Prelim Bits 30-10-2023 | UPSC Daily Current Affairs

Interconnected Disaster Risks report 2023

According to the Interconnected Risks report 2023, world is inching closer to 6 interconnected risk tipping points, describing immediate and increasing risks across the world.

Interconnected Disaster Risks Report	
Launched In	2021
Launched By	UNU-EHS
Duration	Annual

Institute for Environment and Human Security (UNU-EHS) is the academic arm of the UN University that is based at Bonn, Germany.

- **Objectives of the report -** It analyses several disasters every year and sheds light on the interconnections with each other and with human actions.

***Risk tipping point** is the moment at which a given socio-ecological system can no longer buffer risks and provide its expected functions. After this point, the risk of catastrophic impacts to these systems increases substantially.*

6 Risk Tipping Points

- **Extinctions** - In last 100 years, *more than 400* vertebrate species were wiped out and a million plant and animal species are at risk of being extinct.
- About 32 million hectares of primary or recovering forest were lost between 2010 and 2015.
- **Depleting groundwater** - 21 of 37 world's largest aquifers are depleting faster than they can be replenished.

In India, the north-western part is predicted to experience critically low groundwater availability by 2025 and 78% of wells in Punjab were reported as overexploited.

- **Melting glaciers** - Melting is at *double the speed* relative to the past 2 decades risking 1.9 billion people.
- Around 50% of glaciers (excluding Greenland and Antarctica) would be lost by 2100

irrespective of any current efforts.
- **Space debris** - About 75% objects orbiting around earth are junks and around 130 million debris are too small to be tracked.
- **Unbearable heat** - High heat with humidity, *hinders the sweat evaporations* and may cause organ failure and brain damage.
- **Uninsurable future** - Increased and severe extreme weather events have *complicated the delivery of insurance of damages*.
- Since the 1970s, damages wrought by weather-related disasters have increased sevenfold.

References

1. Down To Earth | 6 Risk Tipping Points
2. UNU-EHS | Interconnected Disaster Risks Report

QR codes on Food Products

The Food Safety and Standards Authority of India (FSSAI) has recommended the inclusion of a QR (quick response) code on food products.

- It shall be a part of front-of-pack labelling (FOPL) warning labels.

***Front-of-pack labelling (FOPL**) is a mandate of FSSAI since 2019 to alert and educate consumers in making an informed choice*

- **Need for QR** – India is *one of the largest markets of packaged foods* in the world owing to increased preferences for it.
- Pre-packaged foods are *often high in fat, salt, and sugar* which increases the risk of Non Communicable Diseases (NCD).

***QR code** is a type of 2D matrix barcode which was invented in 1994, by the Japanese company for labelling automobile parts.*

- **Objective** – *An informed choice will be offered* to consumers.
  - To increase *accessibility by visually impaired individuals.*
  - To ensure *access to safe food* for all.
  - To reduce the prevalence and risks of NCD.
- **Legal backing**
  - The *FSSAI's Food Safety and Standards* (Labelling and Display) Regulations, 2020.
  - The *Rights of Persons with Disabilities Act*, 2016.
- **Significance** – It can help improve food manufacturer's brand image, customer loyalty, and operational efficiency

QR Code Statistics 2022
• It is released by a private entity QR TIGER. • *US, India and France are the top 3* nations in usage of QR codes. • Among respondents, 57% scanned a food QR code, 38.99% of want to see QR codes and 67% agreed that these codes make life easier.

References

The Hindu| QR codes on Food Products

Cloud Seeding

Recently, Indian Institute of Tropical Meteorology (IITM) based in Pune demonstrated cloud seeding experiment in Solapur city to bring rainfall.

- **Cloud seeding** – It is a *weather modification technique* that improves a cloud's ability *to produce rain or snow*.
- It can be done from ground-based generators or aircraft.

Cloud seeding method *was started in 1946 in USA by using silver iodide and dry ice (solid carbon dioxide) to improve the creation of ice crystals in clouds.*

- **Working mechanism** – A *tiny ice nuclei is introduced* into certain types of subfreezing clouds.
- These *nuclei provide a base for snowflakes to form* which grow and fall from the clouds back to the surface of the Earth.
- **Hygroscopic cloud seeding** – It disperses salt particles to *speeds up droplet coalescence in liquid clouds to produce of large droplets* to start precipitation.
- **Glaciogenic cloud seeding** – It disperses ice nuclei to *trigger ice production in super cooled clouds*, leading to precipitation.

- **Applications** – It can create *more winter snowfall*.
- It enhances the *natural water supply* to communities
- *It lessens hailstorms* by reordering water vapour in clouds to breakdown large hailstones
- It is used to *tackle air pollution*.
    - Central Pollution Control Board (CPCB), India mulled the use of cloud seeding to tackle Delhi's air pollution.
- **Challenges** – The chemicals used in seeding can cause potential side effects to living organisms.
- It can change climatic patterns of the earth.
- It involves huge costs and logistics preparations.

Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX phase-4) *was a scientific investigation conducted in Solapur city by IITM to investigate the efficacy of hygroscopic seeding in deep convective clouds and to develop a cloud seeding protocol.*

Varshadhare Project *is a cloud seeding project of Karnataka government to enhance the amount of precipitation from the clouds to generate more rain.*

References

The Hindu| IITM experiments Cloud Seeding

Snow Crab

In recent years, billions of snow crabs have disappeared from the eastern Bering Sea off the coast of Alaska due to marine heatwave that likely caused them to starve to death.

