



**Addis Ababa City Government Education
Bureau**



**Etege Menen Girls' Boarding Secondary
School**

**Geography Department
Grade 10 Geography Unit- 3 Note**

Prepared by; Genene Tadesse

3.1 Overview of Major Natural Resources of the World

- **Natural resources** are parts of the environment that people can extract and exploit for their advantage.
- People do not make natural resources; instead, they are collected or harvested from the environment.
- On the basis of the **regeneration capacity**

- **Renewable resources** are those that can be replenished by natural processes at a rate comparable to their consumption by humans because they regenerate themselves through reproduction or recycling. For example, **Sunlight** and **wind**. Whereas , **non-renewable resources** are those that exist in ***fixed amounts*** and can eventually be exhausted. Once used, they cannot be replaced within a human lifespan. For examples, fossil fuels like **petroleum, natural gas** and **coal**.

- Our planet is abundant with natural resources that are essential for our survival. However, the challenge lies in utilizing these resources without causing **harm** or **degradation** to the environment. Our quality of life and survival hinge on our ability to use, rather than abuse, the environment.

- Sustainable use of resources is crucial for our long-term survival. This refers to the utilization of resources in a *way* and at a *rate* that does not lead to long-term environmental degradation, thereby ensuring that the needs and aspirations of both **present** and **future** generations can be met. It is a way that meets the needs of the **present** and also preserves the resources for **future** generations.

- To achieve sustainable use of resources, we need to implement the principles and methods of **Natural Resource Management (NRM)**.
- **NRM** refers to the sustainable utilization of major natural resources such as land, water, air, minerals, forests, fisheries, and wild flora and fauna.

- ❖ Key strategies for sustainable **NRM** include:
 - Sustainable management of land resources;
 - Maintaining and enhancing water resources;
 - Conserving and recovering biodiversity;
 - Enhancing skills, capacity, and engagement of people;
 - Protecting and enhancing the marine and coastal environment;
 - Delivering high-quality planning that leads to effective action.

3.1.1 The Major Natural Resources of the world

- Our planet, Earth, is endowed with a variety of natural resources. These resources are essential for our survival and well-being. However, there are certain natural resources that we depend on more than others.
- Natural resources serve **two** primary functions: they provide **consumptive use** and **public good services**.

- **Consumptive use** refers to the utilization of resources in a way that **reduces their supply**. For instance, mining and logging in a forest are examples of consumptive use as they deplete the resource. On the other hand, **public good** is a good that benefit many people, regardless of whether they have **paid for them or not**. Here is a list of natural resources that are extremely important to the existence of life on Earth .

1. Water

- It is the 1st and arguably the most vital natural resource on our list. Without water life would not be able to thrive on the Earth. It covers approximately **71%** of the Earth's surface, with **oceans** holding about **96.5%** of all water.
- While it is technically a renewable resource, the amount of **fresh or drinkable water** is very small. Freshwater makes up only about **2.5%** of the total amount of water on Earth.

- Most of the freshwater cannot easily be accessed since it is found **underground** or in a form of **ice and snow** in remote areas.
- In addition, water in **seas** and **oceans** is **saline** hence, it cannot be directly used for household use and drinking purposes. Of course, there are systems in place to purify non-drinkable water into water safe for consumption through **filtration methods**.

Table 3.1: The Earth's Water Resources

Category	Total volume (km ³)	Percent of total	Percent of fresh
World ocean	1,338,000,000	96.5	
Groundwater (to 2,000 m)	23,400,000	1.7	
Predominantly fresh groundwater	10,530,000	0.76	30.1
Soil moisture	16,500	0.001	0.05
Glaciers and permanent snow	24,064,100	1.74	68.7
Antarctica	21,600,000	1.56	61.7
Greenland	2,340,000	0.17	6.68
Arctic Islands	83,500	0.006	0.24
Mountain areas	40,600	0.003	0.12
Ground ice (permafrost)	300,000	0.022	0.86
Lakes	176,400	0.013	
Freshwater	91,000	0.007	0.26
Salt water	85,400	0.006	
Marshes	11,470	0.0008	0.03
Biological water	1,120	0.0001	0.003
Atmospheric water	12,900	0.001	0.04
Total water	1,385,984,610	100.00	
Freshwater	35,029,210	2.5	100.00

- Furthermore, **climate change** affecting freshwater by reducing its availability for humans. Due to the changes in **weather** and **increase in ice melt in the poles**, precipitation patterns have been changing and reserves of freshwater are quickly disappearing.

