

CENTRE : DDU KAUSHAL KENDRA

NAME OF THE
PROGRAMME : B.VOC (AUTOMOBILE TECHNOLOGY)

PROGRAM CODE : 3UABVOC(AT)

COURSE CODE : TMEEE17402

COURSE NAME : ENVIRONMENTAL STUDIES

SEMESTER : III

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DESIGNATION : GUEST FACULTY

TOPIC : RESTTLEMENT AND REHABILITATION

Resettlement and Rehabilitation

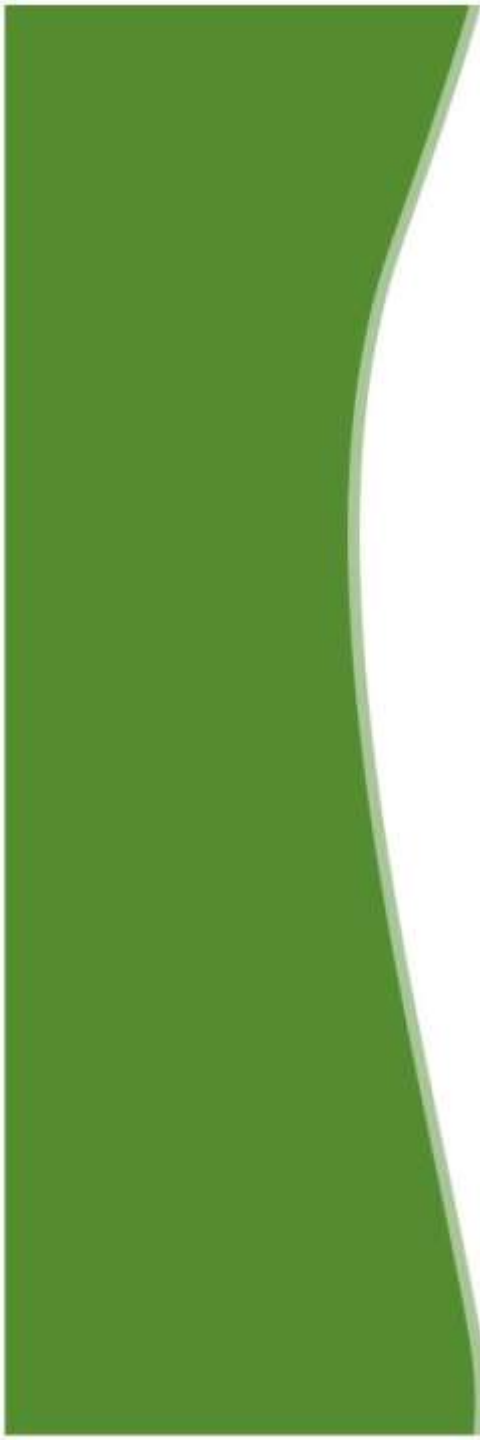


Intro

- Development projects essential
- To have development natural resources are utilized.
- Most affected are locals or native people
- Poorest of poor and underprivileged people
- Various types of project lead to displacement of locals

Displacement due to dams

- Need space for such huge project.
- Locals, tribals and natives are affected.
- Families have to leave the ancestral place and need to settle elsewhere.
- Hirakund dam: 20000 people in 250 villages
- Bhakra Nangal : not even half of displaced resettled.
- Sardar Sarovar: 41,000 families will get displaced due to reservoir.
- Tehri dam: 10000 people of Tehri town

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- A green decorative shape, resembling a stylized leaf or a curved banner, is positioned on the left side of the slide.
- A review by the World Bank posits that an average of 13,000 people are displaced by each new large dam constructed currently (Cernea 1996b).
 - By this estimate, Indians displaced by the country's 3000+ large dams would number over 39 million.

Displacement due to mining

- Several thousand hectares of land are covered in Mining operations
- Mining accidents also cause displacement.
- Jharia Coal Mines, Jharkhand: 0.3 million people asked to leave the place
- Reason: Underground fires
- No alternative provided yet.
- Cost of R& R: 18000 crores

Displacement due to creation of Protected area

- Displacement also takes place where protected areas are established as compensatory measures for the forest lands and natural habitats that are lost.
- A welcome step for natural resource conservation
- But tribals lose the right to their natural homes
- Entry is prohibited in core areas.
- Valmiki Tiger reserve: 142 villages in Bihar of Tharu Community
- Wayanad Wildlife Sanctuary: 53,472 tribal families in Kerala.

Rehabilitation- issues and policies

- Right to housing a basic human right
- Government acquires land for various reasons
- Already poor tribals most affected.
- Loss of land, food, home, jobs, property assets, social isolation
- Cash compensation not enough, Tribals are unaware so might be a case of cheating.
- Communal settlement does not happen.

