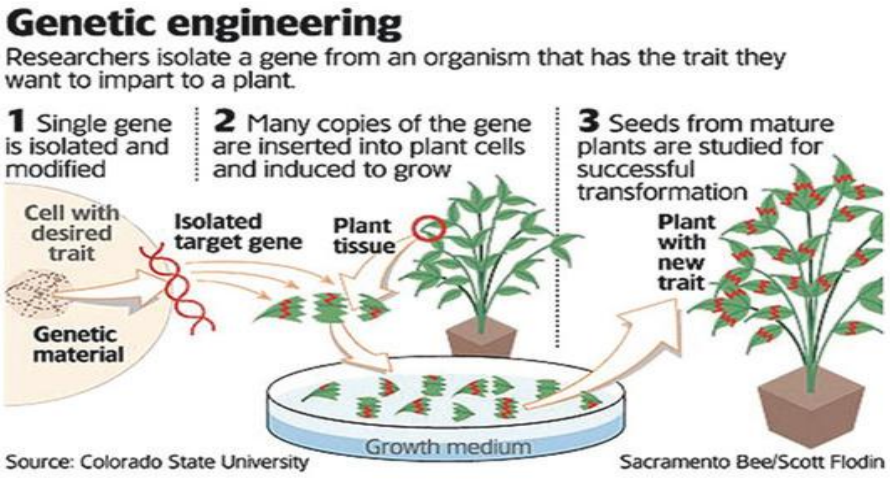
- Farmers' outfits presented evidence on what they suspect is the illegal cultivation of genetically modified egg plants in at least in one plot in the Fatehabad district of Haryana.
- Preliminary tests conducted on the samples collected from the half-an acre field show that the brinjals are genetically modified.

In Brief:

Genetically Modified Organisms (GMO):

- Genetically Modified Organisms, are the ones in which the genetic material (DNA) has been altered in such a way as to get the required quality.
- The technology is often called 'gene technology', or 'recombinant DNA technology' or 'genetic engineering' and the resulting organism is said to be 'genetically modified', 'genetically engineered' or 'transgenic'.

Process of Genetic Engineering:



Note

Advantages of GM crops:

1.Crop Protection: The initial objective for developing GM plants was to improve crop protection. GM crops have improved resistance to diseases, pest, insects and herbicides. They also have improved tolerance to cold/heat, drought and salinity.

- Insect resistance is achieved by incorporating into the food plant the gene for toxin production from the bacterium Bacillus thuringiensis (Bt).
- Virus resistance is achieved through the introduction of a gene from certain viruses which cause disease in plants.
- Herbicide tolerance is achieved through the introduction of a gene from a bacterium conveying resistance to some herbicides.

2.Economic benefits:

- GM crops can increase yield and thus income.
- Genetically modified foods have a longer shelf life. This improves how long they last and stay fresh during transportation and storage.

3.Food Security: Given the increased growth of global population and increased urbanisation, GM crops offer one of the promising solutions to meet the world's food security needs.

GM Crops in India:

BT Cotton:

- The Maharashtra Hybrids Seed Company (Mahyco) jointly with the US seed company Monsanto developed the genetically modified Bt Cotton to tackle the bollworm problem that had devastated cotton crops in the past.
- In 2002, Bt Cotton became the first and only transgenic crop approved by the GEAC for commercial cultivation in six States namely, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra and Tamil Nadu.

BT Brinjal:

- It was developed by Mahyco (Maharashtra Hybrid Seeds Company) in collaboration with the Dharward University of Agricultural Sciences and the Tamil Nadu Agricultural University.
- The GEAC in 2007, recommended the commercial release of Bt Brinjal. The initiative was blocked in 2010.

HT Mustard:

- Dhara Mustard Hybrid (DMH-11) is an indigenously developed transgenic mustard. It is genetically modified variety of Herbicide Tolerant (HT) mustard. It was created by using "barnase/barstar" technology for genetic modification by adding genes from soil bacterium that makes mustard self-pollinating plant.
- In 2017, the Genetic Engineering Appraisal Committee recommended the commercial approval of the HT Mustard crop.

