SOCIAL STUDIES

Student Textbook

For Grade 8

Addis Ababa City Administration Education Bureau

Addis Ababa / Ethiopia / 2015 E.C.

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Grade 8

Student Textbook

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First edition 2022,Addis Ababa

Acknowledgment

This textbook development and publishing would not have been possible without the commitment and support of Ato Zelalem Mulatu - the AAEB head. He deserves deep gratitude for his patient guidance, enthusiastic encouragement and useful critiques. Special thanks should also be given for his advice and assistance in keeping the progress on schedule.

Each of the members of the management - Ato Adimassu Dechasa, Ato Dagnaw Gebru, Ato Samson Melese, W/ro Abebech Negash, Ato Sisay Endale and Ato Desta Mersha has played a significant role in providing professional guidance, valuable support, and constructive recommendations for the realization of this project.

Special thanks should go to primary and secondary school principals that had great share in inspiring their teachers to successfully accomplish their duty and play key role in concerted effort to a tremendous success.

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UNIT 1

PHYSICAL CHARACTERISTICS OF THE EARTH

Learning Outcomes

At the end of this unit, learners will able to:

- Differentiate between internal and external forces shaping the surface of the earth;
- Identify the types of land forms formed by the earth's internal and external forces;
- Describe the different thermal and compositional layers of the Earth's atmosphere;
- Distinguish the difference between weather and climate;
- Identify elements and controls of weather and climate.

Main contents

1.1 Forces shaping the Earth's surface.

1.2 Composition and structures of the Earth's atmosphere

1.3 Elements and controls of weather and climate

- ***Unit Summary***
- ***Review Questions***

1.1 Forces Shaping the Earth's Surface

Competencies: After studying this lesson, learners will be able to:

- Describe internal and external forces shaping the surface of the earth;
- Identify land forms created by external and internal forces;
- Explain how the earth's internal and external force affect human life;

These are the words you should try to learn for this lesson

Top ten words

- Anticline
- Crater
- Denudation
- Exfoliation
- Faulting
- Fissure
- Fold mountains
- Magma
- Richter scale
- Weathering

More key words

- Block mountains
- Earthquake
- Epicenter
- Lava
- Normal fault
- Reverse fault
- Seismometer
- Stalactite
- Syncline

1.1.1 Internal or Tectonic Forces and Resultant Landforms

Start-up question

What are the internal forces that affect the formation of landforms?

Internal forces are forces that come from the inside of the earth. These forces form the ups and downs on the earth's crust. These forces include folding, faulting, volcanism and earthquakes.

I. Folding

Folding is the bending of rock layers due to earth movements from one or two sides. Folds are most visible in rocks that contain layering (sedimentary rocks).

A **monocline** is a type of fold in which all rock layers bend in the same direction. If the layers of rock bend upward, it is called **anticline**. If the layers of rock bend downward, it is called **syncline**.

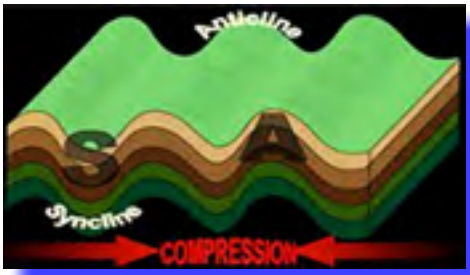


Figure 1.1 Anticline and syncline

Fold Mountains

Start-up questions

What are Fold Mountains?

List the major Fold Mountains of the world.

Fold Mountains are formed by crust which has been uplifted, and folded by compressional forces. Fold mountains are usually formed from sedimentary rocks and are usually found along the edges of continents. This is because the thickest deposits of sedimentary rock are generally accumulated along the edges of continents.

The following are major Fold Mountains of the world:

1. Andes (South America)
2. Rockies (North America)
3. Alps (Europe)
4. Himalayas (Asia)
5. Atlas (North Africa)
6. Cape Ranges (South Africa)
7. Australian Alps (Australia)

Figure 1.2 Major Fold Mountains of the world

II. Faulting

Start-up questions

What is faulting?

Describe the major features formed by faulting.

Movements in the crust of the earth sometimes make cracks. These cracks are called faults. Faults occur due to two basic forces. These are tensional and compressional forces. Tension force causes a **normal fault**, and compressional force causes a **reverse fault**.

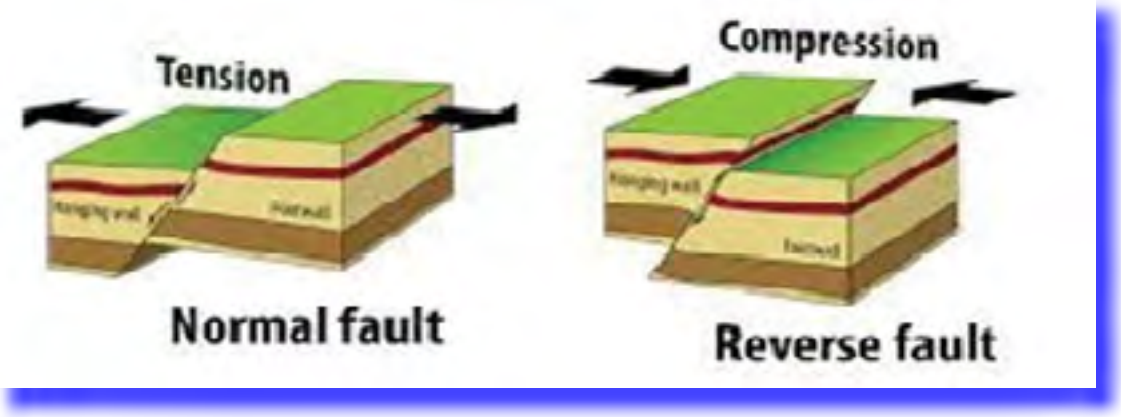


Figure 1.3 Normal and reverse fault

Rift valleys and block/Horst/ mountains are major features formed by faulting.

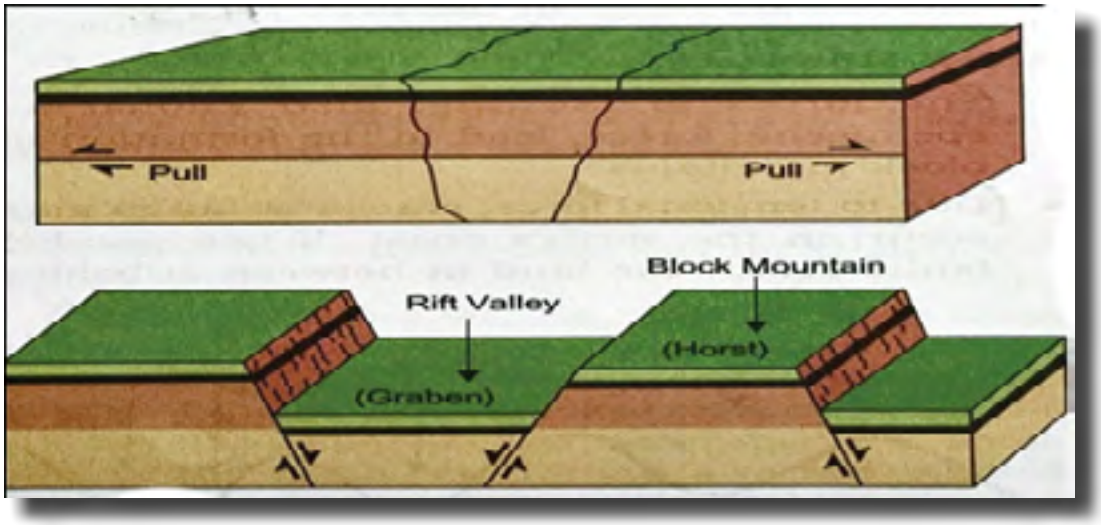


Figure1.4 Rift valley and Block Mountain

Rift Valleys

Start-up questions

What is rift valley?

How is it formed?

A rift valley is formed when the land between two parallel faults sinks down.

The largest rift valley in the world is the East African Rift Valley. It extends 7200 km from Syria to Mozambique, passing through the Red Sea; it touches Eritrea, Ethiopia, Kenya, Tanzania, Democratic Republic of Congo (DRC), Rwanda and Burundi. It covers 5600 km in Africa.

Figure 1. 5 The Great East African Rift Valley

The Ethiopian Rift Valley is part of the East African Rift Valley. It extends from northeast to south west. Features found in the Rift Valley include active volcanoes, lakes, hot springs and fumaroles.

Block (Horst) Mountains

Start-up questions

What is Block Mountain?

How is it formed?

Block Mountains are formed by the uplift of land between two parallel faults. These mountains are found closer to fold mountains in many parts of the world.

III. Volcanism

Start-up questions

What is volcanism?

What are the landforms formed by volcanism?

Volcanism is the process by which molten rock (magma) is forced out to the surface of the earth. The high temperature inside the earth changes rocks into molten magma. The magma that reaches the surface is called **lava**.

The lava may come out on the surface through a single hole called a **vent** or several cracks called **fissures**.

When a hole is formed at the top of the cone of a volcano it is called **crater.** If the hole or crater is very wide, it is known as **caldera.** A lake formed in a caldera is known as Crater Lake. Mount Zequala is a very good example of cone-shaped volcanic mountain with a crater lake.

Volcanic activities may result in two deffrent types of landforms. These are:

A. Extrusive landforms: form on the surface of the earth. They include volcano, crater, caldera and lava.

B. Intrusive landforms: result from solidified magma before reaching the surface of the earth. When magma collects in the crust, it forms batholiths, laccoliths, dykes and sills.

Batholith: is a very large mass of magma which accumulates in the crust.

Laccolith: is a mushroom shaped body of intrusive igneous rock smaller than a batholith.

Dyke: is formed when magma solidifies in a vertical or near-vertical crack.

Sill: is a near horizontal intrusion of igneous rock between two rock layers.

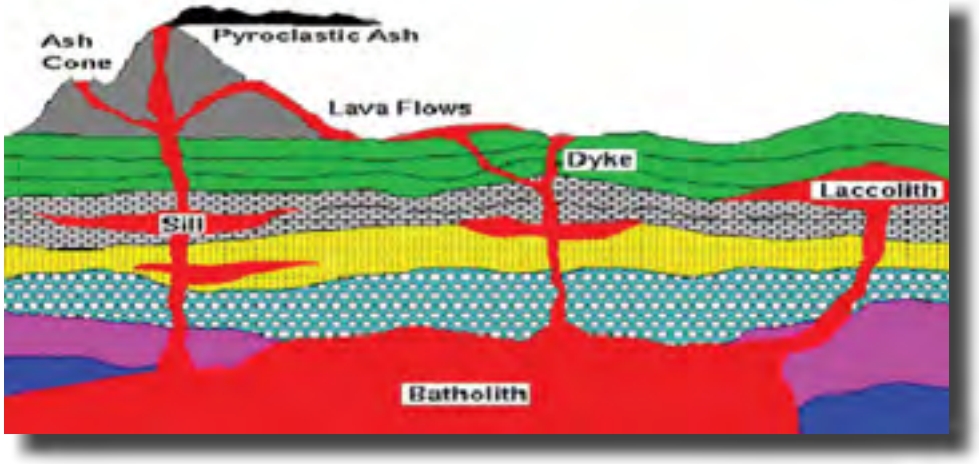


Figure 1.6 Major volcanic features

Types of volcanoes

Volcanoes have three types. These are:

i. Active volcanoes:- these types of volcanoes have a recent history of eruptions; they are likely to erupt again. Example: Erta'li, Fentale Dubbi and Damailai.

ii. Dormant volcanoes:- they have not erupted for a very long time, but they may erupt at a future time. Example: Tatali, and Dabbahu

iii. Extinct volcanoes:- they are dead volcanoes that are not expected to erupt in the future. Example: Mt Ras Dejen, Mt Batu, Mt Zuquala etc

Effects of volcanism on human life

Volcanic eruption has both negative and positive impacts on human life. Let us look at these impacts as follows:-

i. Advantages of volcanic eruption

Volcanic eruption has the following advantages. It:

- Provides hot water for bathing
- Helps to generate geothermal energy
- Provides fertile soils that is good for farming
- Creates dramatic scenery that can attract tourists
- Forms hard and expensive minerals used as jewelry
- Provides hard rocks for building, etc.

ii. Disadvantages of volcanic eruption

Volcanoes emit hot, dangerous gases, ash, lava, and rock that are powerfully destructive. Volcanic eruptions can result in additional threats to health, such as floods, mudslides, power outages, drinking water contamination and wildfires. It also results in infectious disease, respiratory illness, burns, injuries from falls, and vehicle accidents related to the slippery, hazy conditions caused by ash.