Scientific Name	Chionoecetes opilio
Eye Colour	Green or Greenish Blue
Body Colour	Brownish on top and lighter underneath.
Morphology	Hard rounded shell. 4 pair of walking legs. 1 pair of claws.

- **Sexual dimorphism** – Males and females can be distinguished by the *shape of their abdominal flaps* which are triangular in males and broadly rounded in females.
- While males can reach 6 inches, females seldom grow larger than 3 inches in shell width.
- **Range –** Off the coast of Alaska in the *Bering, Beaufort, and Chukchi Seas*.
- **Habitat –** *Soft sandy or Muddy Ocean bottoms*, typically in water less than 650 feet deep.
- **Feed** – Animals living in the sediment and also scavenge on anything dead they find.
- **Predators** – Seals, sea otters, octopi, other crabs, and a wide variety of fishes.
- **Growing Conditions** – They are *cold-water species*.
    - Water temperatures below 2 and up to 12 degrees Celsius.
- **Threat** - *Warmer ocean* water affects their metabolism and *increases their caloric needs* and this increases their mortality rate.

References

1. CNN| Death of Snow Crab
2. NOAA| Snow Crab

Developed Countries Emission Trajectories

According to CEEW study, the developed countries which are responsible for 75% of existing carbon emissions in the atmosphere will end up emitting 38% more carbon in 2030.

- The study 'Trust and Transparency in Climate Action' of CEEW shows the emission trajectories of developed nations

> ***Council on Energy, Environment and Water (CEEW)*** *is one of Asia's leading not-for-profit policy research institutions and among the world's top climate think tanks.*

- **Increased Emissions by 2030** – Developed countries are projected *to emit 3.7 GtCO2e more in 2030.*
- *83% of this overshoot* will be by USA, Russia, and the EU.
- **Positive impact of COVID-19** – It contributed a substantial part in the 20% reduction of greenhouse gases by developed countries between 1990 and 2020.
- **Limitations in NDC** – *Current estimate would reduce only 36% emission by 2019 levels* which falls short of target (43% reduction) to limit global warming to 1.5°C.
- **Lagging in climate target of 2030** – Developed countries would *reduce only 11% of emissions by 2030*.
    - *Only Belarus and Norway* seem to meet their targets.
    - *Japan and Kazakhstan* would miss targets by just 1% point.
- **Inconsistency in net-zero target by 2050** – *Only 5 developed countries are linearly on track* to reach net zero by 2050.
- Most developed countries plans *deep emission cuts only after 2030*.
- Even if they attain NZT by 2050, 40-50% of remaining global carbon budget would be consumed by developed countries.
- **Shifting of Burden** – The historical and proposed actions of developed countries not show any deep emission reductions.
- Thus the *burden to mitigate global warming shifts to developing countries* which lack financial support.

References

The Hindu| Developed countries emission trajectories

Other Important News

FATF Grey list

• Cayman Islands along with Panama, Jordan, and Albania were removed from the Financial Action Task Forces (FATFs) Grey list.
• FATF maintains two types of lists.
• **Black List** - Countries knowns as Non-Cooperative Countries or Territories (NCCTs) are put in the blacklist and these countries support terror funding and money laundering activities.
• **Grey List** - Countries that are considered safe haven for supporting terror funding and money laundering are put in the FATF grey list.
• This inclusion serves as a warning to the country that it may enter the blacklist.

KAZIND-2023

• KAZIND-2023 is an annual joint military exercise between ***India-Kazakhstan.***
• The 7th edition of the exercise will take place in *Otar, Kazakhstan* from October to November 2023.
• It was introduced in 2016 and was initially known as "***PRABAL DOSTYK***".
• Later it was upgraded to a company-level exercise named as 'Exercise KAZIND'.
• In this year, the exercise has been further upgraded as a Bi-service Exercise by including the Air Force component.

Memorials for Indian soldiers in Bangladesh

• Bangladesh is building its 1st memorial to ***honour Indian soldiers*** who sacrificed their lives in the Liberation War of Bangladesh in 1971 at Ashuganj, Bangladesh.
• The foundation for the memorial was laid by Prime Minister Narendra Modi and Bangladeshi Prime Minister Sheikh Hasina in 2021.
• **2021** marks the ***Golden Jubilee*** of the independence of Bangladesh, the birth ***centenary*** of the Father of the nation Bangabandhu Sheikh Mujibur Rahman and ***50 years*** of establishment of diplomatic relations between India and Bangladesh.

Reference Fuels

• India has taken a significant step forward in its automobile industry by domestically producing 'reference' petrol and diesel.
• Reference fuels are *premium, high-value products* used to calibrate and test vehicles.
• They are distinct from regular and premium petrol and diesel, as they have higher specifications.
• Historically, only a select few companies, primarily from Europe and the USA, provided these fuels to India.

WHO South East Asian Region

• Since 2014, the region has eliminated polio and maternal and neonatal tetanus.
• The region is accelerating control of cardiovascular diseases with a target to place 100 million people with hypertension and/or diabetes on protocol-based management by 2025.
• Bhutan, Maldives, Sri Lanka and Timor-Leste have eliminated measles and rubella.
• Maldives, Sri Lanka, Thailand, and Bangladesh have eliminated lymphatic filariasis.
• Nepal and Myanmar have eliminated trachoma and India was verified yaws-free.
• Sri Lanka and Maldives eliminated malaria.
• Thailand, Maldives and Sri Lanka eliminated mother-to-child transmission of syphilis and HIV.
• Bangladesh, Bhutan, Nepal and Thailand achieved hepatitis B control.

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