Policy

- Department of Land Resources, Ministry of Rural Development has formulated a National Policy on Resettlement and Rehabilitation for Project Affected Families, 2003 with the objectives to:
- Minimize displacement and to identify non-displacing or least-displacing alternatives;
- Plan the resettlement and rehabilitation of Project Affected Families, (PAFs) including special needs of tribals and vulnerable sections;
- Provide better standard of living to PAFs; and
- Facilitate harmonious relationship between the Requiring Body and PAFs through mutual cooperation.
- National Policy on Rehabilitation and Resettlement 2007

Cases

- Sardar Sarovar Project
- Pong Dam

Resettlement and Rehabilitation of the Urban Poor: the Mumbai Urban Transport Project

- Mumbai, the capital of Maharashtra and the commercial capital of India, has a population of 12 million people.
- The suburban rail system is the lifeline of the city and it is estimated that 7.4 million passenger trips are made daily at an average distance of 25 kms. per trip.
- Over 88% of all commuters in the city travel by suburban trains or buses. About 4500 passengers travel in a 9-car rake during peak hours as against a rated carrying capacity of just 1700.

- There are three suburban rail lines in Mumbai: Central, Western and Harbour that link the central business districts of Bombay Island with the so-called 'suburban' areas in the North of the city.
- The Central line from CST to Thane has about 8,000 families living alongside the track; the Western line from Churchgate to Dahisar has about 3000 slum families and the Harbour line from CST to Mankhurd around 13,000.
- These families have been living along the tracks for more than two decades. In some cases, their huts are hardly a metre away from the tracks and the passing trains.

- Many new lines are to be laid and slum dwellers along the railway tracks to be resettled.
- About 15000 families living along the tracks will have to be resettled
- This case study looks at the resettlement and rehabilitation (R&R) of more than 10,000 families along the railway tracks.
- According to the recommendations of the Task force, which were accepted by the GOM, each project affected family was to get a 225 sq. ft. tenement free of cost or, where shifting had to be done urgently, transit accommodation of 120 sq. ft. with basic amenities.

- The safety zones (30 feet on either side of the tracks) of the 3 rail corridors in Mumbai have been cleared of all slums. More than 10000 families have been resettled, about 40% in permanent and the rest in transit accommodation, without the use of any municipal or police force.
- Secure tenure and basic amenities of water, sanitation and electricity are assured.
- As a consequence, more trains are running on the same tracks and at greater speeds. Traveling time has been reduced and the rail system's performance improved.
- All of this was done in just over a year by June 2001.

Climate change

- Climate is average weather of an area
- Control temperature, evaporation rate, seasons, moisture content.
- Conditions if prevail for 30 years...its said to be the climate of an area
- Currently Climate is Changing



GLOBAL WARMING



- Overall increase in temperature by a few degrees.
- It happens when greenhouse gases (carbon dioxide, water vapor, nitrous oxide, and methane) trap heat and light from the sun in the earth's atmosphere, which increases the temperature.
- This hurts many people, animals, and plants.
- Many cannot take the change, so they die.

Facts

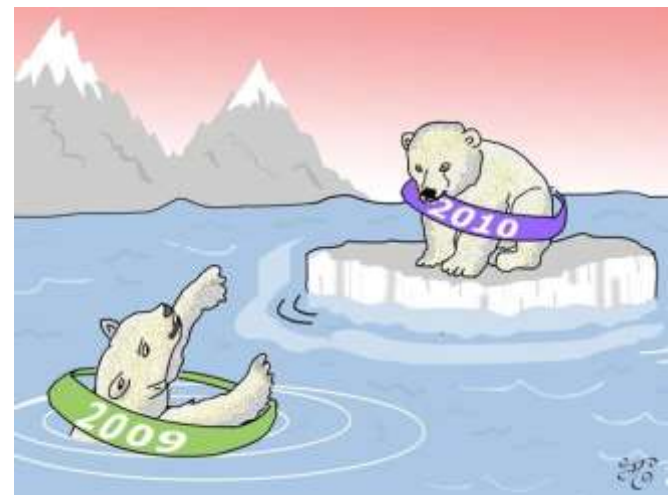
- Unsustainable consumption patterns of the rich industrialized nations are responsible for the threat of climate change.
- Only 25% of the global population lives in these countries, but they emit more than 70% of the total global CO₂ emissions and consume 75 to 80% of many of the other resources of the world.
- Impacts are already being seen in unprecedented heat waves, cyclones, floods, salinisation of the coastline and effects on agriculture, fisheries and health.