IV. Earthquake

Start-up questions

What is an earthquake?

Where do earthquakes frequently occur?

Earthquakes are sudden movements in the earth's crust. They are caused by internal movements deep down inside the earth. Earthquakes are frequently associated with faults.

They take place along fault lines where the earth's crust is weak. When an earthquake occurs, vibrations from the centre spread out in the form of waves in all directions.

The point at which an earthquake originates is called the **focus**. The point on the earth's surface immediately above the focus is called the **epicenter**. The intensity of an earthquake is measured by an instrument called a **seismometer,** and it is recorded on a seismograph. The scale which gives the magnitude is called the **Richter scale.** It ranges from 0 to 9. The recordes that range to 5 indicate **minor or light**; if it is 5 to 7 **moderate to strong**. If the range is 7 to 8, it is an indication of **major** earthquake and if it ranges above 8 or more, it is considerd as a **great** one. The Ring of

Fire, also referred to as the **Circum-Pacific Belt**, is a path along the Pacific Ocean characterized by active volcanoes and frequent earthquakes. The majority of Earth's volcanoes (75%) and earthquakes (90%) take place along the Ring of Fire.

Effects of Earthquakes

- Loss of life and destruction of property
- Displacement of parts of the earth's crust vertically or laterally
- Landslides and deep cracks in surface rocks
- The devastation of cities, fires and diseases
- The rise or lowering of the sea floor

Activity 1.1 A

A. **Questions based on facts**

1. **Define the following terms:**

   a. Folding c. Earthquake e. Epicenter

   b. Volcanism d. Syncline

2. What does it mean by internal force?
3. What is the difference between anticline and syncline?
4. What are the major features formed by faulting?
5. What are the three types of volcano? How do they differ from each other?
6. What is the difference between magma and lava?
7. What are the impacts of earthquake on human life?

B. **Group work**

1. Show the location of the Great East African Rift Valley on the map of Africa and list down the countries touched by this rift valley.

1.1.2 External or Gradational Forces and Resultant Landforms

Start-up question
What does it mean by external forces?

External forces are the forces that act upon the earth's surface from the outside. These forces level the ups and downs of the earth's surface. This process occurs in two ways: denudation and deposition.

Denudation: is the lowering of the land by wearing away of the surface of the earth. It consists of **weathering** and **erosion**.

1. Weathering

Weathering refers to the breaking down of rocks into smaller particles. There are two types of weathering. These are physical (mechanical) and chemical weathering.

i. Physical weathering: it is the process by which rocks are broken into smaller pieces. Its main agents (causes) are temperature change, frost action and plant and animal action.

a. **Temperature change**: The temperature variation between day and night causes rock to expand and contract. Due to this process the rock layers peel off and fall to the ground. The process of breaking rock layers because of changes of temperature is called **exfoliation (Onion skin weathering).**

Figure 1.7 Exfoliation (left) and Frost action (right)

b. **Frost action**: Rain water fills the cracks and the pores of rocks, and expands on freezing, by exerting a great pressure on the rocks. The alternate thawing (warming) and freezing in time make the rocks break up into pieces. These fragments pile up at the bottom of the main rocks forming **screes**.

c. **Plant and animal action**: The roots of some plants may enter the cracks of rocks and push the rock apart. This leads to the breakdown of the rocks. Some animals make holes into the ground to find food and shelter. This also breaks up rocks.

ii. Chemical weathering: it is a process which causes complete change in the internal structure of rocks. Its main agents are rain action and plant and animal action.

a. Rain action: When rain water passes through the atmosphere, it takes in carbon dioxide and forms carbonic acid. When carbonic acid comes in contact with limestone, it dissolves the limestone and forms caves. The cave contains features, such as: stalactites, stalagmites and pillars.

Stalactite: is a limestone column that hangs down from the roof of the cave.

Stalagmite: is a limestone column that grows upwards from the floor of the cave.

Pillar: is formed when stalactite and stalagmite join together.

b. Plant and animal action: Bacteria in the presence of water break down certain minerals in the soil. Plants absorb minerals, and decaying vegetation produces organic acid which cause a further breakdown of minerals.

2. Erosion

Start-up questions

What is erosion?

What are the major agents of erosion?

What are the major types of erosion?

Erosion is the movement of broken rock and soil particles from one place to another by running water, wind, moving ice or sea waves.

A. Erosion by Running Water

Start-up question
How does running water cause erosion?

Rivers are the most important of all natural agents which play a great role in shaping the earth's surface. The work of running water includes **eroding, transporting** and **depositing** eroded material.

There are three types of running water erosion and they are described as follows:

- **Sheet erosion**: occurs when surface water moves in a wide flow.
- **Rill erosion**: occurs when surface water cuts relatively small channels.
- **Gully erosion**: occurs when floods cut deep wide gorges.

B. Wind erosion

Wind is the strongest force of erosion in deserts. As it blows across the desert surfaces, it picks up and transports grains of sand from one part to another part of the desert. Wind erosion and deposition form different landforms, such as**:**

- **Sand dune** is a small hill of sand formed by the action of the wind.
- **Barchan** is a sand hill that has a crescent-moon shape.
- **Loess deposit** is a deposition of fertile soil in the desert by wind.

Activity 1.1 B

A. **Questions based on facts**

1. Define the following terms:
   a. weathering c. denudation e. screes
   b. erosion d. loess deposit f. barchans
2. What are the agents of erosion? Which one is more significant in desert areas?
3. What are the types of landforms formed by wind erosion and deposition?
4. What is the difference between physical and chemical weathering?
5. What are the causes of physical weathering?

B. **Things to do:**

Prepare diagrams representing major landforms of your nearby environment. Finally, show your work to the class.

1.2 Composition and Structures of the Earth's Atmosphere

Competencies: After studying this lesson, learners will be able to

- Describe the different layers of the earth's atmosphere and their characteristics

These are the words you should try to learn for this lesson

Top five terms

- Aerosol
- Atmosphere
- Ionosphere
- Mesosphere
- Ozone

More key terms

- Exosphere
- Meteorite
- Rare gases
- Stratosphere
- Troposphere

1.2.1 Composition of the Earth's Atmosphere

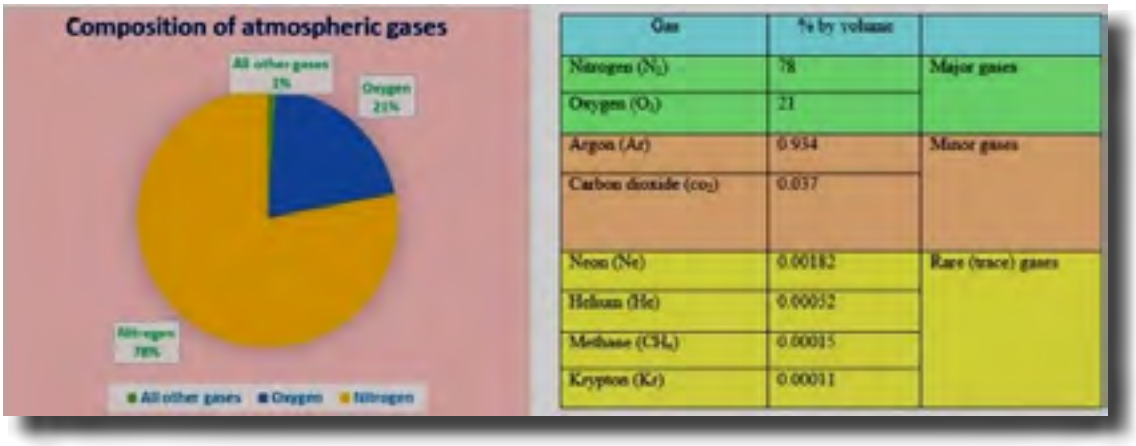
Start-up question

What is atmosphere?

The air that surrounds the earth is called the atmosphere. It is an envelope of transparent, colorless, tasteless and odorless gases found above the earth's surface.

The earth's atmosphere is composed of gases, suspended dust particles and condensed moisture droplets which are collectively known as **aerosols.** It extends outwards several thousand kilometers. The gases are different in their volume.

Nitrogen and oxygen are major gases of the earth's atmosphere while argon and carbon dioxide are minor gases. The remaining gases are often referred to as **trace gases.**



Gas	% by volume	
Nitrogen (N_2)	78	Major gases
Oxygen (O_2)	21	
Argon (Ar)	0.934	Minor gases
Carbon dioxide (co_2)	0.037	
Neon (Ne)	0.00182	Rare (trace) gases
Helium (He)	0.00052	
Methane (CH_4)	0.00015	
Krypton (Kr)	0.00011	

Figure 1. 8 Composition of the Atmosphere

Nitrogen is the most abundant gas in the earth's atmosphere. It makes up 78 percent of the Earth's atmosphere. It enters the atmosphere when volcanoes erupt and when dead plants and animals decay. Oxygen, the second most abundant gas in Earth's atmosphere, is primarily produced by plants.

Among gases of the earth's atmosphere, oxygen is the most important for living things to exist on planet earth.

1.2.2 Structure of the Earth's Atmosphere

The earth's atmosphere is divided into four layers based on temperature variation. The four layers of the earth's atmosphere are: troposphere, stratosphere, mesosphere and thermosphere.

Troposphere: it is the lower portion of the atmosphere. It extends from sea level to 8/16 km. It contains three-fourth of the atmospheric mass. All kinds of weather changes take place only in this layer. It has uniform temperature that decreases when ever there is an increase of altitude. The top boundary is known as the tropopause, which is characterized by jet streams (high velocity winds).

Stratosphere: it extends from the tropopause up to about 50 km. Here, temperature is nearly constant upward to about 20 km. Then after, it increases owing to absorption of ultraviolet radiation by ozone. It has high concentration of ozone gases. Its upper limit is called the stratopause.

Mesosphere: it extends up from the stratopause to about 80/85 km. In the lower mesosphere, temperature changes slowly with an increase in altitude. However, it decreases to nearly–100^{o}C at the top of the mesosphere. It is the coldest part of the atmosphere. Its upper surface is known as the mesopause. Also, it is the layer of the strongest winds whose velocity is nearly 300 km/hour. Most meteorites burn and disintegrate because of friction in this layer.

Thermosphere: it is the upper most layer of the atmosphere. This layer is of extremely low density. It is characterized by a direct relationship between temperature and altitude. Temperatures get up to 725°C - 1,225°C. The extreme outer fringe is believed to extend as far as 1000 km above the surface of the earth. Gradually, it is taken over by vacuum and very little heat can be absorbed, held or conducted. Thermosphere can be further subdivided into ionosphere and exosphere.

i. **Ionosphere** it extends from roughly 80 km to somewhere around 500 to 700 km above the earth's surface. It is a layer of electrically charged particles. These electrons and ions are useful for communication because they reflect radio waves.

ii. **Exosphere:** it is the outermost fringe of the atmosphere. It lies beyond about 500-700 km and is characterized by increasing hydrogen and helium content.

