

## 2.1 INTRO TO NATURAL RESOURCES

Natural resources are the resources available in nature like air, water, sunlight, soil, minerals, fossil fuels, forests, wild life etc.

### I . On the basis of origin,

#### **Biotic:**

- Biotic resources are obtained from the biosphere (living and organic material), such as forests and animals, and the materials that can be obtained from them.
- Fossil fuels are also included in this category because they are formed from decayed organic matter.

#### **Abiotic:**

- Abiotic resources are those that come from non-living, non-organic material.
- Examples of abiotic resources include land, fresh water, air and heavy metals including ores such as gold, iron, copper, silver, etc.

### ii. On the basis of their availability :

- **Renewable resources** are ones that can be replenished naturally.
- Some of these resources, like sunlight, air, wind, etc., are continuously available and their quantity is not noticeably affected by human consumption.
- **Non-renewable resources** are resources that form extremely slowly and those that do not naturally form in the environment.
- Minerals are the most common resource included in this category.

- By the human perspective, resources are non-renewable when their rate of consumption exceeds the rate of replenishment/recovery; a good example of this are fossil fuels, which are in this category because their rate of formation is extremely slow (potentially millions of years), meaning they are considered non-renewable.

### 2.2.2 NON-RENEWABLE RESOURCES

- limited supply.
- The supply comes from the Earth itself.
- It typically takes millions of years to develop, is finite.
- Two main categories; **fossil fuels and nuclear fuels.**
- **Fossil fuels** are derived from organic matter which has been trapped between layers of sediments within the Earth for millions of years.
- The organic matter, typically plants, have decomposed and compressed over time, leaving what are known as fossil fuel deposits.
- These deposits, and the materials produced from them, tend to be highly combustible, making them an ideal energy source.
- They are difficult to obtain as they are typically retrieved through drilling or mining, but fossil fuels are worth the effort for the sheer amount of energy they produce.
- **Crude oil** is a non-renewable resource that builds up in liquid form between the layers of the Earth's crust.
- It is retrieved by drilling deep into the ground and pumping the liquid out. The liquid is then refined and used to create many different products.
- Versatile used to produce things like plastics, artificial food flavourings, heating oil, petrol, diesel, jet fuel, and propane.

- The top three oil-producing countries are Russia, Saudi Arabia, and U S.
- **Natural gases** gather below the Earth's crust and, like crude oil, must be drilled for and pumped out.
- Methane and ethane are the most common types of gasses obtained through this process.
- These gasses are most commonly used in home heating as well as gas ovens and grills.
- Russia, Iran, and Qatar are the countries with the largest recorded natural gas reserves.
- Coal is the last of the major fossil fuels.
- Created by compressed organic matter, it is solid like rock and is obtained via mining.
- Out of all countries, China produces the most coal by far.
- **Nuclear Fuels** - The other form of non-renewable resource used to produce energy, nuclear fuels, is primarily obtained through the mining and refining of uranium ore.
- Uranium is a naturally occurring element found within the Earth's core. Most uranium deposits occur in small quantities which miners gather together, refine, and purify.
- Once gathered, the uranium is brought together and compounded into rods. The rods are then submersed into tanks of water.
- When it reaches critical mass, uranium begins to break down and release energy which heats the water it is immersed in. This is known as "fission."
- The heated water then creates pressure and it is this pressure which drives the turbines that generate the electricity we use every day.

- They are [key](#) to maintaining the Earth's environment since they are the cleanest of all non-renewable resources.