FREE NOTES · NCERT + NEET LEVEL

Environmental Issues

Extra reading (purana NCERT chapter): hawa aur shor ka pradooshan aur control, paani ka pradooshan, BOD, eutrophication, biomagnification, solid waste, agrochemicals, radioactive waste, greenhouse effect, ozone kshay, jungle katna aur jan-andolan.

01 Hawa ka pradooshan aur control

02 Paani ka pradooshan, eutrophication, biomagnification

03 Solid waste, agrochemicals, radioactive waste

04 Greenhouse effect aur global warming

05 Ozone kshay, jungle katna aur jan-andolan

06 Important Q&A

07 Common mistakes

08 Practice (NEET style)

09 Quick revision

01 Hawa ka pradooshan aur control

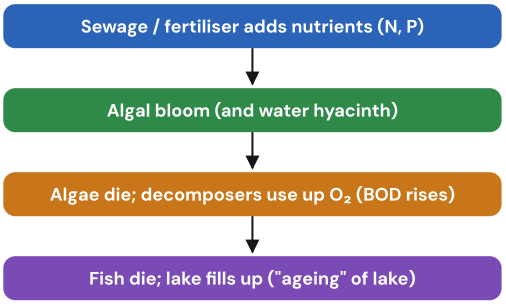
- Fasal kharab, saans ki bimariyan; **PM 2.5** (≤2.5 µm) sabse haanikaarak: lungs me gehra jaata.
- **Electrostatic precipitator**: thermal power plant ke dhuen se >99% kan hataata. **Scrubber**: SO_2 jaisi gases hataata (paani ya choona spray).
- **Catalytic converter** (platinum, palladium, rhodium): hydrocarbons → CO_2 + H_2O, CO → CO_2, NO → N_2. **Unleaded petrol** chahiye (lead catalyst kharab karta).
- Delhi case study: public transport me CNG (achhe se jalti, milawat nahi); Euro norms (Bharat Stage) se fuel me sulphur kam. Air (Prevention and Control of Pollution) Act 1981 (shor 1987 me joda).
- **Shor**: 150 dB se zyada kaan ke parde kharab; control: aawaaz sokhne wali cheezein, hospital aur school ke paas silence zones.

02 Paani ka pradooshan, eutrophication, biomagnification

- Water (Prevention and Control of Pollution) Act 1974. Gharelu sewage: suspended solids, colloids, ghule nutrients; **BOD** se maap.
- **Biomagnification**: oonche trophic levels pe zehar (DDT, mercury) ki matra badhna; ye toot-ta ya nikalta nahi. Pakshiyon me zyada DDT calcium metabolism bigaadta ⇒ patle ande ke chhilke ⇒ sankhya ghatti.
- **Cultural (accelerated) eutrophication**: sewage aur kheton ke paani se. Jalkumbhi (*Eichhornia*) = "terror of Bengal".
- Power plants ka garam paani temperature-sensitive jeevon ko maarta.
- Arcata (California) case study: marshes se natural waste water treatment; Friends of the Arcata Marsh (FOAM).
- **Ecosan** toilets (Kerala, Sri Lanka): sookhe composting toilets; mal khaad me badalta.



Paani ki food chain me DDT ka biomagnification



Eutrophication

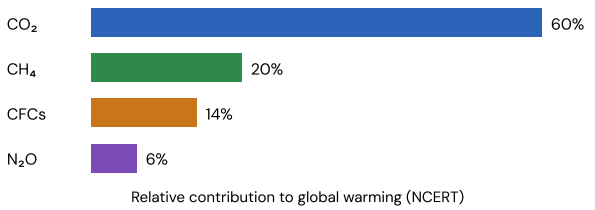
03 Solid waste, agrochemicals, radioactive waste

- Khule dump me chuhe, makkhiyan; **sanitary landfills** behtar par chemicals zameen ke paani me ja sakte. Alag karo: biodegradable, recyclable, non-biodegradable.
- **E-waste**: kharab computers aur electronics; vikasheel deshon me recycling aksar asurakshit; copper, loha, sona nikalte.
- Plastic sadak case study: **Ahmed Khan** (Bangalore) ne **polyblend** (recycled plastic ka powder) bitumen ke saath sadak me.
- Agrochemicals: pesticides, herbicides, fertilisers ⇒ zehreele, biomagnification, eutrophication. **Organic farming** case study: **Ramesh Chandra Dagar** (Sonipat, Haryana): integrated farming; Haryana Kisan Welfare Club.