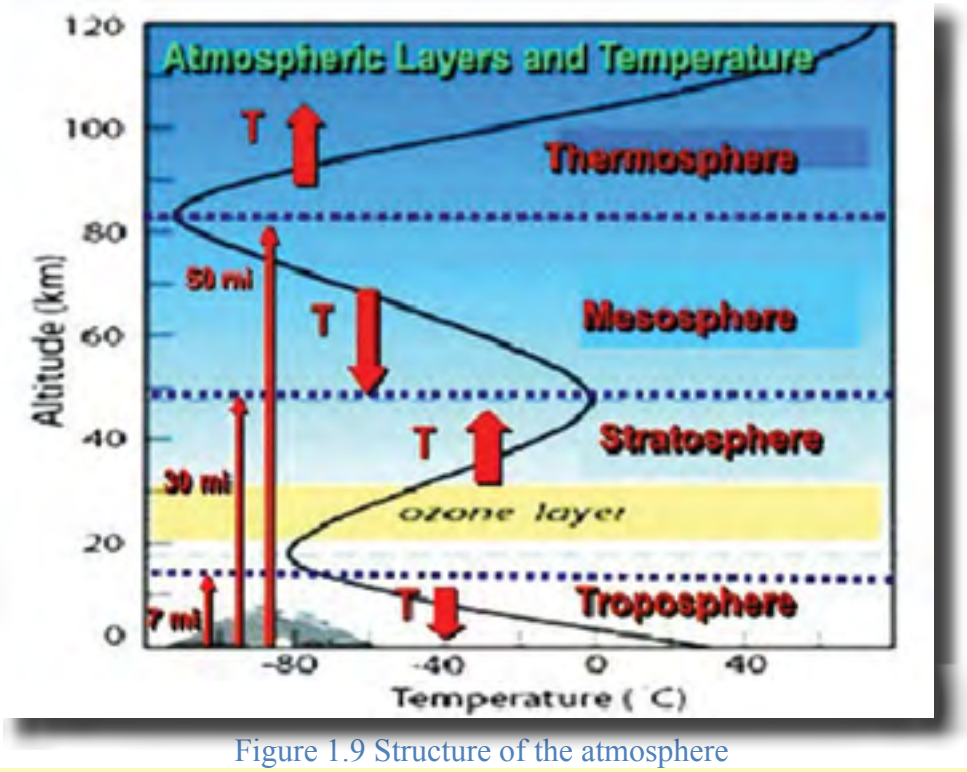


Figure 1.9 Structure of the atmosphere

Activity 1.2

A. **Questions based on facts**

1. What are the components of the atmosphere?
2. What are the major gases of the atmosphere?
3. Which layer of the atmosphere contains ozone? What use does it have?
4. Which layer of the atmosphere is the coldest?
5. Put the atmospheric layers in ascending order from the lower to the upper.
6. Explain the main characteristics of the layers of the atmosphere.

1.3. Elements and Controls of Weather and Climate

Competencies: After studying this lesson, learners will be able to:

- Distinguish the difference between weather and climate;
- Outline climatic controls and climatic elements;
- Compare and contrast variations of rainfall and temperature between different locations such as highlands and lowlands agro-climatic zones of their locality;
- Collect, summarize and present diurnal and seasonal variation of weather data in their locality;
- Draw climatic graphs.

These are the words you should try to learn for this lesson

Top ten words

- Convection
- Sublimation
- Conduction
- Evapotranspiration
- Lapse rate
- Diurnal range
- Deposition
- Precipitation
- Radiation
- Conduction

More key words

- Air pressure
- Insolation
- Hydrological cycle
- Equinox
- Ocean current
- Rainfall
- Weather
- Wind

1.3.1 Definition of Weather and Climate

Start-up question
Are weather and climate the same?

Weather is the condition of the atmosphere over a short period of time. Weather includes daily changes in **precipitation, air pressure, temperature, wind,** etc.

Climate is the average of all weather conditions of an area over a long period of time. These conditions include **average temperature, air pressure, humidity,** and **days of sunshine for a period of 30 years**. Climate tells us what it is usually like in the place where we live. Climate refers to what is expected to happen in the atmosphere rather than the actual conditions. It is possible for the weather to be different from that suggested by the climate.

1.3.2. Elements of Weather and Climate

The major elements of weather and climate are **temperature, rainfall, winds, air pressure, clouds, sunshine, humidity** etc.

I. Temperature

Start-up question
What is temperature?

Temperature is the amount of hotness or coldness of an object. It is measured using an instrument called Thermometer. The sun is the primary heat source for the earth and its atmosphere. The sun‟s energy is called insolation or solar radiation, and this turns into heat energy at the earth‟s surface.

Start-up question
How is energy transferred in the atmosphere?

Not all the energy that originates from the sun reaches the earth's surface. Heat transfer takes place in three ways. These are: radiation, conduction and convection.

Radiation is the transfer of energy from one body to another by means of electromagnetic waves. The sun warms the earth through radiation of electromagnetic waves.

Conduction refers to the transfer of heat through molecular contacts within and between bodies. The process of conduction is more important in solids. Air and water are poor conductors of heat.

Convection is the transfer of heat due to differences in density. Convection is the
method by which heat moves through gases or liquids.

II. Rainfall

Start-up question
What is rainfall?

Rainfall is liquid precipitation which is measured using an instrument called **Rainguage**. Any moisture that falls from the clouds towards the earth"s surface is called precipitation. Precipitation is part of the water or hydrological cycle. The process of hydrological cycle is powered by solar energy and is repeated continuously.

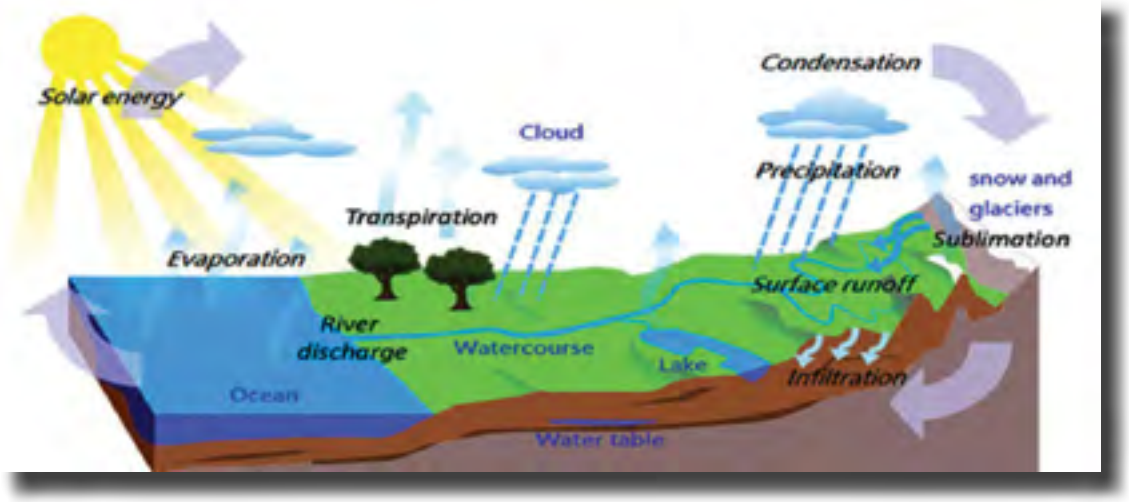


Figure 1.10 The hydrological cycle

Evaporation: is the process by which liquid water is converted into gases.

Transpiration: is the transfer and change of water from plants to water vapour in the air.

Evapotranspiration: is the combined loss of water through the process of evaporation and transpiration.

Condensation: is the process by which vapour becomes liquid.

Sublimation: is the process in which ice changes directly into water vapour.

Deposition: is the process in which water vapour changes directly into ice.

Types of rainfall

There are three main types of rainfall which occur very frequently in the world and de- pend on a variety of factors. Here are the three main types of rainfall:

a. **Relief /Orographic/ Rainfall:** occurs when moist air is forced to rise over mountains. As it rises, it cools, then condenses and falls as rain.

b. Convectional Rainfall: occurs when the energy of the sun heats the surface of the Earth, by causing water to evaporate to form water vapour. It is common in humid areas where temperature is high throughout the year.

c. Frontal/Cyclonic/ Rainfall: occurs when two air masses (warm and cold) meet together. It is common in the middle and high latitudes.

III. Air Pressure

Start-up question

What is air pressure?

Atmospheric or air pressure is the weight exerted by air on a unit of area of the Earth's surface. Air pressure is measured with barometers. Air pressure is 1,013 millibar at sea level, which translates into 760 millimeters, however, air pressure is not uniform across the planet. Pressure decreases with an increase of altitude. Pressure also decreases with an increase in temperature.

IV. Wind

Start-up question

What is wind?

The horizontal movement of air is called wind. Winds have **speed** and **direction**. Winds blow from high pressure areas to low pressure areas. The speed of wind is measured with **anemometer**. Winds are named according to the compass direction of their source. For example, a southerly wind comes from the south and blows to the north. Wind direction is indicated by an instrument called **wind vane.**

1.3.3 Controls of Weather and Climate

Controls of weather and climate are factors that affect elements of weather and climate.

They make the distribution of the elements of weather and climate over the earth's surface uneven. The major controls of weather and climate include:

- Latitude
- Altitude
- Distance from the sea
- Cloud cover
- Ocean current
- Wind
- Air pressure

A. Latitude

Start-up questions

What is latitude?

What is the effect of latitude on temperature?

On a global scale, latitude is the most important factor that determines the strength of heat reaching the earth's surface. Latitude indicates the distance places have from the equator. A place's latitudinal location affects the amount of incoming solar radiation the place receives, and thereby its temperature.

At the equator, the overhead sun is high and high intensity insolation is received. At the poles, the sun's rays are slanting (oblique), so the amount of insolation is low. The sun is overhead in tropical areas in the zone between the Tropic of Cancer and the Tropic of Capricorn. The sun is never overhead outside of the tropics. The sun is directly overhead at the Tropic of Cancer on June 21 (the June solstice) and at the Tropic of Capricorn on December 21 (the December solstice). At March and September equinoxes, the sun is directly overhead at the equator.

Focus

Equinox is the moment at which the center of the visible sun is directly above the equator. This occurs on March 21 and September 23.

Solstice is either of the two times a year when the sun is at its greatest distance from the celestial equator.

B. Altitude

Start-up question

How altitude affects temperature?

Air temperature decreases with increasing altitude. The normal decrease of temperature with height is 6.4^{o}C per 1000 m. This is known as the **normal lapse rate**. The normal lapse rate is the average rate or proportion at which temperature changes per unit of altitudinal change. The highland areas of Ethiopia are good examples of places that demonstrate the effect of altitude on temperature.

C. Distance from the Sea

Start-up question

How distance from the sea affects temperature?

The sea affects the climate of a place. These coastal areas are cooler and wetter than inland areas. Cloud is formed when warm air from inland areas meets cool air from the sea. The center of continents is subject to a large range of temperatures. In summer, temperatures can be very hot and dry as moisture from the sea evaporates from it reaches the center of the landmass.

D. Cloud Cover

Start-up question

How cloud affects temperature?

Cloud reduces the amount of solar radiation that reaches the earth's surface and the amount of radiation reflected from the earth's surface. When there are no clouds, both types of radiation will be at a maximum level.

E. Ocean Current

Start-up questions

What is ocean current?

What are the two types of oceancurrent?

Ocean current is the horizontal movement of ocean waters which are caused by winds and differences in temperature. It influences the climate of coastal areas. There are two types of ocean current: **cold** or **warm**. Cold ocean currents have cool temperatures and low moisture content, whereas warm ocean currents have high temperatures and high moisture content.

Figure 1.11 Ocean currents of the world

1.3.4 Diurnal and Seasonal Variation of Weather

The temperature of the air changes from time to time. We use words like average and range to indicate the variations.

Daily (diurnal) range of temperature: is the difference between the maximum and minimum temperatures in a day.
Daily average (mean) temperature: is obtained by adding the maximum and minimum temperatures of a day and dividing the sum by two.

Monthly average (mean) temperature: is calculated by adding all daily averages and dividing the sum by the number of days of the month.

Annual march (range) of temperature: is the difference between the temperatures of the hottest and coldest months in a year.

Annual average (mean) temperature: is obtained by adding the average monthly temperatures and dividing the sum by 12.