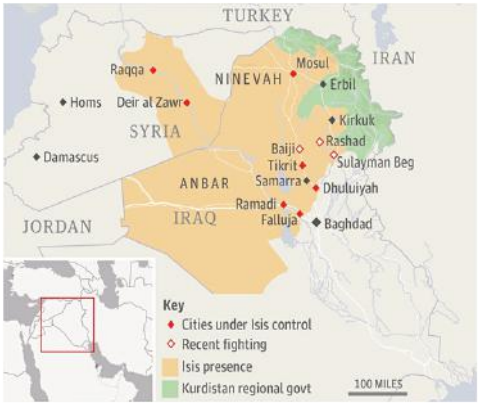
RAQQA

In news:

- The recent reports says that more than 1,600 civilians were killed in US-led coalition strikes to oust the Islamic State group from the city.

About Raqqa:

- Raqqa is a city in Syria located on the northeast bank of Euphrates river and to the east of another important city, Aleppo.



Note

- It was once under the control of ISIL (Islamic State of Iraq and Levant).
- But months earlier it came under the control of Syrian Democratic Forces.

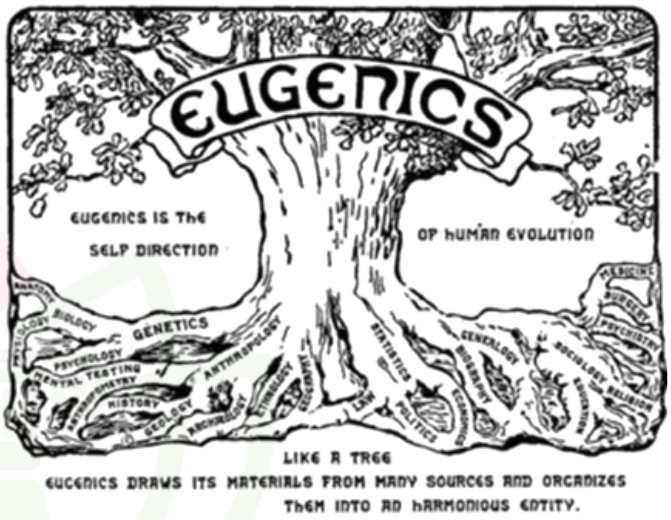
EUGENICS

Why in news?

- Prime Minister Shinzo Abe of Japan apologized on the government's behalf to thousands of people sterilized under a eugenics law, which was repealed in 1996.

About Eugenics:

- Eugenics (literally meaning well born) is a set of beliefs and practices that aim to improve the genetic quality of a human population.
- It is done by excluding (through a variety of morally criticized means) certain genetic groups judged to be inferior, and promoting other genetic groups judged to be superior.
- The Greek philosopher Plato suggested applying the principles of selective breeding to humans around 400 BCE. (This idea is also a manifestation of Eugenics).



Adolf Hitler and Eugenics:

- Hitler's Nazi German State vigorously applied the principles of Eugenics.
- Under Nazi Eugenics programme, Hitler ordered the killing of many disabled Germans in order to purify the German Aryan genetic stock.

Eugenics in modern times:

- Certain procedures in assisted reproductive technology have the potential to bring in the concept of Eugenics again to the forefront.

Criticism against Eugenics:

- It could negatively empower the political power to abuse the genetic selection criteria.
- It could eventually lead the loss of genetic diversity.
- It could permanently and artificially disrupt millions of years of evolution
- The attempt to create genetic lines "clean" of "disorders" could result in downstream effects in the genetic ecology, including negative effects on immunity and species resilience.

Note

TIWA TRIBE

Why in news?

- Tiwa tribesmen recently took part in a dance during the Khelchawa festival in Karbi Anglong district of Assam.
- Khelchawa is an agricultural festival done during the close of the harvest season.

About Tiwa Tribe:

- Tiwa is indigenous community inhabiting the states of Assam and Meghalaya and also found in some parts of Arunachal Pradesh and Manipur in Northeast India.
- They are recognized as a Scheduled tribe within the State of Assam.

EMPEROR PENGUINS

Why in news?

- Recently the British researchers found that the emperor penguins suffer catastrophic breeding failure due to abnormally warm and stormy weather in the Antarctic region.

More on news:

- Earlier a study in 2015 recommended the birds be added to an international "Red List" of endangered species.

About Emperor Penguin:

- The emperor penguin is the tallest and heaviest of all living penguin species and is endemic to Antarctica.
- It is categorized as a Near Threatened species as per IUCN

Note