



WHAT IS
CLIMATE CHANGE?



Join Us

climate change



Genesis

Industrial Revolution

Mid 18th century

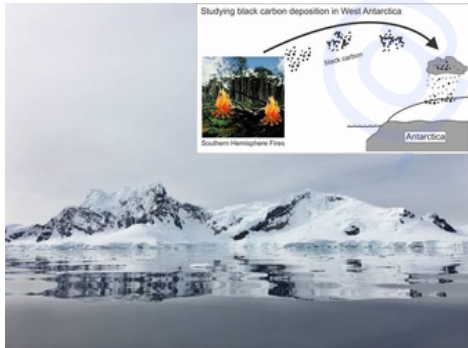
Colonisation

Textile industry
(1st modern production)

Dr. Charles David Keeling
(1958)

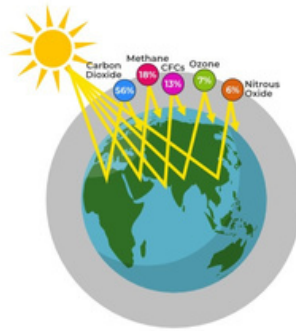


CO₂ level are rising & attribute this rise to the use of fossil fuel.

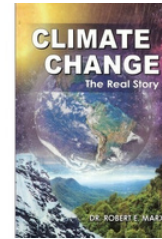


Strongest absorber of sunlight.

Greenhouse Gases

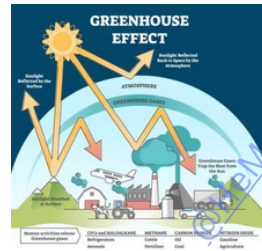


GHG
CO₂
Methane
CFCs
Ozone
Nitrous oxide



Reasons.

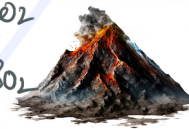
Largest contributors



Natural

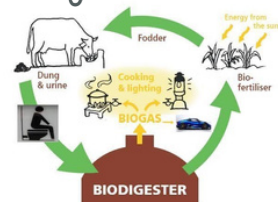
0.1°C (Total)

Volcanic Eruption
↓
cloud reflection



Bacterial Decomposition of organic matter

Eg: Wetland → largest Methane Bio-gas



Breaking of Atmospheric Nitrogen → N₂O

Eg: Rhizobium Bacteria



Anthropogenic

Burning of fossil fuel (Coal, Gas, Petrol)
"In India, 59% electricity produced by Thermal Power Plant"

Urbanization
↓
Transportation
↓
Waste treatment Plants
↓
Power

Deforestation
↓
release CO₂
↓
Sequestration

Industrial Emission
↓
Al - PFCs
↓
HFC - SF6

Etc
↓
Livestock
↓
fertilizer



Black Carbon
← Forest fire
Human activities

Consequences



Rise in temp → Glacier melting



rise in sea level

Submergence of Land

Infiltration in Ground water (coastal region)

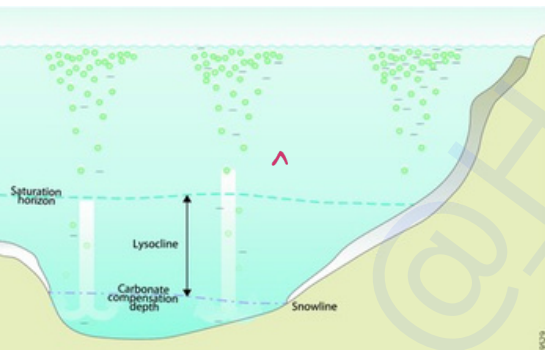
Coastal infra

Climate Refugees

Eg: The Hindu 2011-2020 was the warmest decade with Global temp 1.1°C ↑ pre-industrial levels.

Interⁿ Displacement Monitoring Centre

An annual avg of 21.5 million people were forcibly displaced each year b/w 2008 and 2016.

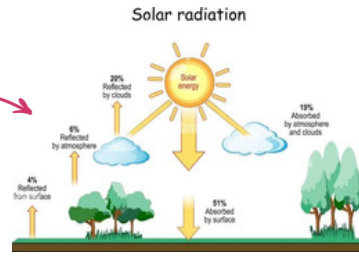


Plankton ← ocean acidification

Corals ← Saturation horizon

IPCC (6th Ass. Report)

By 2100 Ocean will be 150% more acidic.