Variation of Temperature and Rainfall in Ethiopia

Diurnal and Seasonal Variation of Temperature

During the winter season of the northern hemisphere, Ethiopia experiences the 'Bega' season. During this season, days have clear skies. Thus, the incoming solar rays are intense. As a result, temperature increases in the day time. On the other hand, temperature decreases at night because of clear sky. This, therefore, results in high diurnal range of temperature.

Every part of Ethiopia experiences vertical rays of the sun twice in a year. The first is between April and June and the second is between June and September. However, the apparent movement of the sun brings about less significant difference between the length of the day and night. As a result, there is a regular receipt of solar radiation throughout the year. Therefore, there is low annual range of temperature.

Seasonal Variation of Rainfall

During the summer season of the northern hemisphere, Ethiopia experiences the rainy season. Most highlands of Ethiopia receive the summer rains. The lowlands of Ethiopia do not get the summer rains.

In the autumn and spring seasons of the northern hemisphere, 'little rains' are experienced in Ethiopia. The southern and southeastern lowlands enjoy these rains. The central parts and eastern escarpments of the north-western highlands get the spring and summer rains. Though unreliable, the north-eastern fringes of Ethiopia get winter rains. The western part of Ethiopia experiences all year rainfall.

Ethiopia's Agro-climatic Zones

Start-up question

What means by agro-climatic zone?

Agro-climatic zone is defined as a land unit represented in terms of major climate and growing period which is climatically suitable for certain range of crops. Based on altitude-temperature relationship, there are five traditional agro-climatic zones in Ethiopia. These include Bereha, Qolla, Woina Dega, Dega and Wurch.

Table 1.1: Ethiopia's agro-climatic zones

Altitude (in meters)	Mean annual tem- perature (in □)	Name of the agro-climatic zone	
		Local	Global
3,300 and above	<10	Wurch/Kur	Alpine
2,300–3,300	10 –15	Dega	Temperate
1,500–2,300	15 –20	Woina Dega	Sub-tropical
500–1,500	20 –30	Qolla	Tropical
Below 500	>30	Bereha	Desert

The Bereha zone is a lowland area which has the hottest temperature. Qolla is largely lowland area with warm to hot semi-arid climate. Woina-Dega is a midland with moderate climate. The Dega zone is highland area with low temperature. The Wurch zone is the coldest and has the highest altitude.

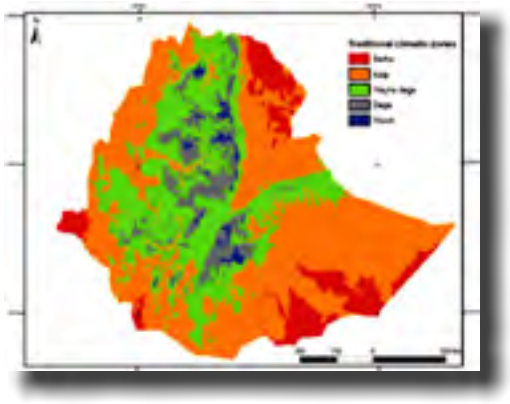


Figure 1.12 Agro-climatic zones of Ethiopia

Activity 1.3

A. Questions based on facts:

1. Define the following terms:
   a. Weather
   b. Climate
   c. Sublimation
   d. Radiation
   e. Air pressure
2. What are the major elements of weather and climate?
3. Describe the major controls of weather and climate.

B. Individual work:

Table 1.2: Climatic data for a hypothetical station

Month	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
Temp ( )	13	17	20	25	26	2.17	27	25	23	20	18	16
R.F(mm)	11	26	55	84	116	160	243	285	137	61	14	8

By referring to Table 1.2,

1. Calculate the annual range of temperature of the station.
2. Calculate the mean annual temperature of the station.
3. Calculate the total annual amount of rainfall of the station.
4. Draw line graph showing the temperature and bar graph showing the rainfall.

C. Things to do:

Draw a sketch map that shows the five agro-climatic zones of Ethiopia.

Summary

- Internal forces are forces that come from the inside of the earth. These forces include folding, faulting, volcanism and earthquakes.
- Folding and faulting are processes that create landforms when a force inside the earth causes rock in the crust to bend (folding) and break (faulting).
- Volcanism is the process by which molten rock (magma) is forced out to the surface of the earth. Volcanic activities may result in different extrusive and intrusive landforms.
- Earthquakes are sudden movements in the earth's crust. They are caused by internal movements deep down inside the earth. Earthquakes are frequently associated with faults.
- External forces are the forces that act upon the earth's surface from the outside.
- Erosion is the movement of broken rock and soil particles from one place to another by running water, wind, moving ice or sea waves.
- The earth's atmosphere is composed of gases, dust particles and moisture droplets which are collectively known as aerosols.
- The earth's atmosphere is divided into four layers based on temperature variation. They are troposphere, stratosphere, mesosphere and thermosphere.
- Weather is the condition of the atmosphere over a short period of time. Climate is the average of all weather conditions of an area over a long period of time.
- The major elements of weather and climate are temperature, rainfall, winds, air pressure, clouds, sunshine, humidity, etc.
- The major controls of weather and climate include: latitude, altitude, wind, ocean current, distance from the sea, air pressure, cloud cover, etc. These controls result in diurnal and seasonal variation of weather.
- Agro-climatic zone is defined as a land unit represented in terms of major climate and growing period. Based on altitude-temperature relationship, there are five traditional agro-climatic zones in Ethiopia.

Glossary

Aerosols: are liquid or solid particles suspended in air.

Caldera: a basin-shaped volcanic depression; such large depressions are typically formed by the subsidence of volcanoes.

Crater: a steep-sided, usually circular depression formed by either explosion or collapse at a volcanic vent.

Deposition: a process in which layers of a substance form gradually over a period of time.

Earthquake: sudden, strong shaking of the earth's surface, which is caused by movement of the rocks in the earth's crust.

Epicenter: a point on the earth's surface directly above the focus of an earthquake.

Equinox: is the moment at which the center of the visible sun is directly above the equator.

Fissures: elongated fractures or cracks on the slopes of a volcano.

Focus: the point below the earth's surface along which initial earthquake tremors occur.

Folding: the bending of rock layers subjected to tectonic stresses.

Insolation: light and heat from the sun.

Lapse rate: the rate at which air temperature changes with altitude.

Lava: magma which reaches the surface through a volcanic eruption.

Magma: molten rock beneath the surface of the earth.

Mesosphere: layer of the atmosphere that lies above the stratosphere.

Rift valley: a deep, linear, steep sided trough produced by sinking of land between two faults.

Volcanism: process which involve the transfer of molten rock material either from one subsurface location to another, or its explosion onto the surface.

UNIT 1 REVIEW QUUESTIONS

I. True or False Item

Instruction: Write True if the statement is correct and False if it is wrong.

_____1. The East African Rift valley is the largest valley in the world.
_____2. The highlands of Ethiopia receive reliable winter rains.
_____3. Land absorbs and loses heat more quickly than water.
_____4. Cold ocean currents make coastal lands drier and cooler.
_____5. Fold Mountains are formed from metamorphic rocks.

Matching Item

Instruction: Match the features under column 'B' with their descriptions under 'A'

	A	B
___1.	A sand hill that has a crescent-moon shape	A. Rift valley
___2.	Piles of loose rock fragments	B. Barchan
___3.	Magma which has reached the earth's surface	C. Screes
___4.	A depression between two parallel faults	D. Lava
___5.	Elongated cracks on the slopes of a volcano	E. Fissure

II. Multiple choice Item

Instruction: Choose the best answer from the given alternatives.

_____1. Which of the following is the effect of earthquake?
A. The rise or fall of the sea floor C. Shortening days and nights
B. Diversification of plant species D. Surplus food production

_____2. Which fold mountain is found in South Africa?
A. Himalayas C. Alps
B. Atlas D. Cape Ranges

_____3. The bending of the land surface due to internal forces is called_
A. faulting C. volcanism
B. folding D. earthquakes

_____4. Which of the following is an internal force that changes the earth's surface?

A. weathering C. erosion
B. earthquake D. denudation

_____5. The emission of molten rock to the earth's surface is caused by:

A. faulting C. landslide
B. folding D. volcanism

_____6. A very large mass of magma which accumulates in the crust is known as:

A. batholith C. dyke
B. laccolith D. sill

_____ 7. Which type of force forms rift valley?

A. folding C. erosion
B. faulting D. volcanism

_____ 8. The point at which an earthquake originates is known as:

A. epicenter C. fissure
B. vent D. focus

_____9. By volume, the major gas of the atmosphere is known as

A. oxygen C. argon
B. nitrogen D. helium

_____10. The largest rift valley in the world extends from_____ to _____.

A. Syria, Mozambique C. Jordan, Tanzania
B. Israel, Angola D. Bahrain, Zambia

III. **Fill in the Blank Item**

Instruction: Fill in each of the blank spaces with appropriate words.

1. An upward and convex fold is called _____, while a downward fold is called_____.

2. The difference between the highest and lowest temperatures in a day is known as_____.

Check List

Put a tick (√) mark in each of the boxes for activities you can perform.

I can

1. Describe internal and external forces shaping the surface of the earth.	
2. Identify land forms created by external and internal forces.	
3. Explain how the earth's internal and external forces affect human life.	
4. Describe the different layers of the earth's atmosphere and their characteristics.	
5. Distinguish the difference between weather and climate.	
6. Outline climatic controls and climatic elements.	
7. Compare and contrast variations of rainfall and temperature be tween different locations such as highlands and lowlands agro-climatic zones of their locality.	
8. Collect, summarize and present diurnal and seasonal variation of weather data in their locality.	
9. Draw climatic graphs.	

UNIT 2
PEOPLE AND SOCIO-ECONOMIC ACTIVITIES

Learning Outcomes

At the end of this unit, learners will able to:

- Explain how peoples' culture develop and change through time.
- Discuss the impacts of population movement on human settlement and economic activities.
- Explain the concept of trade and increasing global interdependence.
- Analyze the condition of consumers' right and supply problem using their local examples.
- Describe the benefits of government revenue and tax.

Main contents

2.1 Cultural diversity and changes

2.2. Major Economic Activities

2.3 Trade and market as the current national and local concern

2.4 Government revenue and tax

- *Unit Summary*
- *Review Questions*

2.1. Cultural Diversity and Changes

Competencies: After studying this lesson, you will be able to:

► Explain the processes that lead to the development of culture.

These are the words you should try to learn for this lesson

Top four terms

- **Culture**
- **Material culture**
- **Non-material culture**
- **Artifacts**

2.1.1 The Development of human culture

Startup questions

What is culture?

What are the processes that lead to the development of culture?

Culture is defined as the symbols, language, religion, beliefs, norms, values, and artifacts that are part of any society. Cultural processes include all procedures through which people transform the world as it is into a world of their own. This includes all group specific norms and rules, values and ideas, information and knowledge in the process of communication. The development of culture has already been underway for thousands of years and will continue in the future. Societies began to form particular cultures, ideas, customs, and social behaviors that make one society distinct from another.

Culture is developed from changes in socially transmitted beliefs, knowledge, customs, skills, attitudes and languages. Culture is affecting people's behavior that they acquire from other members of the society through teaching, imitation and other forms of social transmission.

Cultural components can be classified as material and non material culture. This classification is expressed as follows:

1. Material culture includes tools and technology, houses, factories, raw materials, clothing, eating utensils, and means of transportation.

2. Non-material culture also known as symbolic culture. It includes the values, beliefs, symbols, and language that are used to define a society.

2.1.2. Major Cultural elements Language, Religion and the Human race

Competencies: after studying this lesson, you will be able to:

- Discuss language, religion and human race as a cultural elements
- Elaborate the cultural diversity of people in terms of language , religion and human races

These are the words you should try to learn for this lesson
Top five terms

- Cultural identity
- Human Race
- Language
- Religion
- Multiculturalism

Cultural Diversity

Startup question
What is cultural diversity?