- Radioactive waste: mutations, zyada matra me cancer; mazboot containers me chattanon me ~500 m gehra dabana chahiye.

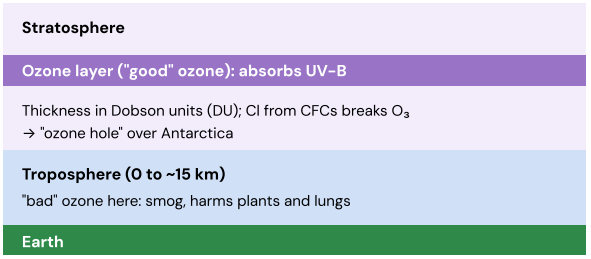
04 Greenhouse effect aur global warming

- Prakritik greenhouse effect dharti ko ~15 °C rakhta (warna -18 °C). Zyada greenhouse gases ⇒ **enhanced greenhouse effect** ⇒ global warming (20th sadi me ~0.6 °C).
- Asar: polar barf aur glaciers pighalna, samudra ka star badhna, ajeeb mausam jaise **El Niño** (madhya Pacific garam).
- Control: fossil fuel kam, energy efficiency, jungle katna kam, ped lagana, aabadi ki badhat dheemi; antarrashtriya samjhaute.



Greenhouse gases

05 Ozone kshay, jungle katna aur jan-andolan



Ozone: achha (stratosphere) aur bura (troposphere)

- UV-B DNA kharab karta, skin budhi, skin cancer, **snow-blindness** (cornea me sujan), motiyabind. **Montreal Protocol** (1987, laagu 1989) ozone kharab karne wale padarth rokne ke liye.
- **Jungle katna**: Bharat ka forest cover ~30% se ~19.4% (National Forest Policy 1988: maidan 33%, pahad 67%). North-east me **slash and burn** (**jhum**) kheti. Nateeje: zyada CO_2, biodiversity ka nuksaan, mitti ka kataav, registaan banna, jal chakra bigadna.
- **Bishnoi** samaj (Rajasthan, 1731): **Amrita Devi** aur saathiyon ne khejri ped bachane me jaan di. Sarkar ne Amrita Devi Bishnoi Wildlife Protection Award shuru kiya.
- **Chipko andolan** (1974, Garhwal Himalaya): sthaniya mahilaon ne pedon se lipatkar bachaya.
- **Joint Forest Management** (1980s): sthaniya log jungle bachate aur forest products ka fayda paate.

06 Important Q&A

Q1. Catalytic converter me unleaded petrol kyun?

Petrol ka lead catalyst (platinum, palladium, rhodium) ko kharab karta.

Q2. Biomagnification example ke saath?

Food chain me zehar badhta; paani me DDT 0.003 ppb → machhli khane wale pakshi me 25 ppm.

Q3. Chipko andolan kya?

1974 Garhwal Himalaya me gaon ki mahilaon ne pedon se lipatkar katne se roka.

07 Common mistakes

- Troposphere ke ozone ko faydemand kehna (pradooshak hai).
- Montreal Protocol (ozone) aur Kyoto Protocol (greenhouse gases) mix karna.
- Kehna ki biomagnification har chemical ka (sirf na tootne walon ka).
- Sochna ki greenhouse effect poori tarah bura (prakritik effect dharti garam rakhta).

08 Practice (NEET style)

1. Power plants se kan hataane wala?
2. Ozone ki motai ki unit?
3. "Terror of Bengal"?
4. Chipko andolan ka saal?
5. Sabse bada greenhouse gas?

ANSWERS

1) Electrostatic precipitator · 2) Dobson unit · 3) Water hyacinth (*Eichhornia*) · 4) 1974 · 5) CO_2 (~60%)

09 Quick revision: exam se 5 minute pehle

AIR

- ESP >99% kan
- Catalytic converter: Pt, Pd, Rh
- Delhi CNG

WATER

- BOD, eutrophication
- DDT biomagnification
- Arcata, Ecosan

GLOBAL

- CO_2 60%, CH_4 20%
- Montreal Protocol 1987
- UV-B: snow-blindness

PEOPLE

- Bishnoi, Amrita Devi
- Chipko 1974
- JFM, Dagar, Ahmed Khan

Koi doubt? padhaiadda.netlify.app pe AI Doubt Solver se poocho, ya is chapter ka mock test do.