



MODULE 3B

Subtopics: “Current Environmental Issue & Importance”

Environmental Science

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Course Content(s)

- ❖ Population Growth
- ❖ Global Warming & Climate Change
- ❖ Urbanization
- ❖ Automobile Pollution
- ❖ Acid Rain
- ❖ Ozone Layer Depletion
- ❖ Animal Husbandry

POPULATION GROWTH

What is Population Growth ?

Increase in the number of people that reside in **COUNTRY**, **STATE** and **CITY**. To determine whether there has been a **POPULATION GROWTH** the following formula has been used:

$$PW = (\text{Birth rate} + \text{Immigration}) - (\text{Death rate} + \text{Emigration})$$



POPULATION GROWTH



What is Population Growth ?

Population Growth Formula

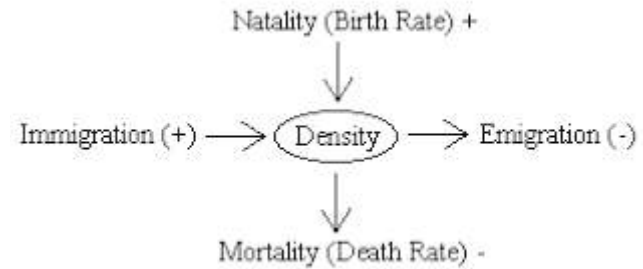
$$P = P_0 \times e^{rt}$$

- P = Total Population after time "t"
- P_0 = Starting Population
- r = % Rate of Growth
- T = Time in hours or years
- e = Euler number = 2.71828.....

POPULATION GROWTH

Factor Affecting the Population Growth

Population growth is based on four fundamental factors: **birth rate**, **death rate**, **immigration**, and **emigration**.





OTHER FACTORS THAT AFFECT POPULATION GROWTH

Limiting factor - any biotic or abiotic factor that restricts the existence of organisms in a specific environment

- **Examples:**
 - Amount of water
 - Amount of food
 - Competition
 - Predation
 - Amount of living space
 - Disease
 - Parasitism
 - *Can be density dependent or independent*
-



How does population growth affect the environment?

Some adverse effects:

- Decreased habitat for other species
- Resource depletion
 - Changes in land cover
 - Deforestation and loss of carbon sinks
 - Extinction of prey species
- Pollution
 - Nitrogen from fertilizers and wastes
 - Sulfur from combustion

What is Global Warming?



Global warming is the unusually rapid increase in Earth's average surface temperature over the past century primarily due to the greenhouse gases released by people burning fossil fuels.

What Causes Global Warming ?

Global warming occurs when **carbon dioxide (CO₂)** and other air pollutants and greenhouse gases collect in the atmosphere and absorb sunlight and solar radiation that have bounced off the earth's surface. Normally, this radiation would escape into space but these pollutants, which can last for years to centuries in the atmosphere, trap the heat and cause the planet to get hotter. That's what's known as the **greenhouse effect**.