2. Air

- It is an important natural resource that all living things need.
- It is more than oxygen and holds **moisture**, which helps regulate temperature both on the Earth's surface and in humans.
- **oxygen** is extremely important because every living thing needs oxygen to survive.

- It also includes the atmosphere that is necessary for containing gases needed to keep the temperature of the Earth at a constant and warm enough to support life.
- It also regulates the **winds** which are renewable resources. **Windmills or turbines** have been created to harness this energy and use it to **generate electricity**.

- However, the quality of breathable air is deteriorating due to **pollution**. In some parts of the world, air pollution levels are so high that people have to **wear face masks to avoid inhaling toxins**. Air pollution can lead to various **health problems**, including **cancer**.
- To combat air pollution, to **reduce carbon dioxide emissions** using various means such as **renewable energy sources**

3. Soil

- It is a resource that contains numerous **minerals** and **nutrients**, which are essential for plant growth. It is also an agent of the **nitrogen cycle**, a process that converts atmospheric nitrogen into basic ingredients that plants use to make their own food.
- It is threatened by **pollution**. Soil pollution, caused by **overgrazing**, **landfills**,

- These pollutants can lead to a decrease in crop production and can cause plants to contain chemicals that are harmful if consumed by humans.
- Soil pollution can lead to **desertification** which means the fertile land becomes barren and unable to support plant life.

4. Forest

- Forests are incredibly important for our planet. Trees in the forests produce oxygen, help manage carbon dioxide levels in the atmosphere, and provide a source of heat for homes.
- Forests, especially **tropical rainforests**, are also rich in biodiversity, with about **80%** of the world's species living there. Many **medicinal drugs** are derived from

- However, forests are being constantly threatened by **deforestation**. This is unwise destruction of trees by cutting them down. The reason for this deforestation is for **lumber, clearing of land for plowing, and other causes such as illegal logging and forest fires**, etc.
- If we are to continue to thrive on this Earth, we have to start treating forests carefully and plant more trees annually

5. Minerals

- Minerals are very important for **industrialization**, serving as **the raw materials for electronics** such as **computers** and **cellphones**, and **for construction purposes**.
- They can be classified as **metallic**, which can be melted to create new products, or **nonmetallic**, which are combinations of minerals that do not produce new products

- As minerals are nonrenewable resources, their wise use or sustainable use of the resources is essential. This is often achieved through the **reuse** and **recycling** of resources.

6. Oil

- It is an essential natural resource.
- It is one of the very scarce nonrenewable natural resources. This scarcity often leads to **geopolitical tensions, wars, and conflicts**

- Petroleum products are very important in our daily lives. They are used in many of our industries, like **transportation** and **manufacturing**. This means that the cars, buses, and trucks we use for travel, and the factories that make our goods, all depend on petroleum products.
- We use a lot of oil in our daily lives, and because of this, we are using it up very quickly. **Some people** think that we might

- Despite this, many *companies* and *governments* are still trying to get as much oil as they can, through methods like **fracking** and **drilling**.
- But if we want to make sure we don't run out of oil, we need to start using other types of energy. This includes renewable resources like *wind*, *sunlight*, and *water*. We also need to start using more *green technology* and countries need to find

3.2 Major Drainage and Water Resources in Africa

- **A drainage basin** is an area of land where surface water from rain converges to a single point at a lower elevation. This usually appears at the exit of the basin, where the main river joins another water body such as a river, lake, reservoir, estuary, wetland, sea, or ocean.
- It also refers to the entire geographical

- It is also known as **catchment, catchment area, catchment basin, drainage area, river basin and water basin.**
- Drainage basin also consists of parts like **tributaries** (smaller rivers that flow into the main river), **confluences** (places where two rivers meet), and an **outlet** (the point where the river flows out).

