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CHAPTER TWO

NATURAL REGIONS OF THE WORLD

3. FRIGID (COLD) ZONE

- ✚ This region is known as the highest latitude and polar region, it also found at the tip of the two poles. Frigid Zone lies between $66\frac{1}{2}^{\circ}$ to 90° , both N and S of the equator. The Lichens, mosses, grasses, cushion plants, and low shrubs are the common parasite plants found in the region. This is caused by insufficient sunlight that serves as a source of energy for life.
- ✚ The most widespread people in the region are Eskimos, Indians, Lapps, Chukchi, Koyaki, and Yakut's which are found in Alaska, Canada, Greenland, Finland, Norway, Sweden and Siberia who have thick skin to survive the frigid climate. The main human activities of the region are Hunters, reindeer herders, fishing, fur and trappin. Land and sea animals and fish provide their main source of food. The Frigid Zone has categories. These are tundra and the polar ice caps.

Tundra Region

- ✚ Tundra is area where the growth of trees is prevented due to low temperatures and short seasons that restrict growth. It is the transitional zone between the polar ice caps and the coniferous forest belt and is found only in the northern hemisphere. The very epidemic birds that live in the region is penguin.
- ✚ The climatic condition of Tundra region is during the summer season, there is long daily duration of sunshine, totally very low temperature is observed. Because the sun's rays are very slant, and therefore lack heat. Winter is cold and long. During the daytime, the sky is dark, and stars can be seen shining. Plants such as lichens, mosses and sedges grow during the summer season.
- ✚ There are a few primitive societies scattered tribes such as Eskimos (Inuit), Lapps, Finns, Aleuts and Tunguses. Their economic activity is characterized as Hunting, fishing, and reindeer herding. In North America, the Eskimos settle along the seashores in igloos (houses made up of blocks of ice) in the cold winter.

Polar Ice Cap Region

- ✦ A polar icecap is a highest latitude region of the earth that is covered with ice. Located near the North and South poles. These natural regions include Greenland and the Arctic islands and Arctic Ocean in the northern hemisphere and the continent of Antarctica and the South Sea in the southern hemisphere.
- ✦ The climatic condition of the polar ice cap is generally characterized by negative temperatures. The precipitation is very low and falls in the form of snow b/ of very oblique sun rays.
- ✦ Plant growth is impossible as the regions are permanently covered by ice and snow and the soil permanently frozen. is covered with ice. Little vegetation, like mosses, lichens, and algae may grow with the help of the light of the very short summer.
- ✦ No one human race is live there except scientists and hunters. The Arctic region is also important for military strategies. For example, the USA has an air base at Thule in Greenland.

ECOSYSTEM

- ✦ Ecosystem is a community of living things and their non-living environment. Ecosystem consisting of organisms (plants and animals) and their environment (air, water, soil and rock). The non-living features of the environment are the abiotic factors, and the organisms in the environment are the biotic factors.
- ✦ Populations and communities make up an ecosystem. Living things in ecosystem not live alone without nonliving things; they are interdependent and have biological and non-biological association.
- ✦ All ecosystems require energy in order to exist. The living things necessitate heat energy and light energy from the sun to survive. Ecosystems have lots of different living organisms that interact with each other. The living organisms in an ecosystem can be divided into three categories Producers, consumers and decomposers. They are all important parts of the ecosystem.

1. Producers

- ✦ *Plants are the best example of producers and make their own food by means of photosynthesis. Green plants are the primary passage from one organism to another along the food chain.*

2. Consumers

➤ *Consumers are animals, which get their energy from the producers or from organisms that eat producers.*

There are three types of consumers:

2.1. Herbivores (primary consumers) *are animals that eat plants.*

2.2. Carnivores (secondary consumers) *are animals that eat herbivores and sometimes other carnivores.*

2.3. Omnivores are animals that eat both plants and other animals.

3. Decomposers

Decomposers are plants and animals that break down dead plants and animals into organic materials that go back into the soil.

➤ When organisms die, their bodies decompose and form a source of energy and nutrients for other organisms. Decomposers are microorganisms, mainly fungi and bacteria, which live on dead organic matter.

VILLAGIZATION OF THE WORLD THROUGH DISTANCE-TIME DECAY

Villagization

- Villagization refers to the time-space compression which has resulted from the increasing, rapid movement and interaction of people from all parts of the world.
- Currently, due to advancements in transportation and other communications technologies, the world's populations are much "closer" than ever before.
- The technological improvements have reduced the time needed to travel from one corner of the world to any other and to communicate over distances.

Distance-time decay

- Distance-time decay is described as the effects of distance and time on cultural or spatial interactions, the production of goods and the location of activities.
- The distance-time decay effect is the decline in interaction between two localities as the distance and time between them increases.
- The advances in communications and technological devices such as phones, radio and television broadcasts, and the internet, have further decreased the effects of distance and time.