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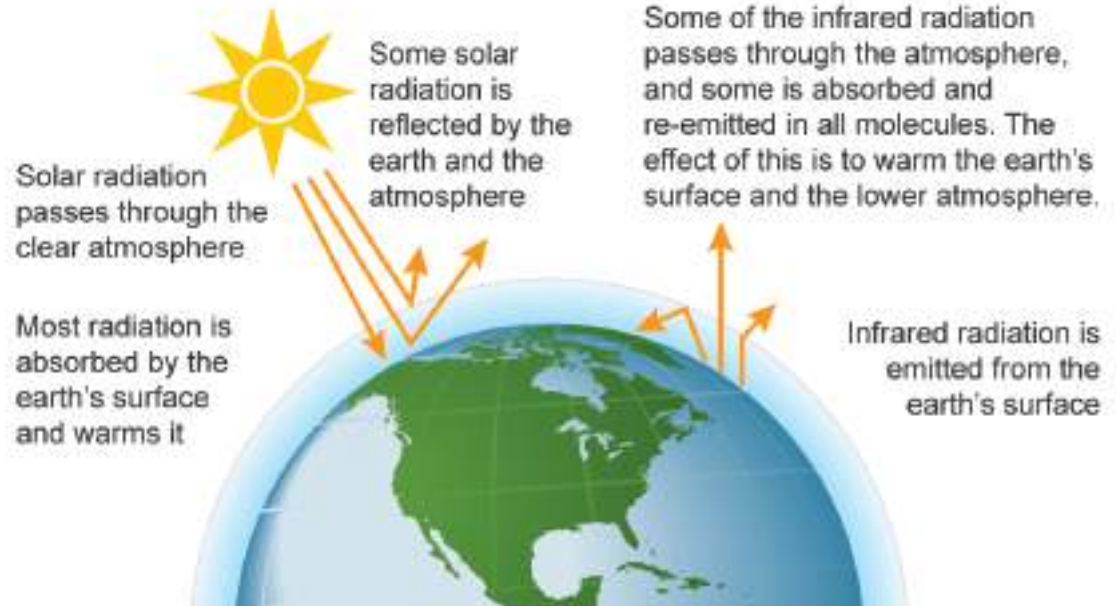
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What is Global Warming?



The greenhouse effect



What is Global Warming?

LIST OF GREEN HOUSE GASES

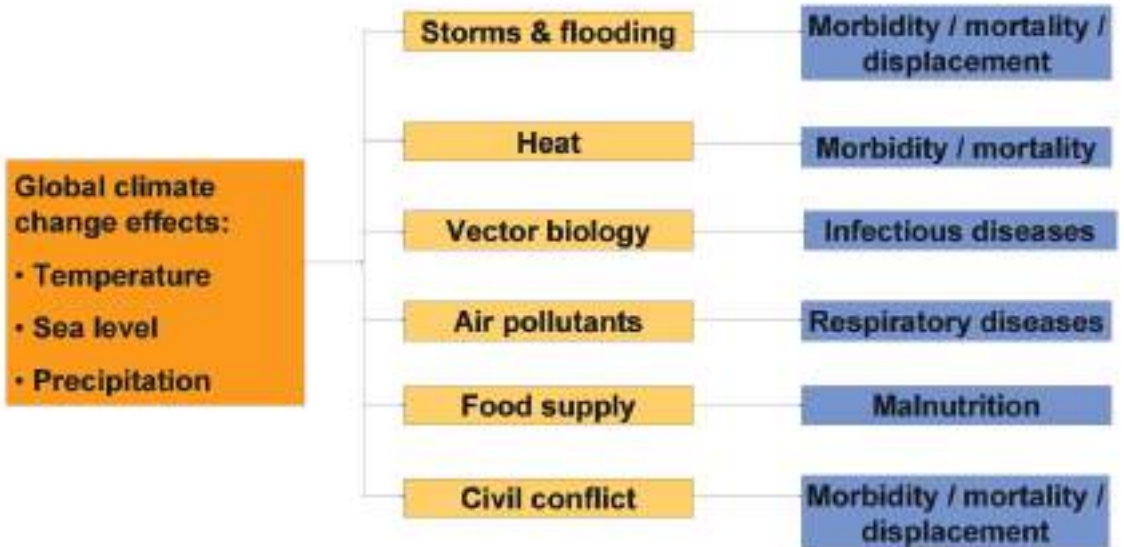
- Water vapor (H_2O)
- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Ozone (O_3)
- Chlorofluorocarbons (CFCs)
- Hydrofluorocarbons (includes HCFCs and HFCs)