Cultural diversity is also known as multiculturalism. This refers to a group of diverse individuals fromdifferent culturesorsocieties. Usually, culturaldiversitycanbeexpressed in terms of nationality, language, religion, race, gender, age and ethnicity. Ethiopia is the home of peoples that have cultural diversities who are living together in the same community. In this diversified cultural environment, its people retain, pass down, celebrate, and share their unique cultural ways of life, which are languages, art, traditions, and behaviors.

Ethiopia is the home of peoples that have cultural diversities who are living together in the same community. In this diversified cultural environment, its people retain, pass down, celebrate, and share their unique cultural ways of life, which are languages, art, traditions, and behaviors.

Ethiopia is a country with multi-cultural and multi-ethnic country. Ethiopians share a deep pride in the country's legacy and defend the sovereignty of their country. The country has its own unique culture that defines beauty with a variety of cultures.

Ethiopians have many good things in common. For example, hospitality, respecting elders, standing together for the sovereignty of their country, tolerance, patriotism and celebrating cultures together. On the other hand, there are differences in religion, language, race, marriage ceremonies, funeral ceremonies, way of dancing, dressing style and greeting style. Some of these elements are discussed below.

1. Language

Startup questions

What are the major cultural elements? What is language?

Why we use language?

Language is defined as a system of communication which involves the use of speech, written characters, numerous symbols and gestures of non-verbal communication. Language helps us to share our ideas, thoughts, and feelings with others.

Multilingual features of the Ethiopian people

Most of the languages that are spoken in Ethiopia belong to Afro-asiatic language family. The Ethiopian languages are divided into four major language groups. These are Semitic, Cushitic, Omotic, and Nilo-Saharan. Let us see the four major language families:

Semitic languages: are spoken in northern, central and eastern Ethiopia (mainly in Tigray, Amhara, Harar and northern part of the Southern Peoples regions).The Semitic languages include Amharic, Ge'ez, Guragigna,Tigrigna and others.

Cushitic languages are mostly spoken in central, southern and eastern Ethiopia (mainly in Afar, Oromia and Somali regions). The Cushitic languages include Afarigna, Agewigna, Afan Oromo, Sidamigna, Somaligna and others.

Omotic languages are predominantly spoken between the Lakes of southern Rift Valley and the Omo River. For instance, Basketto, Gamo-Gofa, Welaytta and others.

Nilo-Saharan languages are largely spoken in the western part of the country (mainly in Gambella and Benshangul regions). Example: Agnuak, Berta, Gumuz and others.

2. Religion

Startup question

What is religion?

Religion is defined as a set of organized beliefs, practices, and systems that are related to the belief and worship of God or another super-natural being. It includes cultural beliefs, worldviews, holy books, prophecies, revelations, and morals that have spiritual meaning to members of the particular faith. Religion gives a source of comfort and guidance, basis for moral beliefs and behaviors, provides a sense of community and connection to tradition and health.

Importance of religion

a. **Cultural Identity:** Religion plays a crucial role for a person in giving a cultural identity. Each religion has cultural ceremonies, traditions, which are part of the tangible and intangible heritages.

b. **Values and Ethics:** Religion helps in creating an ethical people and keeps the values of the society in day to day life. This helps in character building values of a person like love, empathy, respect, harmony and acts as to strengthen socialization.

3. Human race

Human race is defined as a category of people that is socially constructed, shares certain distinctive physical characteristics such as skin color, facial features, and stature.

Factors for cultural change

i. Globalization:-it brings the growth of interconnectedness among different people and cultures. This lead to cultural change.

ii. Environment: the way of using natural resources in the community threatens the cultural identities of indigenous people**.**

iii. Technology: the advancement of technology leads to cultural change. For example, the invention of cars, computers, internet, etc.

iv. Contact with other cultures: the contacts between one society with another society result in sharing of culture. This leads to cultural change.

2.1.3 Globalization and dynamics of social and cultural values.

Competencies: after studying this lesson, you will be able to:

- Debate in the classroom on the effect of globalization as an agent cultural change.
- Respect humanity and indigenous knowledge.

These are the words you should try to learn for this lesson

Top five terms

- Cultural imperialism
- Technology
- Cultural invasion
- Indigenous culture
- Satellite TV

Globalization

Startup questions

What do you understand by the word globalization?

Identify the opportunities and challenges of globalization.

Globalization refers to the increasing of interconnections among individuals across nations and their people. It refers to a remarkable exchange and sharing of information, culture, economic resources and technology which leads to strong interdependence among peoples of different nations of the world.

The cultural dimension of globalization is seen in the presence of western entertainment and mass media. The influence of mass media especially entertainment channels leads to loss of local identities. Currently globalization is leading to cultural imperialism.

In Ethiopia, currently domestic cultures are dominated by a host of additional cultural forms from abroad which are leading people with a confusing way of lifestyle options from which to choose. Different western based satellites Television (TV) programs which deliver most part of western cultural and entertainment products could negatively affect indigenous cultures of Ethiopia.

Nowadays, individuals and groups are trying to annex their cultures with new global practices based on what they have seen from mass media worldwide. As a result, Ethiopian cultures and values are highly changing over time and becoming more dependent on western cultures. Over the years the youth have tried to be fashionable and exhibited clothing which is influenced to a large extent by foreign fashion in the wake of globalization. The extent of this influence affects the youth and the local fashion industry negatively.

In addition, the youth have left the Ethiopian clothing style and they have been accustomed to western fashion trends. The European and the American influences have become so widespread and so invasive across almost every aspect such as; from education, religion, politics, social change and fashion with no exception. The youth should be proud of their cultures.

Focus

Cultural imperialism is the practice of promoting and imposing a culture of a politically powerful nation over a less powerful society and alienating people from their indigenous culture.

Activity 2.1

A. Questions Based on Facts

1. Define the following terms

a. Culture
b. Material culture
c. Non material culture
d. Language
e. Religion
f. Humanrace

2. What is cultural diversity?

3. Explain the process of cultural development.

B. Group discussion

How the youth mitigate the effect of globalization on cultural change?

Discuss in your groups and present your findings to your classmate.

2.2 Major Economic Activities

Competencies: After studying this lesson, learners will be able to:

- Explain the different types of economic activities;
- Relate different economic activities with countries levels of development;
- Compare and contrast agriculture of the developed and developing countries;

These are the words you should try to learn for this lesson

Top five words

- **Forestry**
- **Manufacturing**
- **Tourism**
- **Industry**
- **Mining**

More key words

- **Agriculture**
- **Fishery**
- **Communication**
- **Arable farming**
- **Pastoral farming**
- **Transportation**

2.2.1 Primary Economic Activities

Primary economic activities focus directly on the extraction of resources from the environment. They involve the production of food stuffs and raw materials. The main types of primary activities include:

- **Agriculture**
- **Fishing**
- **Forestry**
- **Mining**

Let us look at the major primary economic activities of the world as follows.

I. Agriculture

Startup questions

What is agriculture?

Why is agriculture an important primary economic activity?

Agriculture is the science and art of cultivation of the soil and the rearing of livestock for either local consumption or commercial purposes. It is one of the most important activities of human beings, because it provides them with the most basic necessity. It provides foodstuffs for the population and raw materials for industries.

Agriculture forms the basic livelihood for the majority of the Ethiopian people. Agricultural activities are broadly grouped into two. These are: crop production (arable farming) and animal husbandry (pastoral farming).

II. Forestry

Startup question
What is forestry?

Forestry is one of the primary economic activities. It involves the extraction of forest products for different purposes. Forestry is practiced in plantations and natural stands.

Forestry is important in the provision of timber, fuel wood, biodiversity management, wildlife habitat, natural water quality management and recreation. It also plays a significant role in preserving forests as "sinks" for atmospheric carbon dioxide.

III. Fishery

Startup question
What is fishing?

Fishing is a primary economic activity concerned with the catching and harvesting of fish and other marine creatures. It is one of the oldest occupations of humankind. Ethiopia has a number of lakes, reservoirs and rivers which are rich in fish resources. However, fishing as an activity is not well developed.

IV. Mining

Startup question
What is mining?

Mining is the process of obtaining useful minerals from the earth's crust. It is closely linked to manufacturing which is a secondary type of activity. Some examples of substances that are mined include: coal, gold, or iron ore. Mining provides different types of minerals for construction; jewelry making, and raw materials for industries.

2.2.2 Secondary Economic Activities

Startup questions

What is secondary economic activity?
What is manufacturing?
Is there any difference between manufacturing and industry?

Secondary economic activities pertain to adding value to already existing products by changing their form via processing, etc. It includes manufacturing, construction and power production. Manufacturing uses machines, tools and labor to make things for use or sale. The term may refer to a range of human activities, from handicraft to the use of high technology. However, it is most commonly applied to the creation of industrial products in which raw materials are transformed into finished goods on a large scale.

Focus

Manufacturing is the activity which turns raw materials into products by using labor, energy and equipment. But, industry refers to the place where manufacturing takes place. Manufacturing activities take place in factories. It is the activity of making goods.

2.2.3 Tertiary Economic Activities

Startup question

What is a tertiary economic activity?

Tertiarye conomicactivities are helpful for the development of the primary and secondary sectors. These activities, by themselves, do not produce goods, but they are an aid or a support for the production process. So, they are also known as support services. Transport, communication, trade, tourism, health, education and administration are important examples of tertiary activities. Let us briefly look at the following sectors:-

I. Transportation

Startup questions

What is transportation?

What are the major modes of transport?

Transportation is the movement of goods or people from one location to another. Nowadays, the types and quality of transportation have made much progress. This has enabled people to travel longer distances in shorter times than ever before. In addition, the flow of ideas, beliefs and innovations has become faster and wider.

The rapid progress in transportation and other forms of communications have made places all over the earth functionally closer to each other. The major modes of transportation include: land transport, water transport and air transport.

II. Communication

Startup question

What is communication?

Communication is the sharing of information between different individuals. It includes the sharing of ideas, concepts, imaginations, behaviours and written content. Communication is simply defined as the transfer of information from one place to another. This transfer of

information can be conducted in different ways. The major channels of communication include: mail, telephone, radio, television, fax, e-mail and internet.

III. Tourism

Startup question

What is tourism?

Tourism is the movement of the people from their normal place of residence to another place for leisure, business and other purposes. Tourism is a source of both job opportunities and income. It is known as a 'smokeless

industry'. The main tourist attractions include natural and human-made features. Some of the reasons for tourism are: site-seeing, conferences, sport activities, health purposes, research and religious ceremonies.

2.2.4 The Effect of Different Economic Activities on Countries Economic Development Economic basis of developed and developing countries

The developed countries have a large share of the manufacturing industries. In the industrialized countries, a large number of people are employed in secondary (manufacturing) activities and only a few workers in primary activities. On the other hand, in developing countries, the great majority of people still work in the agriculture sector because governments cannot invest more on secondary activities. Developing economies are basically agrarian in their character.

In developing countries, the number of people engaged in agricultural sector is many but the production is little. Since developed countries are practicing modern methods, they can produce large amount using few number of manpower. That means people engaged in agricultural sector are very few, but production is in surplus.

The share of agriculture in both employment and output is tiny in the developed countries. However, its share in output and employment in developing countries is quite substantial. In many developing countries, agriculture accounts for more than a quarter of their national output.

Activity 2.2

A. Questions based on facts

1. Define the following terms:

   a. Agriculture c. Manufacturing e. Communication

   b. Forestry d. Transportation f. Tourism

2. Describe the main types of primary economic activities.

3. What is the difference between manufacturing and industry?

4. Compare and contrast agriculture in developed and developing countries.

5. Explain the three major types of economic activities.

B. Group work

Visit your locality and identify the economic activities that people are engaged. Then, present your findings to the class and invite the class for further discussion.