Solar radiation ↑

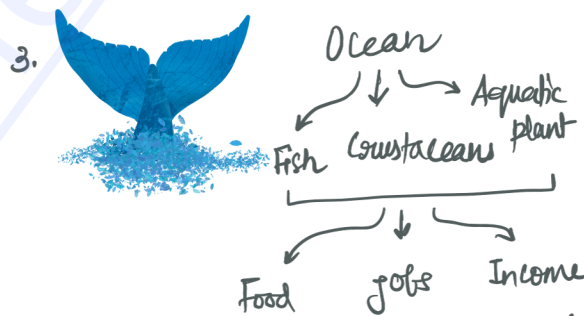
1. Plant growth ↓
Kill farmer friends
reduce crop yield

2. Erratic monsoon
MoAgri → 51% rainfed

→ Drought

Eg: WHO: In 2020, 770 Million people faced hunger, predominantly in Africa and Asia.

Eg: PIB, MoAgri: In the absence of measures, rainfed rice yields in India reduced to 20% by 2050



Danger??
to Marine World.

1. around 8 Billion people
2. Blue economy 3-5% of Global GDP.

3. India → 8% of Global fish production.

Eg: UNICEF By 2040, almost 1 out of 4 children will live in area of extreme high water stress.

Eg: 100 million people ↓ Poverty

change in hydrological cycle

Alter Rainfall

Drought + Flood

Water Scarcity

Glaciers (3rd poles)

India Agriculture largest consumer water → 70% → 1/2 popⁿ

Household → 30% Industries

Eg: UNICEF Everyday over 1000 children under 5 die from diseases linked to inadequate water, sanitation, and hygiene.



United Nations
Framework Convention on
Climate Change

Came out from Rio Earth Summit
1992



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

Conference of party

Paris Agreement

Targets → Below 2°C to pre-indus
and try to 1.5°C

→ Tech & finance to devel^d
countries

Nationally Determined Con-
tribution (NDC)

International solar Alliance

India NDC (by 2030)

→ Carbon Sink → 2.5 to 3 Billion Tonne

→ Emission intensity → 45% by 2030
from 2005 level

→ 50% Electricity (NON-fossil fuel)

→ Net Zero by 2070

1. Green India mission & N^o Afforestation Program
2. FAME → Electric vehicle, National Green Hydro Mission.
3. Renewable Energy → PM Surya ghar Yojna.
National Solar Mission.

Remedies



National Action plan on
climate change.

1. National Mission for Sustainable
Agriculture (NMSA)

for sustaining domestic food
challenge.

a. ICAR → project

National Innovations in climate
Resilient Agri (NICRA)

to make agri climate resilient.

Eg: Pooja 1801 (millet) Ginnar's 6' (ground nut).

3. National Water Mission

National water policy

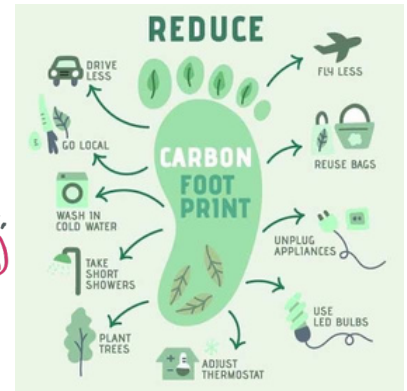
increase water use
efficiency by 20%.

- water recycling

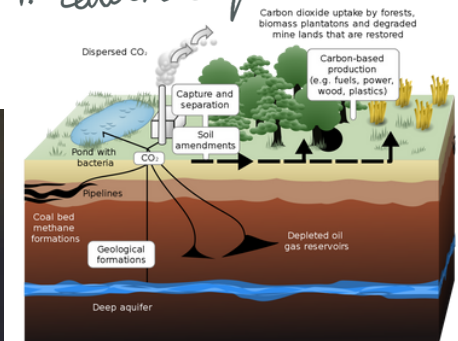
"one drop
more crop"



Life style for Environment.
COP → 26 Glasgow, Switzerland.



1. Carbon Sequestration



2. Geo-Engineering

3. Etc.