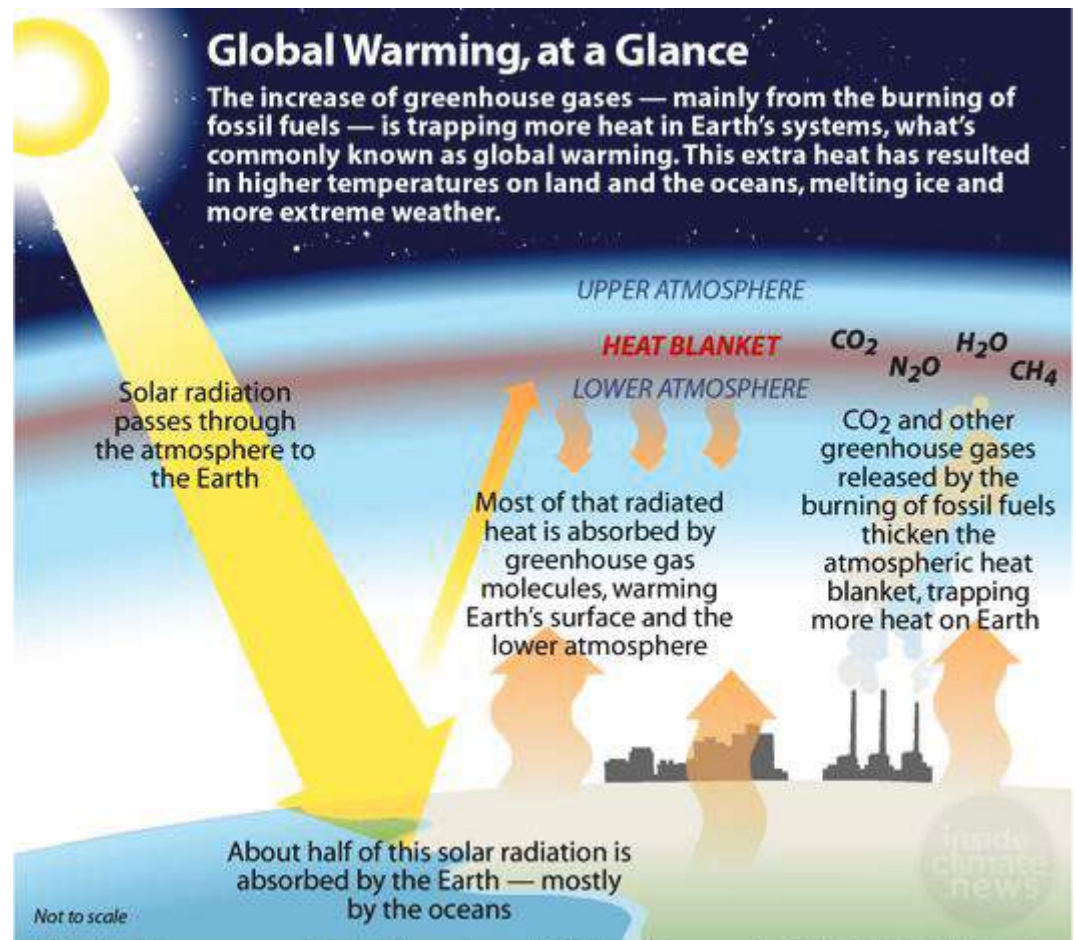
What is Global Warming?



Potential Impacts of Global Climate Change on Human Health



What is Global Warming?



SOURCES: NASA; Intergovernmental Panel on Climate Change; InsideClimate News research PAUL HORN / InsideClimate News



What is Urbanization?

- What is urbanization.
- increase in the proportion of a population living in urban areas;
- process by which a large number of people becomes permanently concentrated in relatively small areas, forming cities.
- the physical growth of urban areas.
- defined by the UN as the movement of people from rural to urban areas.
- **Advantages of Urban Centres**
- provide better employment, education, health care and cultural enrichment.(Moore et al, 2003).



The Causes of Urban Growth

Push Factors

- Lack of educational facilities
- Lack of job opportunities
- Lack of health facilities
- Lack of Sui gas, electricity and sewerage system
- Land lord system
- Unequality
- Low living standard
- Old traditions

URBANIZATION



These are the world's largest cities!

