



- ENVIRONMENT  
- Part 2

## Green Plants

- Green plants make their own food. Animals (including humans) cannot synthesize food and they feed on either plants or other animals. In all cases the food for animals comes directly or indirectly from plants.
- Plants are 80 % of total living beings on Earth.
- Total bio-mass is estimated to be 550 gigatons, of that plants make up 450 gigatons. Bacteria 70 GT and Fungi 12 GT. Animal comprises only 2 GT of which half are arthropods- including insects, spiders and crustaceans.
- Angiosperms or flowering plants make up around 90% of all plant species.

## Manure

- Manures are organic substance obtained from dead plants and animal wastes.

# Agriculture

- The development of agriculture is about 10,000 years old. 'Agre' means field and 'cultura' means cultivation. The crops were of wheat and barley.
- Learning to grow crops meant that humans no longer had to wander around for food, and could settle down in communities.

## Air Quality

- Moderately Polluted 101-200 May cause breathing discomfort to people with lung diseases such as Asthma , and discomfort to people with heart disease children and older adults Colour code- yellow
- Poor 201-300 Colour code Orange
- Very Poor 301-400 RED
- Severe 401-500 DEEP BLOOD RED
- The index is centred around five chief pollutants.
- Particulate matter with a diameter less than 10 micrometre and particulate matter less than 2.5 micrometers
- Ozone, Nitrogen dioxide, Carbon monoxide

## Potassium Bromate and Potassium Iodate

- Potassium Bromate and Potassium Iodate are carcinogenic chemicals. They are used in bread making. The All India Bread Manufacturers Association decided to stop the use of these chemicals immediately.

## Carbon Neutral

- The Indira Gandhi International (IGI) Airport has become Asia-Pacific's only and one of the world's few airports to achieve a carbon neutral status. The announcement in this regard was made by Airport Council International (ACI) during the Airport Carbon Accreditation certificate presentation ceremony to IGI in Montreal, Canada.

## Paris Agreement

- The Union Cabinet has given its approval to ratify the Paris Agreement (on climate change) on Gandhi Jayanti i.e. on 2nd October 2016. The Paris Agreement was adopted by 185 nations in December 2015. India had signed the agreement in New York in April 2016. So far, 191 countries have signed the agreement. The Paris treaty on Climate Change will come into force when 55 countries contributing to 55 percent of total global emission ratify the agreement.



## Paris Agreement

- India has ratified the Paris Agreement on climate change on the 147th birth anniversary of Mahatma Gandhi. India's Permanent Representative to UN, Syed Akbaruddin handed over the Instrument of Ratification signed by President Pranab Mukherjee to the United Nations in New York. With this, India became 62nd country to ratify the agreement. These 62 countries including India are responsible for almost 52 percent of Green House Gases (GHG) emission.

## Shifting Cultivation

- It is a form of agriculture, in which an area of ground is cleared of vegetation and cultivated for a few years till the land is productive (Yield is good) then the area is abandoned for a new area until its fertility has been naturally restored. It is also known as slash-and-burn agriculture. Jhum cultivation is also like shifting cultivation. It is practiced in North Eastern Hill region of India. The people involved in this practice are called Jhumia. The practice involves clearing vegetative /forest cover on land/slopes of hills, drying and burning it before onset of monsoon and cropping on it thereafter.

## Paris Agreement

- The Paris Agreement to combat climate change agreed last year officially entered into force on 4th of Nov. Now nearly 200 countries will start executing plans to slash their greenhouse gas emissions. The pact seeks to keep a global temperature rise this century well below 2 degrees Celsius above pre-industrial level. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. Appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place to achieve the ambitious goals of the agreement. It will also support action by developing countries and the most vulnerable countries, in line with their own national objectives.

## IUCN

- The International Union for Conservation of Nature is an international Organization working in the field of nature conservation and sustainable use of natural resources. HQ: Switzerland  
Founded: 5 October, 1948
- Focus: Nature conservation, biodiversity

## Hazardous Material

- **AMERICIUM:** The radioactive source in smoke alarms. IT IS KNOWN AS CARCINOGENIC
- **LEAD:** used in batteries, CRT monitor glass, one 15 inch CRT tube contains 1.5 pounds of lead. LEAD EXPOSURE IMPAIRED COGNITIVE FUNCTIONS; BEHAVIOURAL DISTURBANCES; ATTENTION DEFICITS; CHILDREN ARE MORE PRONE
- **MERCURY:** in fluorescent tubes, thermostats, flat screen monitors: SENSORY IMPAIRMENT, MEMORY LOSS, MUSCLE WEAKNESS
- **CADMIUM:** Used in nickel-cadmium batteries now banned: SEVERE DAMAGE TO THE LUNGS AND KIDNEY; DEFICIT IN COGNITION AND BEHAVIOUR

## E-Waste

- Electronic waste is a term for electronic products that have become unwanted, non- working or obsolete, and have essentially reached the end of their useful life.
- Most electronics that are improperly thrown away contain some form of harmful materials such as BERYLLIUM, CADMIUM, MERCURY, LEAD
- Recycling and disposal of e-waste may involve significant risk to health and great care must be taken
- CRTs are relatively high concentration of lead and phosphors.
- An estimated 50 Million tons of e-waste are produced each year.