Climate change Evidence

- Intergovernmental Panel On Climate Change.
- Published evidence of climate change
- Observed that earth's climate has changed over years.
- Average temperatures have fluctuated by 0.5 to 1 °C.
- Anthropogenic activities are affecting climate
- Its not uniform in all places. Poles will be more warmer

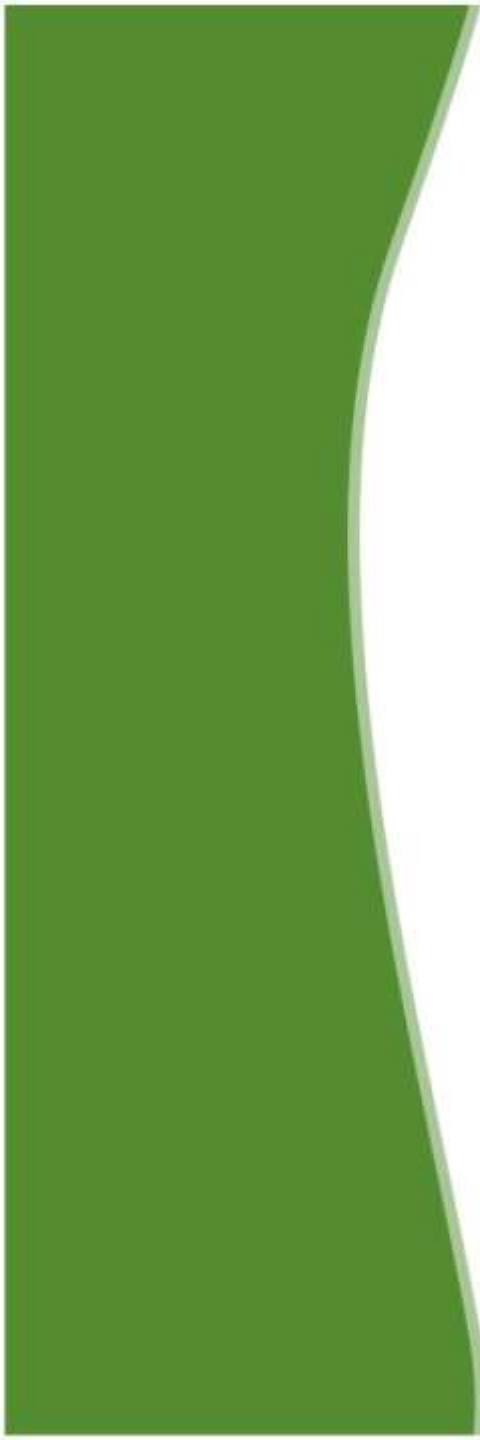
Why should India be Concerned about Climate Change?

- India is home to a third of the world's poor, and climate change will hit this section of society the hardest.
- Set to be the most populous nation in the world by 2045, the economic, social and ecological price of climate change will be massive.
- The three main 'categories' of impacts are those on agriculture, sea level rise leading to submergence of coastal areas, as well as increased frequency of extreme events. Each of these pose serious threats to India.
- India's main energy resource is coal. With the threat of climate change, India is called upon to change its energy strategy based on coal, its most abundant resource, and to use other energy sources (e.g. oil, gas, renewable and nuclear energy) which may turn out to be expensive.



Green House Effect

- The **greenhouse effect** is a naturally occurring process that aids in heating the Earth's surface and atmosphere.
- It results from the fact that certain atmospheric gases, such as **carbon dioxide**, ***water vapor***, and **methane**, are able to change the energy balance of the planet by absorbing **longwave radiation** emitted from the Earth's surface.
- Without the greenhouse effect life on this planet would probably not exist as the average temperature of the Earth would be a chilly -18° Celsius, rather than the present 15° Celsius.

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- A large, solid green shape on the left side of the slide, with a wavy, irregular right edge that curves inward towards the text area.
- Anthropogenic activities increase the concentration of green house gases.
 - Enhanced green house effect
 - Carbon dioxide from emissions
 - Chloroflurocarbons
 - Methane
 - Nitrogen oxides

The Earth's Greenhouse Effect

SUN

About half the solar energy absorbed at the surface evaporates water, adding the most important greenhouse gas to the atmosphere. When this water condenses in the atmosphere, it releases the energy that powers storms and produces rain and snow.

About 30% of incoming solar energy is reflected by the surface and the atmosphere.

SPACE

Only a small amount of the heat energy emitted from the surface passes through the atmosphere directly to space. Most is absorbed by greenhouse gas molecules and contributes to the energy radiated back down to warm the surface and lower atmosphere. Increasing the concentrations of greenhouse gases increases the warming of the surface and slows loss of energy to space.