2.3 Trade, Market and Government Revenue as the Current National and Local Concern

Competencies: After studying this lesson, learners will be able to:

- ► Describe the various flow patterns of goods, services and information;
- ► Analyze the contribution of trade to the Ethiopian economy
- ► Explain the major types of trade;
- ► Evaluate the contribution of different economic sectors to Ethiopian export trade;
- ► Explain that the interaction of supply and demand determines price;
- ► Use graphs to show the market equilibrium point;
- ► Explain what conditions must exist for "perfect competition" to occur;
- ► Discuss the trade-off between consumer right and market supply;

These are the words you should try to learn for this lesson

Top ten words

- **Competitive market**
- **Consumers**
- **Demand**
- **Producers**
- **Entrepot trade**
- **Market equilibrium**
- **Retail trade**
- **Supply**

More key words

- **Export trade**
- **External trade**
- **Internal trade**
- **Market**

Import trade

Wholesale trade

The concept and historical development of trade and market

Trade

Startup question

What is trade?

Trade is the process of buying, selling, or exchanging of commodities. The earliest form of trade was bartering, which is the exchange of one article for another of equal value. The emergence of trade is related to the unequal distribution of resources that are essential to satisfy human needs.

Modern traders generally negotiate through a medium of exchange, such as money. As a result, **buying** can be separated from **selling**, or earning. The invention of money (and letter of credit, paper money and non-physical money) greatly simplified and promoted trade.

Market

Startup question
What is a market?

A market is a place where buyers and sellers can get together to facilitate the exchange of goods and services. The market may be physical like a retail outlet, where people meet face-to-face, or virtual like an online market, where there is no direct physical contact between buyers and sellers.

Key benefits of trade

Trade is critical to a nation's prosperity. Some of its benefits are described below:

- Bigger variety of products for the local population
- Higher level of competition with decreasing prices
- High level of technological progress and efficiency
- Low production costs
- Specialization and division of labor
- Interdependence and cooperation among trade partners
- Higher tax revenue
- Countries may refrain from serious conflicts due to economic interests

Types of trade

Startup question
What are the types of trade?

Trade is classified into two categories - Internal and External Trade. These types of trade are also further classified into various types.

1. Internal (domestic) trade is done within the same country, that is, within the same geographical boundary of a country. It is further classified into different categories as follows:

a. Wholesale trade involves the purchase and selling of goods in large quantities.

b. Retail trade is an action of selling goods directly to consumers by retailers.

2. External trade- is also known as **international trade**. As the term denotes this trade occurs between two different countries. External trade is further classified into three categories as follows:

Import trade: refers to the purchasing of goods or services manufactured in foreign countries.

Export trade: refers to the selling of domestic manufactured goods to another country.

Entrepot trade: is all about the importing of foreign goods for re-exporting them to foreign consumers.

Ethiopia's export trade

Ethiopia's export trade is dominated by agricultural products. At present, the major export products of Ethiopia include coffee, livestock products (leather, live animals and meat), oil seeds and pulses, fruits, vegetables and flowers, textiles, natural gum, spices and mineral products.

Market forces: supply and demand

An exchange of a product is taken place when buyers and sellers can agree upon a price. Price is dependent on the interaction between demand and supply components of a market. **Demand** is the amount of a good that buyers are willing and able to purchase. **Supply** is the amount of a good that sellers are willing and able to sell. The point where the supply and demand curves intersect is called market equilibrium.

where P= Price

Q = Quantity

P1= Equilibrium price

Focus

Surplus (Excess supply): is a situation in which quantity supplied is greater than quantity demanded.

Shortage (Excess demand): is a situation in which quantity demanded is greater than quantity supplied.

Major actors of the market

The major actors of the market are buyers (consumers) and sellers (producers). **Buyers (consumers):** are people who buy products for their personal or family use. They buy goods not for other purposes but for consumption.

Sellers (producers): are people and organizations that convert raw materials to a more useful product for users. They supply for sale the products and services that are demanded by consumers.

The idea of competitive market

A competitive market is a market in which there are so many buyers and so many sellers that each has a negligible impact on the market price. Because buyers and sellers in perfectly competitive markets must accept the price the market determines. They are said to be price takers. The following conditions must exist for perfect competition to occur:

- Each buyer knows that there are several sellers from which to choose.
- Sellers know that each buyer purchases only a small amount of the total amount sold.
- The goods being offered for sale are exactly the same, so they have uniform price.
- The buyers and sellers are so numerous that no single buyer or seller has any influence over the market price.
- Buyers and sellers are free to enter or leave the market at any time they like.

Consumer right and supply problem

In Ethiopia, there are supply problems which are caused by several factors. These problems highly affect consumers by depressing availability of goods from quantity, quality, time and price aspects. Some of the supply problems include:

- Malpractices by suppliers: like black marketing, hoarding, profiteering, unethical advertising, etc.
- Wrong weight and measures
- Problem of duplicate goods
- Health and safety hazards: example, selling products after the expiry date
- No proper return for money (price paid): due to inferior quality, less durability, adulteration, unsatisfactory packing, etc.
- Low level of market infrastructure
- Poor storage facilities
- Shortages due to irregular supply, etc.

According to the Ethiopian Trade Practice and Consumers' Protection Authority Proclamation Number 685/2010, any consumer shall have the right to:

1. get sufficient and accurate information or explanation on the quality and type of goods and services he/she purchases.
2. selectively buy goods and services
3. not to be obliged to buy for the reasons that he has looked into quality or options of goods and services or he/she has made price bargains.
4. be received humbly and respectfully by any business person and to be protected from such acts of the business person as insult, threat, frustration and defamation.
5. submit his complaints to the Trade Practice and Consumers' Protection Authority for adjudication; and
6. be compensated for damages he suffers because of transactions in goods and services.

Activity 2.3

A. Questions based on facts

1. Define the following terms:

a. Consumers d. External trade g. Trade

b. Demand e. Market h. Shortage

c. Export trade f. Producers i. Supply

2. What are the key benefits of trade?

3. How internal trade differs from external trade?

4. What are Ethiopia's major export items?

5. What conditions must be fulfilled for the occurrence of perfect competition?

6. What are the major actors of the market?

7. What rights do people have as consumers in Ethiopia?

2.4. Government revenue and tax

Competency: After studying this lesson, you will be able to:

- Explain the meaning of government revenue and tax.
- List the main benefits of revenue and tax
- Discuss the historical development of revenue and tax in Ethiopia

These are the words you should try to learn for this lesson

Top three terms

- Government revenue
- Tax
- economic stability
- Capital accumulation

The Meaning and basic concept of government revenue and tax

Startup questions

What is government revenue?

What is tax?

Government revenue refers to all the income of the government from taxes and non-tax sources. These funds are used for government expenditure. Government revenues and spending are important parts of fiscal policy of the government. Let us see one source of government revenue as follows:

Tax

Tax is defined as a mandatory fee or financial charge levied by any government on an individual or an organization to collect revenue for public works providing facilities and infrastructure. Tax revenues finance government activities, that including public works and services as roads and schools, or programs like Social Security and Medicare. Taxation is a system of raising money to finance government expenditure.

The benefits of the government revenue and tax

Startup question

What are the benefits of government revenue and tax?

Benefits of the government revenue and tax

In order to render various economic and social activities, government requires large amount of revenue. Government revenues have the following benefits:-

- **Removal of inequalities in income and wealth:-**The welfare state aims at the removal of inequalities in income and wealth.
- **Ensuring economic stability:-**Taxation affects the general level of consumption and production. It can be used as an effective tool for achieving economic stability.

- **Reduction in regional imbalances**:- the government can use tax measures to remove regional imbalances.
- **Capital accumulation:** Capital accumulation is essential for the promotion of industrial development.
- **Creation of employment opportunities:** More employment opportunities can be created by giving tax concessions or exemptions to small entrepreneurs.
- **Beneficial diversion of resources:** Resources utilized for the production of goods may be diverted in to the production of other essential goods.
- **Encouragement of export:** Nowadays export oriented industries are encouraged by way of providing various exemptions like100% relief from income tax, free trade zones etc.

The Historical development of government revenue and tax

The traditional taxation provides for taxes on crops, livestock and livestock products such as wool, butter and milk. The tax on wool was particularly levied on mountainous areas of the country. Hunting taxes were imposed on elephant hunters in the form of ivory taxes. In the Axumite kingdom there was a practice of traditional taxation. In the reign of King Zerayacob (1434 -1468), the first tax system was introduced. The first important reform carried out by Emperor Menelik II towards the end of the 19th century resulted in the establishment of a fixed tithe rather than the undefined and essentially arbitrary system of agriculture taxes.

A. Taxes during Haileselassie regime (1942-1974)

The elements of the tax system of this regime comprised personal income tax, business income tax, agricultural income tax, land tax, education tax, health tax, road tax, salt tax, tobacco tax, alcohol tax, cattle tax, stamp duties and custom duties.

B. Taxes during the Derg regime (1975-1991)

The political upheavals of 1975 brought about the abolition of the feudal tenure land system and the revoke of land taxes and the tithe. The health and education taxes were also cancelled and the remaining types of taxes were extensively amended and restructured. Additionally the government had two proclamations that were enacted to collect income tax.

Income tax

Proclamation number 77/1976 and proclamation number 152/1978 were aimed at changing the income tax structure levied on agricultural activities. Thus, the rate of rural land use fee was as follows:-

- Every farmer who was a member of agricultural producers cooperative paid birr 5
- Any individual peasant who was not a member of an agricultural producers cooperative paid birr 10
- Every state farm paid birr 2 per hectare under its possession.

C. Taxes during the transitional government of Ethiopia (1991-1995)

Income tax

Personal income tax according to proclamation number 30/1992,the first birr 105 fron monthly personal income was exempted from the payment of income tax .Marginal tax rate was ranged from 10% to 50%. Proclamation number 30/1992 was amended by the income tax amendment proclamation number 107/1994. As aresalt of this birr 120 was exempted.

Activity 2.4

A. Questions based on facts

1. Define the following terms.
   a. Government revenue b. Tax
2. List the benefits of government revenue and tax.
3. Explain the historical development of government revenue and tax in Ethiopia.

Summary

- Culture is defined as the symbols, language, religion, beliefs, norms, values, and artifacts that are part of any society.
- Cultural diversity refers to a group of diverse individuals from different cultures or societies.
- Religion is defined as a set of organized beliefs, practices, and systems that are related to belief and worship of a controlling force to a personal God or another supernatural being.
- The cultural dimension of globalization is seen in the presence of western entertainment and mass media.
- Primary economic activities focus directly on the extraction of resources from the environment.
- Secondary economic activities include manufacturing, construction and power production.
- Manufacturing is the activity which turns raw materials into products by using labor, energy and equipment.
- The tertiary sector involves the provision of services to other businesses as well as the final consumers.
- The developed and developing countries have different economic basis.
- Trade involves the exchange of goods or services. It is classified into two categories - Internal and External Trade.
- A market is a place where two parties can gather to facilitate the exchange of goods and services.
- Government revenue refers to all the income of the government from taxes and non-tax sources. Tax is defined as a mandatory fee or financial charge levied by a government.

Glossary

Bartering: is trading goods for goods.

Competition: a situation in which many producers offer the same good or service for sale to many consumers.

Consumers: are people or individuals who buy products for their personal or family use.

Cultural diversity: is the existence of a variety of cultural groups within a society.

Culture: is the characteristics and knowledge of a particular group of people, encompassing language, religion, social habits, music and arts.

Demand: is the quantity of a product that consumers will purchase at each possible price.

Forestry: the science of caring for forests, and the trees and other plants which grow in them.

Globalization: refers to the increasing of interconnections among individuals across nations and their people.

Government revenue: refers to all the income of the government from taxes and non-tax sources.

Human race: is defined as a category of humankind that shares certain distinctive physical traits.

Industry: a place where manufacturing activity takes place.

Producers: are those people and organizations that convert inputs to a more useful product for users.

Supply: the quantity of a good or service that firms will offer for sale at each possible price.

Tax: is a financial charge or other levy imposed on an individual or a legal entity.

Tourism: practice of travelling for recreation.

Trade: the activity of buying and selling; or sometimes bartering of goods.

Transportation: the movement of people and goods from one location to another.