(in millions of inhabitants)



World Urbanization Prospects: The 2018 Revision

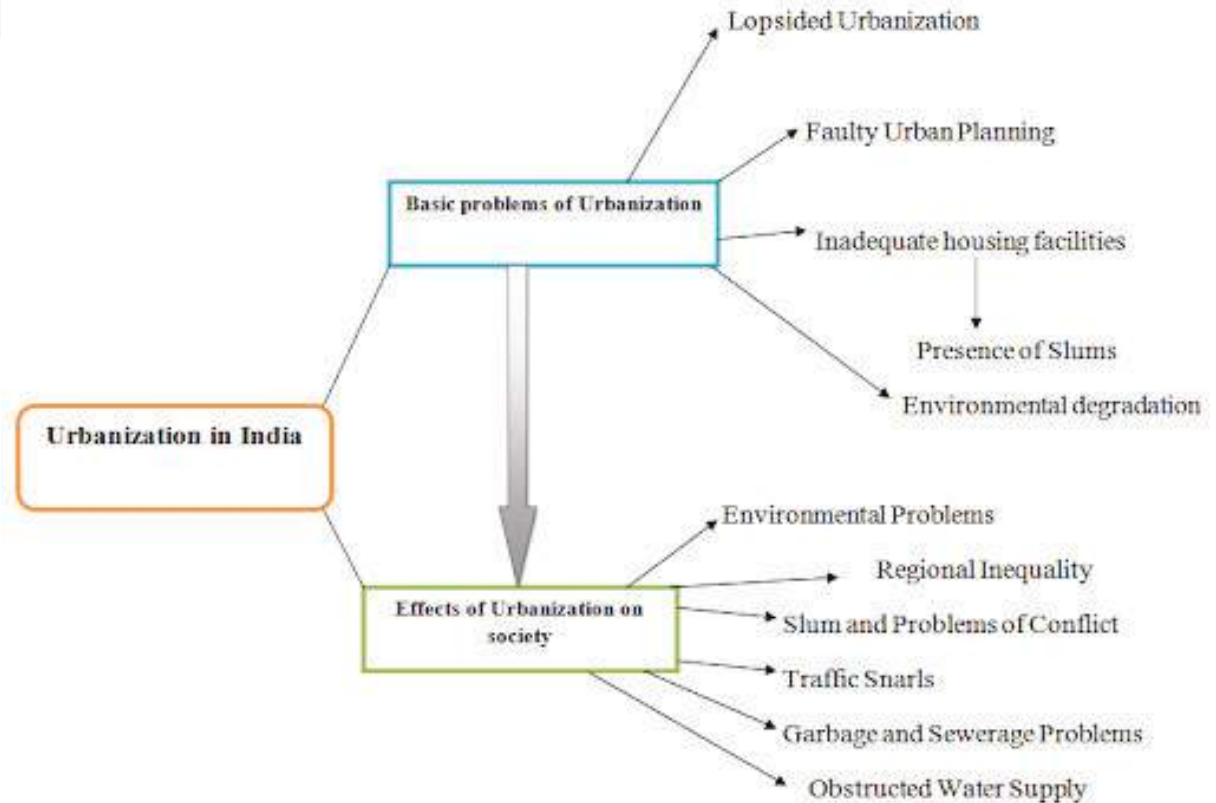
Access the report: bit.ly/wup2018 • #UNPopulation



URBANIZATION IN INDIA IMPACT ASSESMENT

International
Journal of Applied
Sociology

p-ISSN: 2169-9704
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(Source: Author)

AUTOMOBILE POLLUTION



Kindly refer the link below and take note in NOTEBOOK as much you like ! Thank You !