ATMOSPHERE

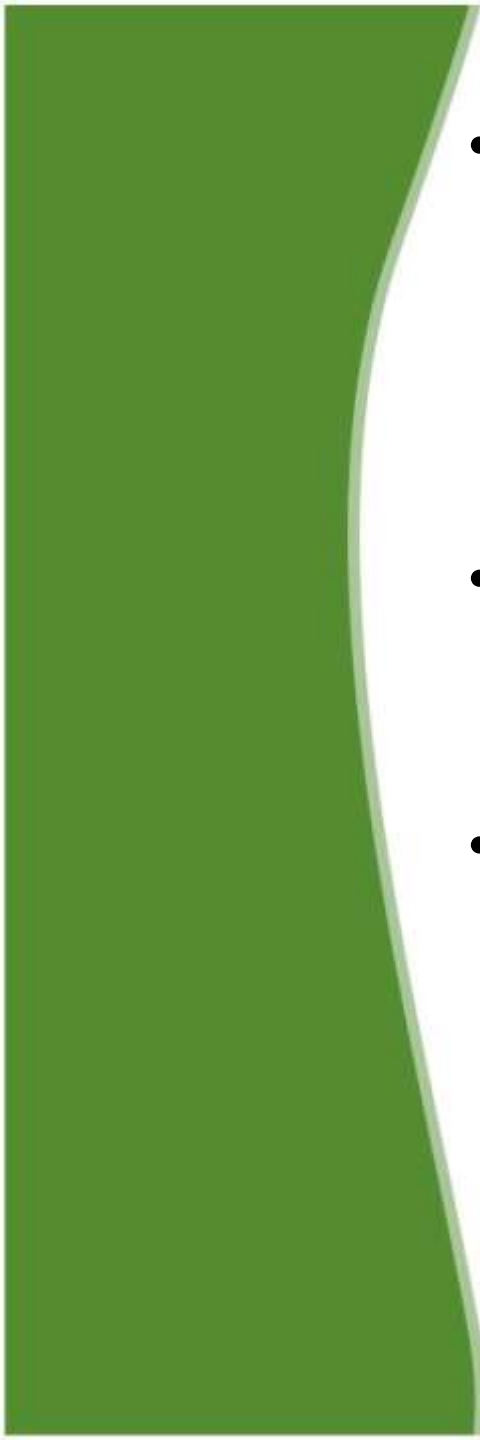
SURFACE

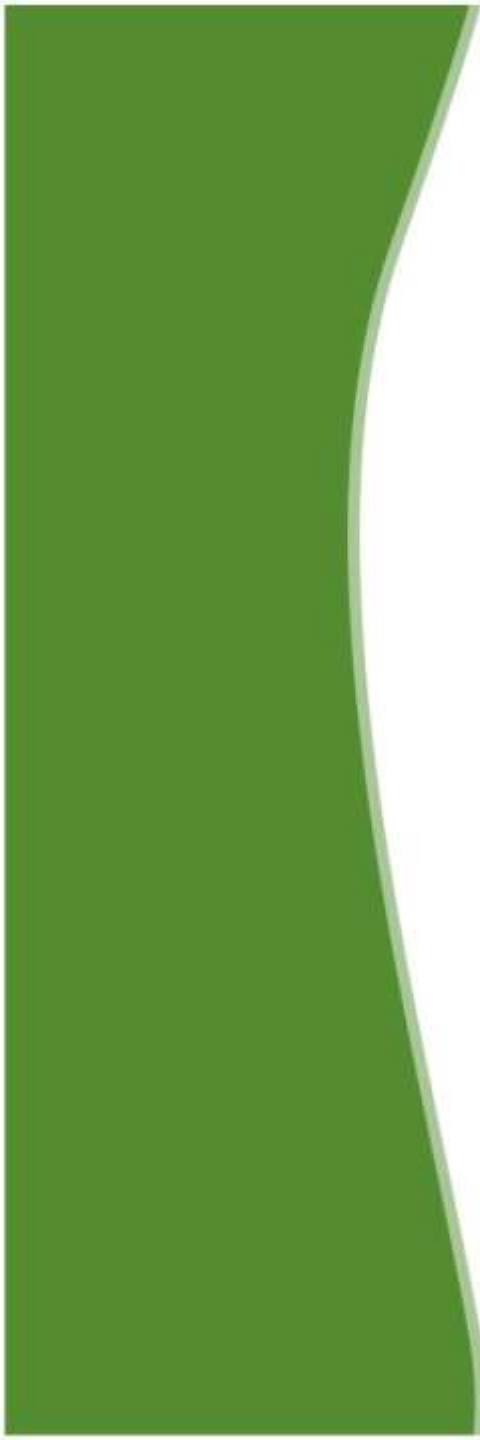
The surface cools by radiating heat energy upward. The warmer the surface, the greater the amount of heat energy that is radiated upward.



Effects

- Change in Wind current patterns
- Ocean currents will change
- Hydrological cycle will intensify
- Sea level rise: submergence of areas.
- Changed agricultural production
- Cases of flood, droughts, cyclones on a rise.