UNIT 2 REVIEW QUUESTIONS

IV. True or False Item

Instruction: Write True if the statement is correct and False if it is wrong.

_____1. Material culture refers to the values, beliefs and language of the society.

_____2. Agriculture involves crop production and livestock rearing.

_____3. Tourism is a type of secondary economic activity.

_____4. Wholesale trade is an action of selling goods directly to consumers.

_____5. In a perfectly competitive market both buyers and sellers are price makers.

V. Matching Item

Instruction: Match the concepts under column 'B' with those under 'A'.

A	B
___1. A type of internal trade	A. Surplus
___2. A type of external trade	B. Shortage
___3. Excess demand	C. Entrepot trade
___4. Excess supply	D. Retail trade
___5. Smokeless industry	E. Tourism

VI. Multiple choice Item

Instruction: Choose the best answer from the given alternatives.

____1. Which one of the following is a primary economic activity?

A. Manufacturing B. Trade C. Forestry D. Construction

____2. What is globalization?

A. The attempt to colonize planets in space

B. The growing global economic, cultural and political interaction

C. Protecting the markets in your country by raising tariffs

D. The call for a one world government

____3. Which type of trade involves the purchase of goods manufactured in foreign countries?

A. Entrepot trade B. Import trade C. Export trade D. Local trade

____4. The amount of a good that sellers are willing and able to sell is called

A. supply B. demand C. surplus D. stock

____5. What is the major export product of Ethiopia?

A. Tea B. Textile C. Coffee D. Cereal

____6. Which of the following refers to a tertiary economic activity?

A. Processing raw materials C. The extraction of resources

B. Producing final goods D. The provision of services

____7. A market which has very large number of buyers and sellers that each has a negligible impact on the market price is known as

A. imperfect competition C. pure monopoly

B. perfect competition D. moderately competitive

_____8. A system of communication which consists of sounds and written symbols is

A. Religion B. Language C. Human race D. Ethnicity

V. Short answer item

1. What is material culture?
2. What are the major economic activities that are categorized under:-
   a. primary economic activity?
   b. secondary economic activity?
   c. tertiary economic activity?
3. Explain some of the supply problems that consumers are facing these days.
4. What are the two types of internal trade?
5. Mention the four major language families which are spoken in Ethiopia.

Check List

Put a tick (√) mark in each of the boxes for activities you can perform. I can

1. Explain the processes that lead to the development of culture. ☐
2. Discusse language, religion and human race as a cultural elements ☐
3. Elaborate the cultural diversity of people in terms of language, religion, and human races. ☐
4. Debate in the class room on the effect of globalization as an agent cultural change. ☐
5. Respect humanity and indigenous knowledge. ☐
6. Explain the different types of economic activities. ☐
7. Relate different economic activities with countries levels of development. ☐
8. Compare and contrast the agriculture of the developed and developing countries. ☐
9. Describe the various flow patterns of goods, services and information. ☐
10. Analyze the contribution of trade to the Ethiopia economy. ☐
11. Explain the major types of trade. ☐
12. Evaluate the contribution of different economic sectors to Ethiopian export trade. ☐
13. Explain that the interaction of supply and demand determines price. ☐
14. Use graphs to show the market equilibrium point. ☐
15. Explain what conditions must exist for perfect competition to occur. ☐
16. Discuss the trade-off between consumer right and market supply. ☐
17. Explain the meaning of government revenue and tax. ☐
18. Discuss the historical development of revenue and tax in Ethiopia. ☐
19. List the main benefits of revenue and tax. ☐

UNIT 3

NATURAL RESOURCES AND SOCIO ECONOMIC DEVELOPMENT

Learning Outcomes

At the end of this unit, you will be able to:

- Describe the role of natural resources for socioeconomic development;
- Explain the concept of sustainable resource utilization and development;
- Describe the way natural resources are utilized in your locality;
- Value indigenous resource based conflict resolution efforts in your locality;

Main contents

3.1 Conservation and utilization of natural resources for sustainable development

3.2 Consequences of unwise utilization of natural resources

3.3 Resource accessibility and resource based conflict

- Unit summary
- Review Questions

3.1. Conservation and Utilization of Natural Resources for Sustainable Development.

These are the words you should try to learn for this lesson

Top three terms

- **Natural resource**
- **Renewable**
- **Non renewable**

3.1.1 Resource Utilization and Economic Benefits

Competency: After studying this lesson, you will be able to:

► Analyze the use of natural resource for socio -economic development.

Startup questions

Define natural resource.
What means by conservation of resources?
Explain the importance of natural resources.

Natural Resources

Natural resources are the resources which exist without any actions of human being. Resources which consist of water, coal, iron, sunlight, atmosphere, soil, minerals, vegetation and animal life are examples of natural resources.

A. Classifications of Natural Resources

Natural resources are mainly classified into two different categories:

- Renewable and
- Non-renewable natural resources

1. Renewable natural resources: are the resources that can be generated again once they are used. Example:- sunlight, water, soil, plants, air and wild animals.

2. Non-renewable natural resources: are resources that exhaust after their frequent usage and it takes a long time for them to regenerate. Example: -natural gas, coal, iron, copper and petroleum. Most of these non-renewable natural resources cannot be recycled. So it is important to conserve these natural resources.

B. Natural Resources and their Conservation

Natural resources are the resources that are naturally available on the Earth. These resources are important for all living things on Earth. However, many natural resources are destructing fast because of several reasons. So we have to conserve natural resources for survival of human beings on earth.

The measures on conservation of natural resources include:

- Use an alternative source of energy like solar and wind energy.
- Plant more trees.
- Use pipelines for transporting oil.
- Treat and recycle the industrial sewage and waste.
- Reduce emissions.
- Practice the method of crop rotation.
- Construct water reservoirs.

C. Economic benefits of natural resources

Human beings depend on natural resources in their daily lives. Almost everything that humans utilize on a daily basis comes from the natural resources.

Natural resources are important for maintaining the overall environmental balance and satisfy their needs. In addition, natural resources are important for development of a country. For example, coal and iron are required for the growth and development of the iron and steel industry which is vital for the development of a country. Other mineral fuels like petroleum and uranium provide great economic importance. This contributes for fiscal revenue and income; provides job opportunities and leads to poverty reduction.

Sustainable utilization of natural resources is the proper management of natural resources for the benefit of the people.

Sustainable utilization of natural resources is important for sustainable development. The main aim of sustainable development is to provide resources for present generations without compromising the needs of future generations. Natural resources are capable of being destroyed by unsustainable use and this can be a limiting factor on sustainable development. Conservation of natural resources improves, maintains and protects the natural environment and its resources for the benefit of the people.

Activity **3.1**

A. Questions based on facts

1. Explain the conservation and the utilization of natural resources for sustainable development.
2. Describe the economic benefits of resource utilization.
3. Mention the two groups of natural resources and explain each with appropriate examples.

B. Group discussion

Explain the importance of wise and sustainable utilization of natural resources including land, water and forest.

3.1.2. Factors of Natural Resource Utilization

Competency: After studying this lesson, you will be able to:

► Describe factors influencing the utilization of natural resource.

Startup question

What are the factors influencing the utilization of natural resource?

Sustainable utilization of natural resources involves proper use of land, water, air, minerals, forests, fisheries, and wild flora and fauna resources. Natural resources provide the ecosystem balance for better quality of human life. Ecological processes maintain soil productivity, nutrient recycling, clean air, water, and climatic cycles. but there are several factors that affect the utilization of natural resources. The main factors that affect the utilization of natural resources are:

- Availability of resources
- Skill of ma power
- Availability of capital
- Advancement in technology (machineries)
- Availability of transport and communication facilities‟ etc

3.1.3. The Changing importance of resources over time

Competency: After studying this lesson, you will be able to:

► Explain how the consumption patterns of resources are changing through time.

These are the words you should try to learn for this lesson

Top two terms

- **Consumption**
- **Environmental impact**

Changing importance of resources over time

Startup question

How the consumption patterns of resources are changing through time.

Humans demand for consumption of natural resources is dramatically increasing. Humans need to interact with the environment to obtain food, water, fuel, medicine, soil, building materials and many other things. Technological advancements have made great contribution for exploitation of natural resources. This overutilization of resources induced pollution which is a cause for environmental damage. This also creates environmental problems that affect humans' health and socio-economic development.

Environmental impacts of high levels of consumption are confined to the local area and country. For example, the use of fossil fuels for energy to drive cars, heat and cool houses has an impact on global CO_2 levels and resulting environmental effects.

Humans are the main causes for environmental damage. The impact of humans on the environment depends on the consumption level of resources, such as land, food, water, air, fossil fuels and minerals. The consumption patterns of resources cause air and water pollution, waste, and global warming. Changing consumption patterns combined with population increase and food insecurity concerns could lead to challenges in terms of sustainability for the environment.

When consumption behaviors change, they generally shift towards products that are not commonly available or are not produced in the required quantities in the area.

Activity 3.2

Questions based on facts

1. What are the factors affecting the utilization of natural resource? Explain by giving examples.
2. Describe how the consumption patterns of resources are changing through time.
3. What are the environmental impacts of consumption of natural resources?

3.1.4. Resource Conservation and Sustainable Utilization

Competency: After studying this lesson, you will be able to:

► Explain the ideas of Resource Conservation and sustainable utilization.

These are the words you should try to learn for this lesson
Top six terms

- **Conservation**
- **Shelter belt**
- **Sustainable use**
- **Strip cropping**
- **Terracing**
- **Crop rotation**

A. Meaning of conservation

Startup questions

Define the ideas of resource conservation and sustainable utilization. What are the mechanisms to conserve and sustainable utilization of soil, water, forest and wild life?

Conservation is a careful, efficient, wise use and sustainable use of natural resources. It helps to secure the availability of renewable and non-renewable raw materials. In addition, it is useful to maintain soil fertility and the supply of clean drinking water.

Focus

Sustainable use of resource means the use of resources that does not lead to the long term degradation of the resource and maintaining its potential to meet the needs and aspirations of present and future generations. In other words, it is defined as the use of the environment and its resources at a rate that does not exceed its capacity for replacement of the resource.

B.

Startup question

What are the possible mathods of soil conservation ?

Soil conservation is the set of techniques and practices which involves the protection of soil from erosion and soil degradation, so as to maintain soil fertility and productivity.

The following are some of the methods in the conservation of soil:-

1. **Terracing**: constructing stair like structures along hillsides to reduce the speed of water flows down the slope. Study the case study presented on the Konso cultural landscape.
2. **Afforestation**: planting new trees where none existed before.
3. **Crop Rotation**: the planting of a serious of different crops in the same field over a period of years.
4. **Reforestation**: trees must be replaced wherever they are cut down.
5. **Shelter belts**: are trees planted at the edge of farmlands to protect the soil from wind erosion.
6. **Check Dams**: are small dams to trap silt washed from hills.
7. **Strip cropping**: involves the planting of two or more crops in the same field. The crops may differ in height, time of harvest and use of nutrients.
8. **Contour ploughing :** is tilling the land across slopes, rather than up and down, to create barriers to runoff

Case study

The Konso Cultural Landscape

The Konso Cultural Landscape has been added to the official list of World Heritage sites by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

This landscape is an arid property of stone walled terraces and fortified settlements in the Konso highlands of Ethiopia. It constitutes a spectacular example of a living cultural tradition stretching back more than 400 years and adapted to its dry hostile environment. The terraces retain the soil from erosion, collect a maximum of water, discharge the excess, and create terraced fields that are used for agriculture. The terraces are the main features of the Konso landscape and the hills are contoured with the dry stone walls, which at places reach up to 5 meters in height.

Farmers in Konso practiced a terracing activity that consistently provides bountiful harvests. For centuries, the Konso have succeeded in sustainably growing millet, sorghum, corn, cotton and coffee, chat, beans, moringa, and many varieties of trees in their fields. They also raise cattle, sheep and goats that serve as important currency to exchange with other communities.

Source: - https://whc.unesco.org/en/list/1333/

Soil conservation increases productivity of soil, mitigates erosion, gives food and shelter for wildlife and promotes purification of water.