- **A watershed** refers to a divide that separates one drainage area from another drainage area. It is also higher ground which serves as a source region for streams and rivers that flow in different direction within their own distinct basins.

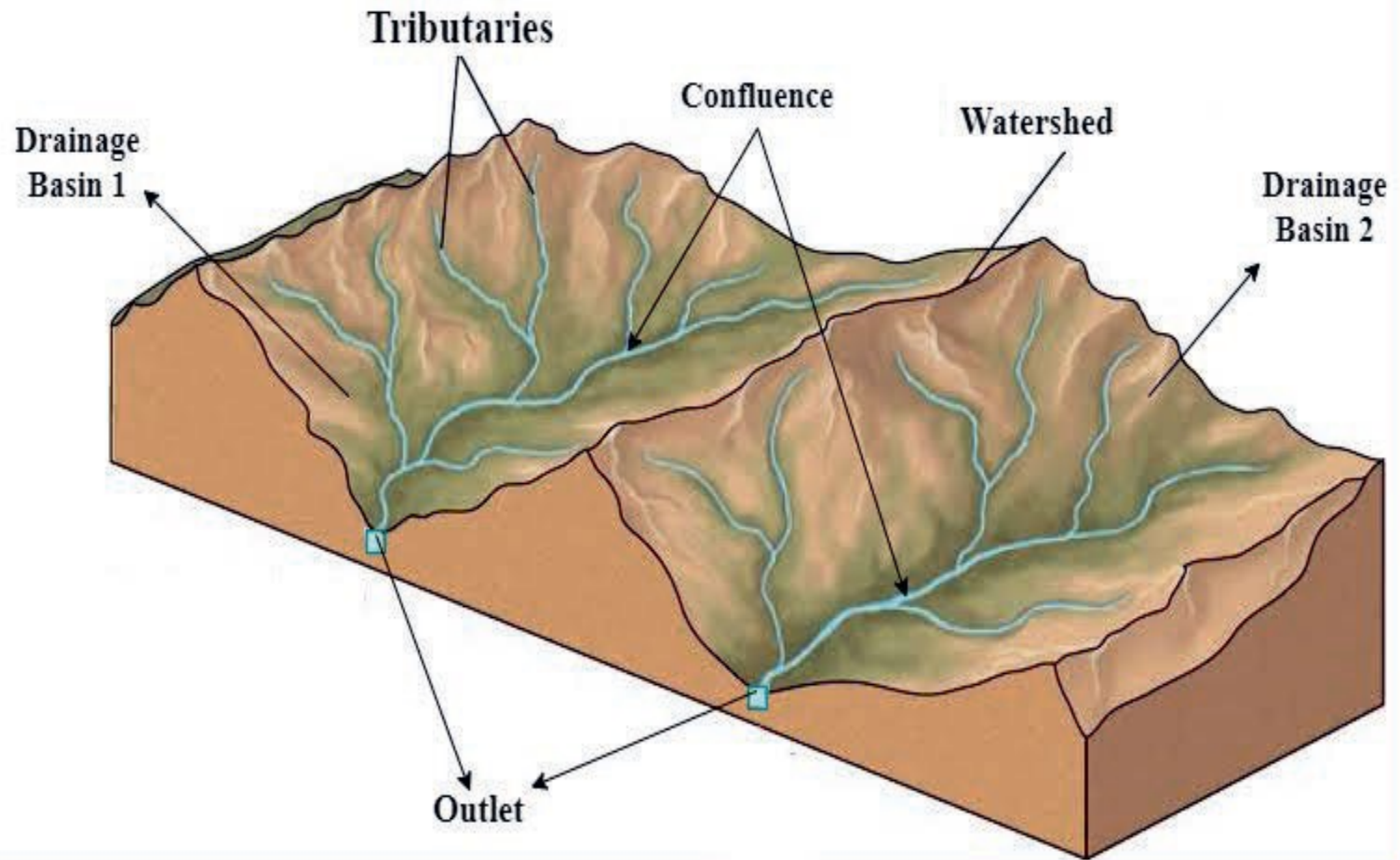


Fig. 3.2 Drainage Basin and its Parts