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- A large green decorative shape on the left side of the slide, resembling a stylized leaf or a drop with a wavy edge.
- Global warming is affecting many parts of the world. Global warming makes the sea rise, and when the sea rises, the water covers many low land islands. This is a big problem for many of the plants, animals, and people on islands.
 - The water covers the plants and causes some of them to die. When they die, the animals lose a source of food, along with their habitat. .
 - When the plants and animals die, people lose two sources of food, plant food and animal food. They may also lose their homes. As a result, they would also have to leave the area or die. This would be called a break in the food chain, or a chain reaction, one thing happening that leads to another and so on.

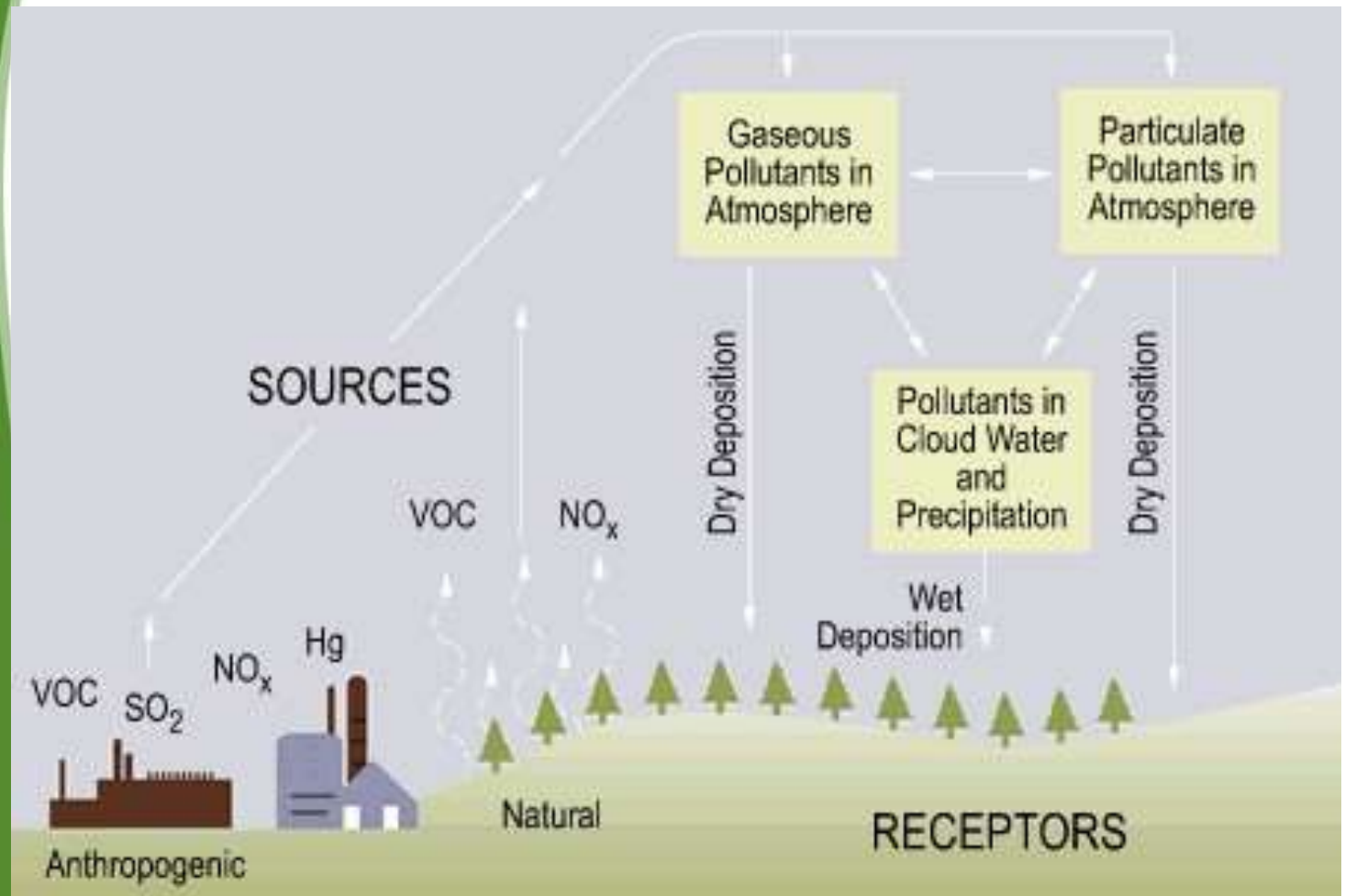
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- A green decorative shape, resembling a stylized leaf or a torn piece of paper, is located on the left side of the slide.
- The oceans are affected by global warming in other ways, as well. Many things that are happening to the ocean are linked to global warming. One thing that is happening is warm water, caused from global warming, is harming and killing algae in the ocean.
 - It is killing algae, but it is also destroying many huge forests.
 - Global warming is also causing many more fires that wipe out whole forests. This happens because global warming can make the earth very hot. In forests, some plants and trees leaves can be so dry that they catch on fire.