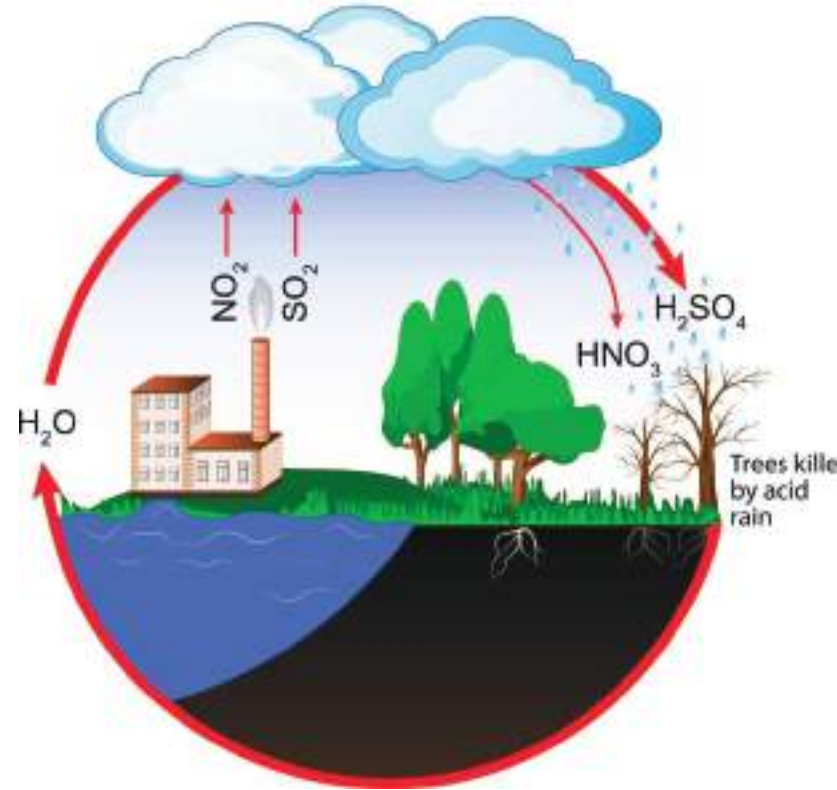
<http://www.yourarticlelibrary.com/environment/automobile-pollution-sources-effects-and-control-of-automobile-pollution/9984>

WHAT IS ACID RAIN ?