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## Bagasse

- Bagasse is the by-product of sugar cane processing.  
It is the fibrous matter.

Bagasse is used as a biofuel and in the manufacture of pulp and building materials.

For each 10 tonnes of sugarcane crushed, a sugar factory produces nearly 3 tonnes of wet bagasse

Molasses is a viscous by-product of the refining of sugarcane into sugar

Molasses is used in the production of citric acid, rum, as an iron supplement, as an additive in livestock feeds

Molasses is also used as a soil additive to promote microbial activity.



## Food Chain

- A food chain shows how the organisms are related with each other by the food they eat. Each level of a food chain represents a different trophic level.

A food web is the natural interconnection of food chains. Food chain starts from producer organisms such as grass or trees and ending at apex predator or decomposers such as bacteria or fungi.

## Largest Forest

- Madhya Pradesh has the largest forest cover of 77,522 square kilometer in terms of area in the country followed by Arunachal Pradesh with forest cover of 67,321 square kilometer.

## Sambhar Salt Lake

- The Sambhar Salt Lake, India's largest inland salt lake, is located 96km southwest of city of Jaipur. It surrounds the historical Sambhar Lake Town.

The lake receives water from five rivers Medtha, Samaod, Mantha, Rupangarh, Khari and khandela. Lake has 5700 square km catchment area.

Depth: 60 cm to 3 meters

Area: about 200 square kilometre

Shape: Elliptical

Sambhar Salt Lake is India's largest saline lake. It produces 196,000 tonnes of salt every year, which is around 9% of total salt production of India.

## Sambhar Salt Lake

- Salt is produced by evaporation of brine
- Sambhar lake is a wetland.
- Thousands of pink Flamingos and other birds migrate from northern Asia and Siberia.

Algae and bacteria growing in the lake provides the distinctive colour.

- The colour of the brine ranges from green, orange, pink, purple pink, red due to bloom of haloalkaliphilic microorganisms.
- Excavations near Sambhar lake was done in 1930s. Terracotta figurines, stoneware and decorated discs were found

## Chilka Lake

- Chilka Lake-Odisha: with covering 1,100 sq km. Chilka is the largest brackish water lake in Asia. It is the largest coastal lagoon in India and the second largest lagoon in the world. It is the largest watering ground for migratory birds on the Indian subcontinent.
- LAGOON: A LAGOON IS A SHALLOW BODY OF WATER SEPERATED FROM A LARGER BODY OF WATER BY BARRIER ISLANDS OR REEFS. LAGOONS CAN BE COASTAL LAGOONS AND ATOLL LAGOONS.

ATOLL: AN ATOLL ENCIRCLES A LAGOON

## SMOG

- Smog is a type of air pollutant. The word 'smog' was coined in the early 20<sup>th</sup> century as a combination of the words smoke and fog to refer to smoky fog, its opacity, and odour.
- Classic smog results from large amounts of coal burning in an area and is caused by a mixture of smoke and sulphur dioxide. Smog is yellowish or blackish fog formed mainly by a mixture of pollutants in the atmosphere which consists of fine particles and ground level ozone. Smog which occurs mainly because of air pollution, can also be defined as a mixture of various gases with dust and water vapor. Smog also refers to hazy air that makes breathing difficult.

## Chilka Lake

- It is the largest wintering ground for migratory birds on the Indian sub-continent.
- The lagoon hosts about 160 species of birds.
- The lake has large fishery resources. It sustains more than 150000 fisher-folk living in about 100 villages. In 1981, Chilka lake was designated the first Indian Wetland of international importance under the Ramsar Convention.
- Area: Water spread- 900 square km to 1165 square km. A 32 km long narrow outer channel connects the lagoon to the Bay of Bengal.

## Nilgiri Biosphere Reserve

- The Nilgiri Biosphere Reserve is an International Biosphere Reserve in the Western Ghats and Nilgiri Hills ranges of South India. The Nilgiri sub-cluster is a part of Western Ghats, which was declared a World Heritage Site by UNESCO in 2012. It includes the Aralam, Mudumali, Mukurthi, Nagarhole, Bandipur and Silent Valley national parks, as well as the Wayanad and Sathyamangalam wildlife sanctuaries.



## 'NEAM' Coated Urea

- Urea is used to produce some type of plastics, glues, animal feed and pesticides
- Urea is also used to produce milk

## Silent Valley National Park

- It is a national park with a core zone of 236 Sqkm. It is located in the Nilgiri Hills, within the Palakkad District of Kerala.

The park is one of the last undisturbed tracts of South Western Ghats mountain rain forests and tropical moist evergreen forest in India. The botanist Robert Wight named the area Silent Valley because of a perceived absence of noisy cicadas. Silet valley is home to the largest population of Lion tailed macaques an endangered species of primate. Kunthipuzha river passes through silent valley.

## Bio-Fertilizers

- It is a substance which contains living micro-organisms which when applied to plant promotes growth of plants and increases the availability of primary nutrients to the plant.  
Ex. Rhizobium, Azotobactor, Anabaena

- Thank you