Solution

- Renewable energy
- Biofuels
- Afforestation
- Reduce the current rate of CFCs use
- Trap methane for fuel
- Potential of algae in Carbon dioxide utilization
- Sustainable agriculture

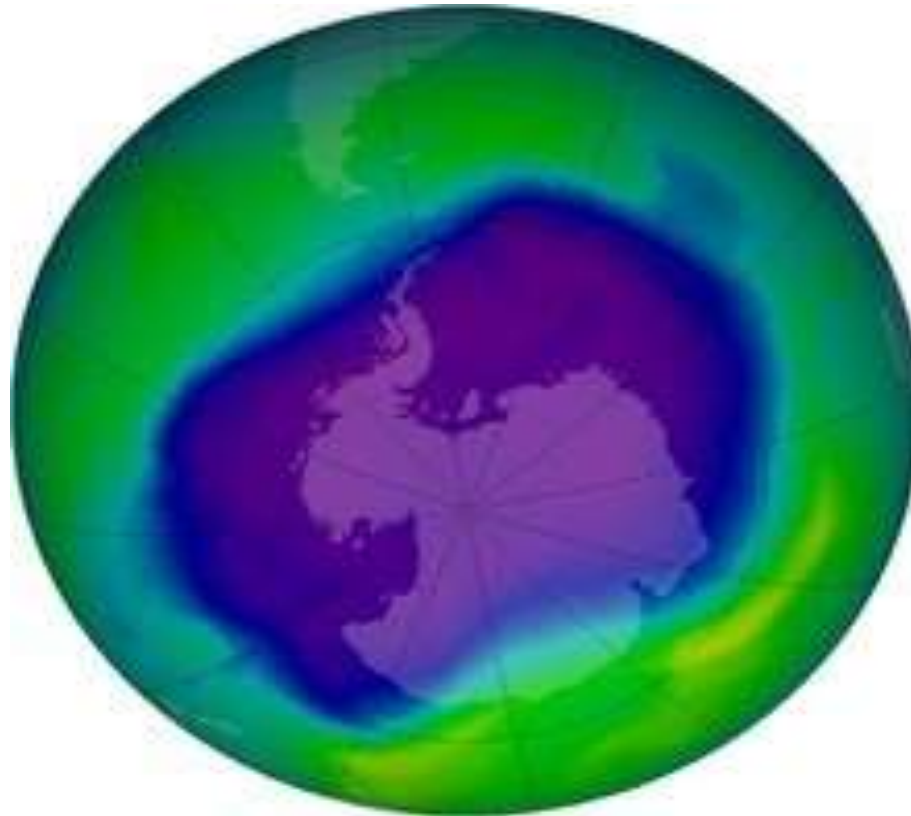
Acid Rain



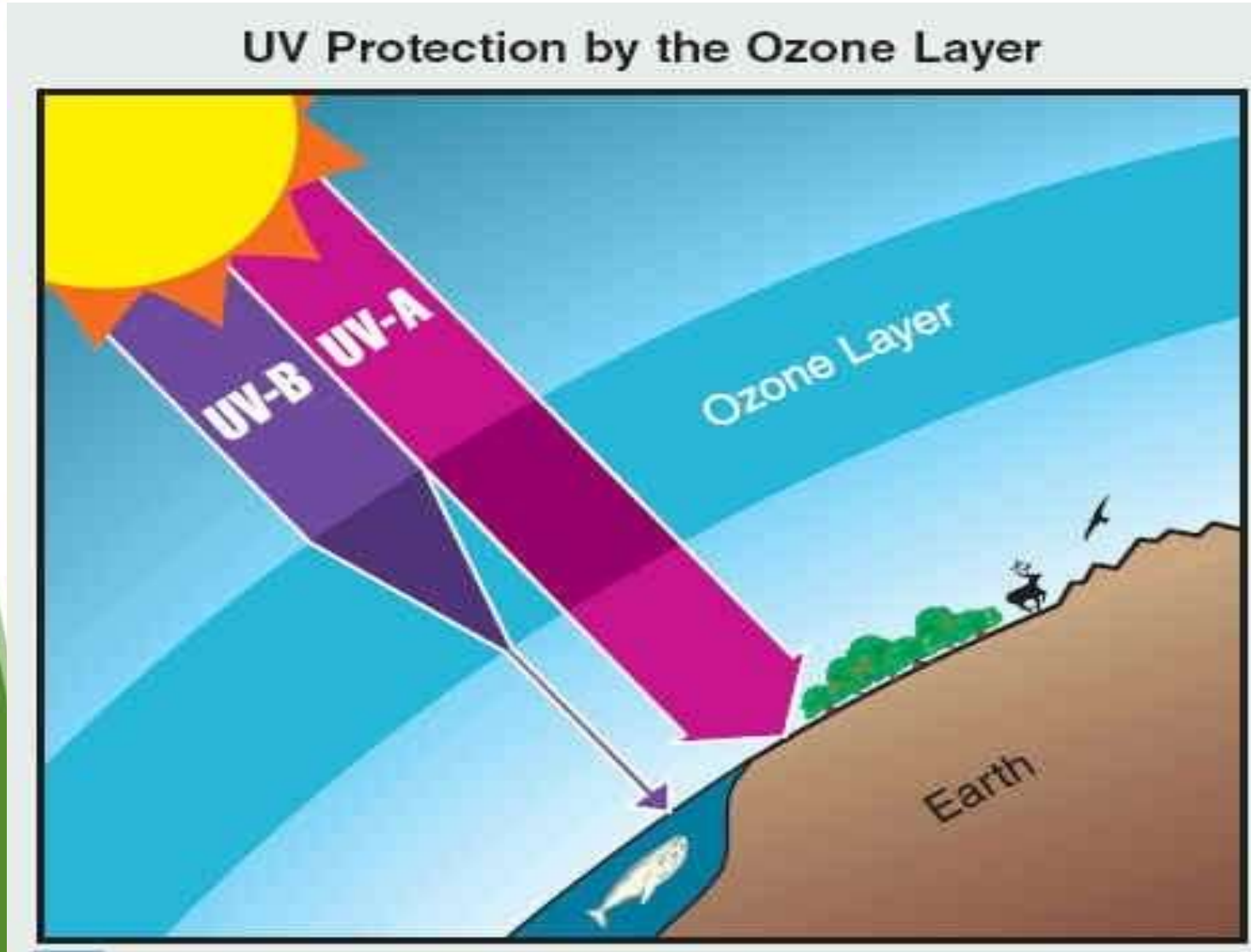
- "Acid rain" is a broad term referring to a mixture of wet and dry deposition (deposited material) from the atmosphere containing higher than normal amounts of nitric and sulfuric acids.
- Acid rain occurs when these gases react in the atmosphere with water, oxygen, and other chemicals to form various acidic compounds. The result is a mild solution of sulfuric acid and nitric acid.