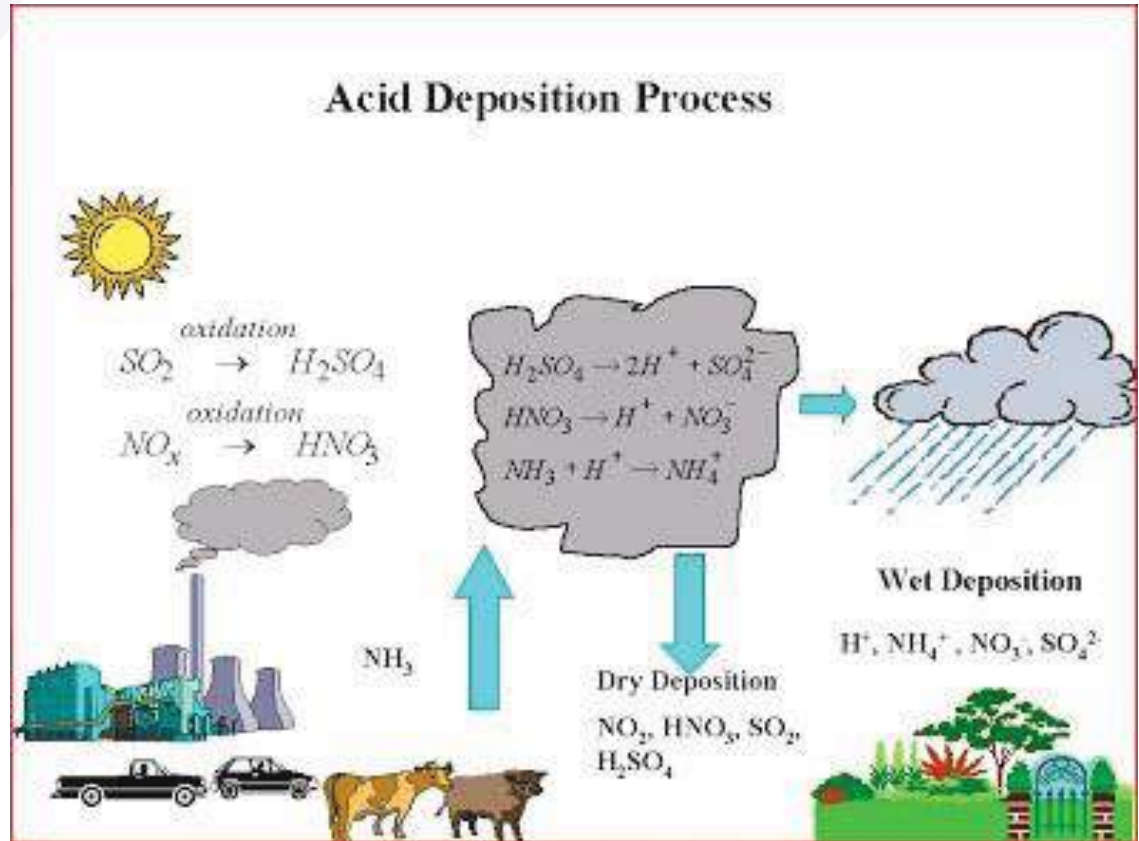


Acid rain, also called acid precipitation or acid deposition, precipitation possessing a pH of about 5.2 or below primarily produced from the emission of sulfur dioxide (SO_2) and nitrogen oxides (NO_x ; the combination of NO and NO_2) from human activities, mostly the combustion of fossil fuels.

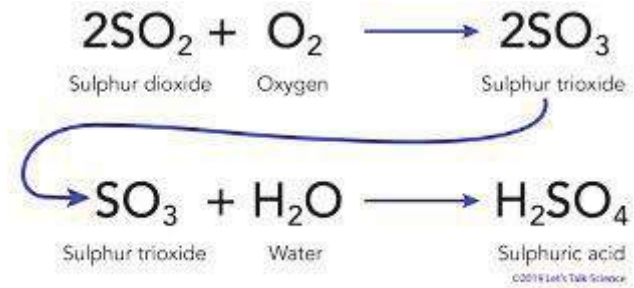
ACID RAIN



PROCESS OF ACID RAIN ?



PROCESS OF ACID RAIN ?



