

AIR POLLUTION

'NITRATE RADICALS'

- Nitrate radicals are likely making air pollution worse in India, China (study)
- increase in PM_{2.5} & Ozone in the atmosphere

MULTI ANGLE IMAGE FOR AEROSOLS (MA-IA)

- examine the health impact of air pollution
- by USA & Italy space agencies
- aerosols

FLY ASH

- unwanted unburnt residue of coal combustion in coal thermal power plant
- MOEF & CC directed NHA to use fly ash

FUGITIVE DUST

- particulate matter generated from various sources that are exposed to air
- CMPDIL, Ranchi invention to control generation & movement of fugitive dust

AIRSHED APPROACH

- World Bank report
- India has 6 large airsheds - between which air pollutants move
 - ↳ some of them shared with Pakistan
- WHO - upper limit of PM_{2.5} - 5 µg/m³

NATIONAL CLEAN AIR PROGRAM (NCAP)

- launched in 2019 ; MOEF & CC
- new target - 40% reduction by 2026
- earlier target - 20-30% reduction in PM_{2.5} & PM₁₀ by 2024
- PRANA Portal

CAQM FOR NCR

- statutory body
- issue directions wrt air pollution, GRAP

GREEN CRACKERS

- do not contain toxic chemicals eg 'barium nitrate'
- categories - Swas, Safal, Star

WATER POLLUTION

BOD

- No. of polluted stretches in India's rivers has fallen (CPCB)
- Bio-chemical oxygen Demand exceeding 3.0 mg/L are identified as polluted locations

iVOFM

- viologen unit grafted organic framework by IISER Pune
- to clean polluted water

GREEN TECH & MARINE DIVERSITY

- impact of biodegradable plastics
- Brine pools & lithium
- mesopelagic zone

FOREVER CHEMICALS

- Per and Polyfluoroalkyl Substances (PFAS)
- man made chemicals used to make non-stick cookware, water repellent clothing, cosmetics

NONYL PHENOL

- used in the production of detergents
- Toxic chemical found in drinking water
- Bioaccumulation

NAMAMI GANGE

- rejuvenate river Ganga
- launched in 2014
- central sector scheme
- recognised by UN

→ Arth Ganga - for strengthening socio-eco - river people connect

MATSYA - 6000

- manned submersible vehicle
- deepsea ocean exploration

BLUE FLAG CERTIFICATION

- eco-label for clean beaches
- 12 in India
- given by FEE, Denmark

GREAT NICOBAR PROJECT

- greenfield city, ICTT
- GN
 - ↳ Southern most part of A&N ; Indra point
 - ↳ Ten degree channel
 - ↳ IBR
 - ↳ Shompen, Nicobereese tribal people
- Barren island

GREAT PACIFIC GARBAGE PATCH

- marine debris in North Pacific Ocean
- between Hawaii & California
- largest accumulation of ocean plastic in the world

MAPPING

- Lake Baikal
- Roe river
- Lake Tana
- Lake Tanganyika

SOLID WASTE

PHYTOREMEDIATION

- using plants, micro algae for removing toxic metals from the soil
- 'hyper accumulator'

LANDFILLS

- Land fill gases
 - methane, CO₂, N₂ etc
- Landfill fire
 - dioxins & furans - carcinogenic pollutants
 - PAHs

SOLID WASTE MANAGEMENT RULES

- Applicable to beyond municipal areas
- Source segregation
- 'wet, dry' & 'domestic hazardous waste'
- integration of waste pickers

PLASTIC POLLUTION

- micro plastics - less than 5mm in length
- bio accumulation & bio magnification
- Single use plastics
- Plastic waste management Rules 2021
Notified by MOEF & CC
 - prohibits identified 'SUP'
 - EPR
 - centralised online portal by CPCB

BIOTRANSFORMATION TECHNOLOGY

- alter the state of plastics & make them biodegradable without leaving behind micro plastics

E-WASTE

- discarded electrical and electronic equipments
- imp elements found e-waste
 - ↳ lead, mercury, cadmium chromium, Beryllium, Polyvinyl chloride, Perfluorooctanoic Acid (PFOA), sulphur, Brominated fire Retardants (BFR)
- adoption of common chargers
- E-waste management Rules 2022
 - All entities must register on the CPCB portal
 - Targets
 - Solar PV modules added
 - EPR Certification

BATTERY WASTE MANAGEMENT RULES

- EPR
- Centralised online portal
- use of recycled materials

INTERNATIONAL CONVENTIONS

STOCKHOLM+50 CONFERENCE

→ 50 yrs ; first UN conference on envt @ stockholm, 1972

COP 27 (covered)

CONVENTION ON BIOLOGICAL DIVERSITY CBD

- International legally binding convention
- 3 aims {
 - conservation of BD
 - sustainable use
 - fair and equitable sharing of benefits
- Imp protocols
 - 1) Cartagena protocol - protect BD from 'Living modified organisms' (LMO)
 - 2) Nagoya protocol - Access to genetic resources and FESB

COP-15 TO CBD KUNMING DECLARATION

- held at Kunming china
- Theme - Ecological civilization : building a shared future for all life on earth
- adopted 30 by 30 targets
 - protect 30% earth's land & oceans by 2030

COP-15 KUNMING MONTREAL BD FRAMEWORK

- Global BD framework 4 goals & 23 targets for 2030
 - Goal A - maintain, enhance restore ecosystems ..
 - Goal B - Sustainable use of BD..
 - Goal C - fair & equitable sharing ..
 - Goal D - Secure adequate means of implementation..

BIODIVERSITY BEYOND NATIONAL JURISDICTION (BBNJ)

- Treaty of high seas
- by UNCLOS

STOCKHOLM CONVENTION

- meeting (18th) of POP review committee
- listed 'Dieldrin Plus' & uv 238 under Annex A
- Convention is ratified by India