- When sulfur dioxide and nitrogen oxides are released from power plants and other sources, prevailing winds blow these compounds across state and national borders, sometimes over hundreds of miles.
- pH less than 5.6

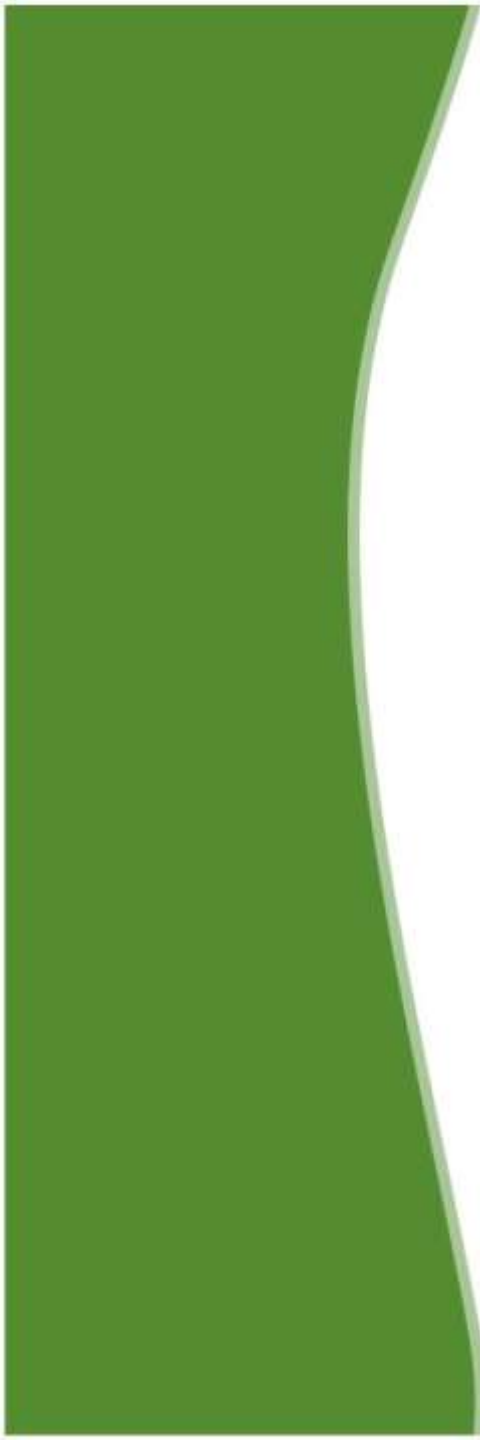
- If The acid chemicals in the air are blown into areas where the weather is wet, the acids can fall to the ground in the form of rain, snow, fog, or mist.
- As this acidic water flows over and through the ground, it affects a variety of plants and animals.
- The strength of the effects depends on several factors, including how acidic the water is.
- In areas where the weather is dry, the acid chemicals may become incorporated into dust or smoke and fall to the ground through dry deposition, sticking to the ground, buildings, homes, cars, and trees.
- Taj Mahal in Agra