C. Water conservation and sustainable utilization

Startup question

What are the methods for water conservation?

Water conservation refers to the wise use, control and development of water bodies, and prevention of pollution. The following methods are useful to conserve water:-

a. Protection of water from pollution: A large portion of fresh water is polluted due to the increasing of economic activities and urbanization. This creates water scarcity and conflicts. Protection of water from pollution helps to conserve water and to enhance water supply.
b. Rational use of groundwater: groundwater utilization should be only in proportion to its recharging capacity.
c. Renovation of traditional water harvesting methods: traditional water harvesting methods have been able to meet the demand of drinking water. Water stored in traditional methods has been used for both purposes, agriculture as well as for drinking. These methods should be renovated to conserve more water.
d. Use of modern irrigation methods: Sprinkler and drip irrigation methods save more water than traditional irrigation method. Thus, improved modern irrigation methods are useful for conservation of water.
e. Increasing forest cover: Forest cover has been destroyed due to various reasons. As a result of it, rain water flows away very fast to the rivers. Reforestation and afforestation are helpful in recharging water sources.
f. Conserving water in industries: Industries consume water to a large extent for cooling their plants and discharging wastes. Some industries pollute water bodies. This waste water should be treated and the water bodies have to be protected from pollution. Industries should also re-use water after processing to conserve water.
g. Water conservation by municipal bodies: Municipal bodies should manage both individual demand and supply of water as well as conserve it. Municipal laws should provide for collection of rain water from roof tops and implement it. Individual awareness is very important in water conservation.

Benefits of Water Conservation

It is important to conserve water because of the following reasons:

a. It minimizes the effects of drought and water shortages: the demand for fresh water is increasing due to population and industry growth. The water returns to the Earth through the water cycle. So people must conserve water resources in order to reduce drought and water shortage.

b. It reduces political conflict: the problem on conservation of water lead to lack of adequate water supply. This include water scarcity, reduced food supplies, health hazards, and political conflict.

c. It helps to preserve our environment: Reducing over water consumption in homes, businesses, farms, and communities, helps to reduce pollution.

d. It makes water available for recreational purposes: conservation of water is important for recreation purposes.

e. It builds safe and beautiful communities: many people use water in hospitals, gas stations, hotels, industries and restaurants which require large amounts of water to provide services to the community. So reducing the over consumption of water creates safe environment for the communities.

Forest conservation and sustainable utilization

Startup question

Explain the Forest conservation and the importance of forest.

Forest conservation is the practice of planting and maintaining forest areas for the benefit and sustainability of forest resources for the people. Forest conservation is essential to mitigate climate change.

Importance of forest resources

The importances of for est is discussed as follows:

1. **Environmental quality**:- the forests enhance the quality of environment by absorbing greenhouse gases.
2. **Maintaining ecological balance**: - the forest check pollution of air through increasing oxygen content of the air.
3. **Supply of raw material**:-forest provides wood for fuel, industries (pulp,paper, and board), timber for furniture and preparing matches

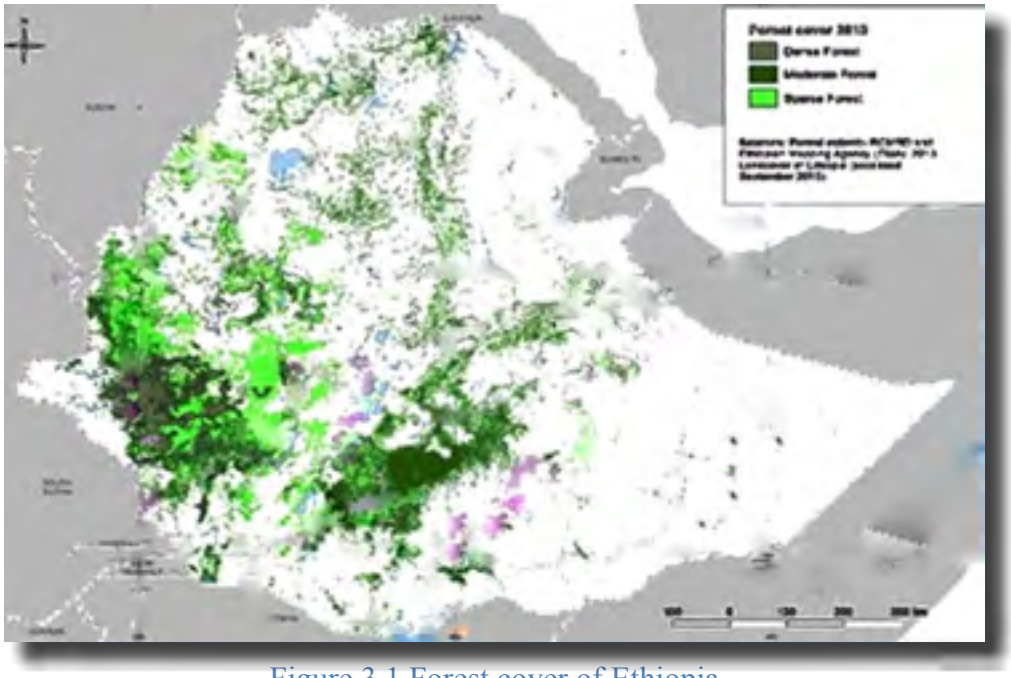


Figure 3.1 Forest cover of Ethiopia

(Source:-https://www.researchgate.net/figure/Forest-cover-of-Ethiopia_fig1_322897569)

Wildlife conservation and sustainable utilization

Startup question

What are the measures taken to conserve wildlife resources?

Wildlife conservation is the practice of protecting plant and animal species and their habitats. Wildlife resources include all animals and birds which grow naturally without any human interference. Wild animals live in wild without any friendly association with human being.

Wildlife is important to balance ecosystem, provide food, tourism, source of medicine, recreational purposes and for the development of the economy.

The major factors that affect wildlife are:

1. **Deforestation**: removal of forest results destruction of their habitats
2. **Illegal hunting**: seeking for meat, skin, fur, horn, ivory etc.
3. **Overgrazing**: keeping domestic animals over the carrying capacity of the grazing land.

4. **Burning of forests**: setting fire on forests, bushes and grasslands.
5. **Drought and famines**: wild animals die or migrate when food and water sources get scarce.

Measures of wildlife conservation

1. Educate the people about wildlife and ecological conservation, tree planting.
2. Laws should be made to punish persons who are killing of wild animals.
3. Establishing National parks, game reserves and sanctuaries.
4. Conservation of endangered species of wild animals.

Activity 3.3

A. Questions based on facts

1. Define the following terms:
   a. Conservation b. Sustainable use
2. Describe the methods of soil conservation.
3. What are the benefits of forest conservation?
4. Describe the importance of proper use of soil, water and forest resources.
5. List the factors that affect wild life resources.
6. Mention the main benefits of wild life conservation in Ethiopia.

B. Group discussion

1. Discuss on the water and soil conservation methods of your locality. What measures must be taken to conserve water and soil?

C. Individual work

1. Investigate the natural resources of your locality and evaluate the conservation measures taken for sustainable utilization of natural resources.
2. Sketch the physical map of Ethiopia and show the location of river basins and forest distribution, then share your findings to your classmate.

3.2. Consequences of unwise utilization of natural resource

Competency: After studying this lesson, you will be able to:

► Describe the consequences of unwise utilization of natural resource.

These are the words you should try to learn for this lesson

Top two terms

- **Depletion**
- **Extinction**

Startup question

What are the consequences of unwise utilization of natural resources?

Throughout the world, forest areas are deforested, soils are ploughed, waters put in to use. This happens because of a continuous improvement in the life style of people. Resources are also misused and as a result they become smaller and smaller. Natural resource exploitation, exploration, mining and processing have caused environmental degradations. Unwise utilization of natural resources results in:-

1. **Water shortages**:-Poor farming practices, deforestation, and pollution are major causes of water resource depletion. This causes lack of potable water, lowering of the underground water level, water pollution, and the destruction of aquatic life. Water shortage contributes to famine and food insecurity.

2. **Loss of forest cover**:-The devastating effects of deforestation include soil erosion and an increase in the greenhouse gases leading to global warming, loss of biodiversity, desertification, drought and famine.

3. **Depletion of minerals**: -over exploitation of minerals such as phosphorus, gasoline, copper, iron and zinc leads to depletion of minerals.

4. **Extinction of species:-** resource over exploitation and habitat degradation leads to changes in environment. As a result, some species may extinct. Forests serve as a habitat for a wide variety of animals. But the removal of forests is destroying forest habitats. This leads to ecological disturbances, destruction of natural flora and fauna.

3.3. Resource Accessibility and Resource Based Conflicts

Competencies: After studying this lesson, you will be able to:

- Evaluate how their society uses resources and how dispute over resources.
- Evaluate how your society uses resources and how dispute over resources is resolved
- Discuss on indigenous knowledge related to resource conservation.

These are the words you should try to learn for this lesson

Top four Terms

- **Hydro-politics**
- **Upper course**
- **Water conflict**
- **Lower course**

Hydro-politics of Abay River

Startup questions

Explain how the society use resources and how dispute over resources is resolved. Have you participated in events that promote resource conservation practices in your community? Explain to the class.

Water conflict arises from various kinds of claims over water access or rights. The disputes may arise often between groups or regions and neighboring states. As the demands on access to water and using fresh water supplies rises due to population growth, economic development and pollution are the causes for conflict. The construction of a dam or the channeling of the river flow leads to international conflict.

The Nile River is one of the most politically significant rivers in Africa. The upper and lower stream countries (Ethiopia, Egypt, Kenya, Sudan, Uganda, Rwanda, Burundi, democratic republic of Congo, Eritrea, Tanzania, and south Sudan) have significant interest over the water of this basin. The upper course countries are those that contribute the water for the river and are found at higher altitude where the major tributaries of the Nile originate. On the other hand, the lower course countries, namely Sudan and Egypt, are found at lower elevation where the water of the river flows gently over the vast plains.

The hydro-politics of the Nile is, therefore, related with the degree to which the Nile River is utilized in its upper and lower courses.

Focus

Hydro politics is the study of inter-state politics regarding the management of shared water resources.

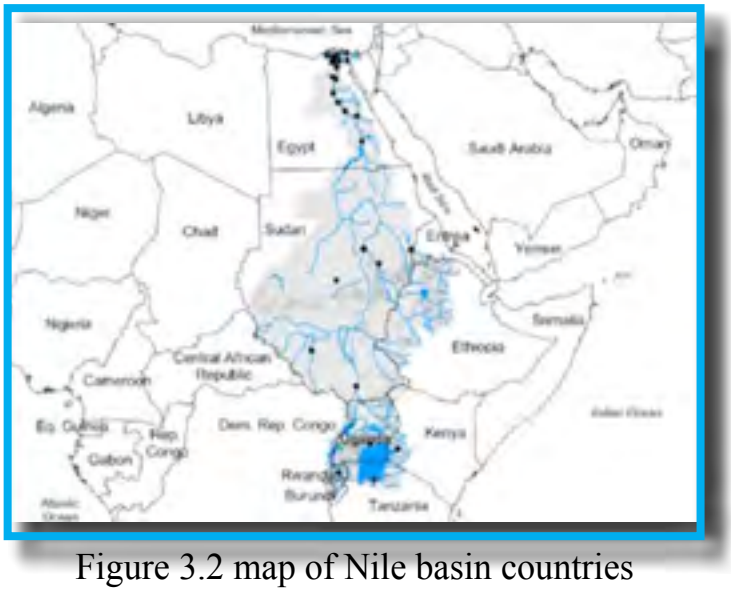


Figure 3.2 map of Nile basin countries

Historically, the two countries (Egypt and Sudan) have been the most benefited of all the countries in the Nile basin. On the other hand, the upper course countries have been the least benefited. This unbalanced and unfair utilization of the river between the upper and lower course countries has been a great area of interest. The countries of the basin are now coming in a situation where they have equitable utilization of the river.