IMPACT OF ACID RAIN ON ENVIRONMENT



teachoo.com

Harmful effects of Acid Rain



CONTROL OF ACID RAIN ON ENVIRONMENT

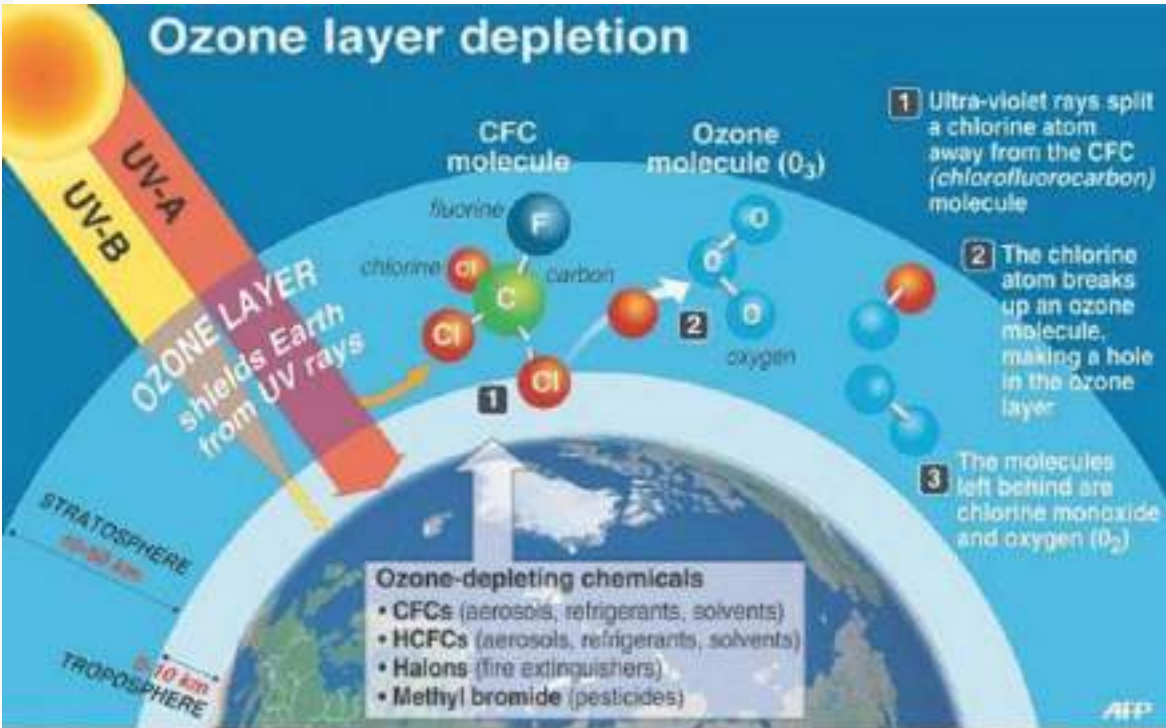


Solution Of Acid Rain

- *Fit scrubbers into factory's chimneys, which are chemical filters that remove impurities such as sulphur from smoke.*
- *Cars can be fitted with special converters which remove dangerous chemicals.*
- *Governments need to spend more money on pollution control.*
- *Governments need to invest in researching different ways to produce energy.*



OZONE LAYER DEPLETION

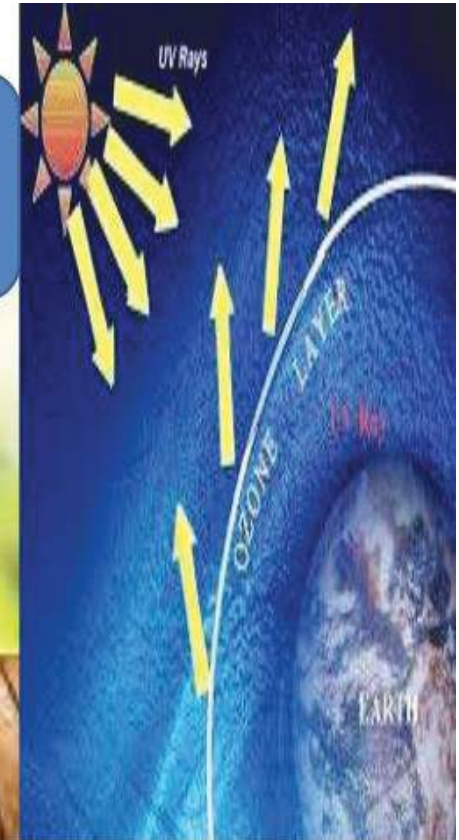


EFFECT OF OZONE LAYER DEPLETION:



EFFECTS OF OZONE LAYER DEPLETION

The ozone depletion in the stratosphere will result more UV radiation reaching the earth. This will effect human beings ,animals ,plants, micro-organism, materials, air quality etc.





Control of Ozone depletion

- The CFCs should be substituted with harmless chemicals like Hydro Chloro Fluoro Carbon.
- Complete ban on Halon.
- Use of compost fertilizer.
- Ban on atomic explosion.
- Plantation and conservation of trees.
- Public awareness programme.
- Reduce air pollution

ANIMAL HUSBANDRY

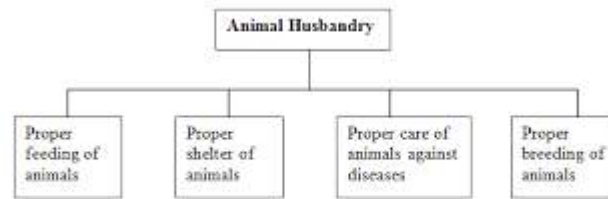


Fig: Various elements of animal husbandry

For detail Kindly refer the Link below. Thank you !

https://drive.google.com/open?id=1k8e7Ex1w3cTFV8jxyc1hkG_TWm9nClie

Thanks!

ANY QUESTIONS?

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