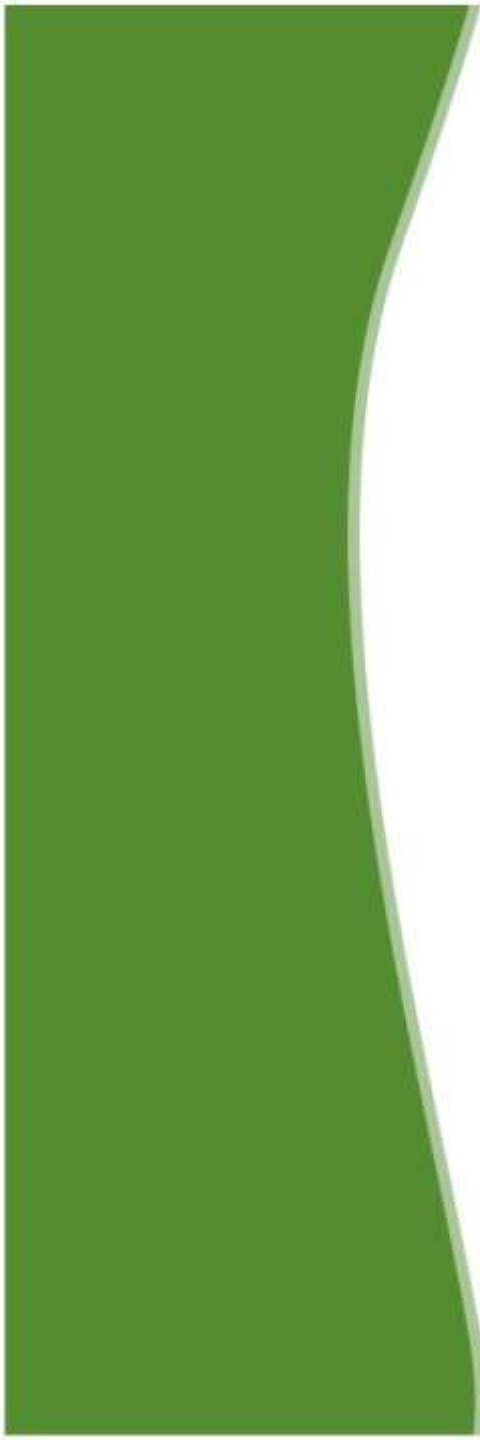
Ozone layer depletion



Natural sunscreen: Ozone layer



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- The production and emission of CFCs, chlorofluorocarbons, is by far the leading cause.
 - CFCs in the stratosphere. There, the chlorine atom is removed from the CFC and attracts one of the three oxygen atoms in the ozone molecule. The process continues, and a single chlorine atom can destroy over 100,000 molecules of ozone.
 - In 1984, ozone layer hole was discovered over Antarctica

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- MONTREAL PROTOCOL
 - Phase out the use of CFC's
 - Increase risk of Skin cancer
 - Loss of phytoplankton: they are sensitive to UV.
 - Fair people at higher risk

Consumerism and waste products

- Consumption of resources by people
- Earlier human needs were less, so was consumption rate
- Now changing lifestyles demand more
- Population also an issue

- People over -population
- Consumption over- population
- Model by Paul Ehrlich and John Hodlern:
 - Number of people x per capita use of resources x waste generated = Overall environmental impact

ENVIRONMENTAL LEGISLATION

- India first country to have made provisions for environment protection in its constitution
- After Stockholm Conference , 1972
- Many laws and rules have been made
- **Article 48- A :** *The state shall endeavour to protect and improve the environment and to safeguard forests and wildlife of the country.*
- **Article 51 A (g):** *- It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures*

ACTS

- Wildlife (Protection) Act, 1972
- Water (Prevention and Control of Pollution) Act, 1974
- Forest (Conservation)Act, 1980
- Air (Prevention and Control of Pollution) Act, 1981
- The Environment (Protection) Act, 1986
- The Biomedical waste (Management and Handling) Rules , 1998
- The Municipal Solid Waste (Management and Handling) Rules, 2000
- The Noise Pollution (Regulation and Control) (Amendment) Rules,2002
- The Biological Diversity Act,2002

Environmental Ethics

- Ethical behaviour is of utmost importance
- We believe and think: Man is all powerful and supreme creature of the earth.
- Nature has provided us with resources and she nourishes us like our mother, so we should respect and nurture her
- Live sustainably.

- Two views:
- Anthropogenic and Eco centric.
- Earth ethics or environmental guidelines help us to protect our mother earth.
- DO NOT's and DO's
- Having fewer wants = limits to growth = good environment