The socio-economic impacts of world villagization

World villagization impacts many socio-economic and cultural features of our world. Although some of them operate primarily in the developed countries, their effects are increasingly evident in developing countries such as Ethiopia.

1. On production of goods and service delivery

- ✦ In the past, time and distance had a profound impact on the location of markets and the production of goods. Perishable goods, such as vegetables, fruits, and fresh milk, used to be primarily produced and sold close to urban centers in order to sell and consume them fresh.
- ✦ Today distance and time have little or no impact on the production and market of perishable goods. Fast communications such as the internet have improved the delivery of goods and services even without face-to-face contact.

2. On location of settlements and industries:

- ✦ In the past, the distance-time decay effect deeply affected the location of settlements and industries. They had to be located near resources and energy. Similarly, industrial workers needed to live near their work places. Currently, advancements in transportation networks have allowed many industrial workers to commute daily from their homes to workplaces many kilometers away.
- ✦ Generally, the time-distance-decay effect that used to profoundly affect our socioeconomic and physical environments on local, regional, and global scales has been mostly overcome in many parts of the world. Another term for this process is globalization. It has greatly affected the social, cultural, political and economic landscapes of our world.

CHAPTER THREE

HUMAN POPULATION AND ECONOMIC ACTIVITIES

INTRODUCTION

In this unit you are going to deal with human population, economic activities and natural resources. During the course of human history, people have transformed and modified the earth. They have done so in order to survive.

Humans have been very successful. Today there are several billion people living on the earth. The study of human population has long been of interest to geographers. The burden of population growth in today's world adds great industriousness to the study of population for everybody.

Population distribution is the way that a population is spread out over a given area, whether a small region or the earth as a whole. This distribution of population forms a pattern. While some areas are densely populated, others are sparsely populated.

Concept and Facts about Human Population

- Population geography emphasizes the spatial aspects of **human population and the interaction with physical environment**. Population is a group of similar species organisms living in a definite geographical environment. Various forms of living things which have **specific habitat, living style, and distinct social organization**.
- The major types of population are; plant population, animal's population and human population. We study human population.

Human population is studied for many reasons including the following.

- To demonstrate significant quantitative and qualitative changes over time and space.
- Enabling elites to deal with population size, composition, structure and the location of human populations and policy implications.
- Knowing about the characteristics of the human population.

Human population is also necessary for development and socio-economic activities in terms of source of the labor force for the productive and non-productive economic sectors, such as agriculture, manufacturing, teaching, health services, etc.

Human population is also the main productive force and creator of material wealth. This makes the study of population extremely important for the overall socio-economic development of a country

The rapid increase in the size of the human population is attributed to many factors that include: advancements in scientific knowledge, agriculture, industry, medicine, and social organization.

Now a day, Humans ability to control famine and disease, which have been major killers of humans; the relatively lower cost of importing vaccines, antibiotics, insecticides, and high-yielding varieties of seeds; improvement in peoples living conditions, which have resulted in the decline of deaths from infectious and parasitic diseases and increase in life expectancy in most developing countries.

- ✚ As a result of these and many other factors, the human population has increased rapidly since the 15th and 16th centuries. As some sources indicate, by 1750 there were only about 791 million people in the world.
- ✚ However, in a matter of 250 years, the world's population reached over 6 billion. The growth of the human population between 1750 and 2000 has been very rapid. The trend of growth during that period was shown as follows
- ✚ The rapid increase in human population over the course of the 20th century had raised concerns. Though, earth is experiencing over population scientific consensus is that the current rate of population expansion and the accompanying increase in usage of resources are linked to threats to the ecosystem, such as rising levels of **atmospheric carbon dioxide, global warming, and pollution.**
- ✚ Thus, population growth has a direct effect on socio-economic development and on the quality of the environment of a given society. The distribution of human population shows great variation. For example, Africa and other developing regions account for the **largest share of the world's population.** As world population rose from 2.5 billion in 1950 to 6.7 billion in 2008, the proportion of people living in the developing countries of Africa, Asia and Latin America has expanded from 68 percent to more than 80 percent.

- India and China alone make up about **37 percent** of the world's total. The share of the developed countries is projected to drop from about 18 percent in 2008 to less than 14 percent in 2050. Asia accounts for over 60 percent of the world population, with almost 4.1 billion people. Africa follows with 999 million people, accounting for about 14.7 percent of the world's total. Europe's 738 million people make up 10.8 percent of the world's population. Likewise, the populations of Latin America and the Caribbean, North America and Oceania account for about 8.5 percent, 5 percent and 0.5 percent of the world's population, respectively.
- Country wise, while some countries have smaller population sizes, others are home to a much larger number of people. Of the world's countries, **the ten most populous ones are shown in the following table with their respective population sizes.**

Sources of Population Data

- Population data refers to population information, such as number, age, marital status, births and deaths, occupation, religion, educational status, and other characteristics of the human population. Such information is vital for studying the different aspects of the human population.
- That is why we say that studying human population is dependent on reliable population data. Statistical information about human population is obtained through a variety of ways.

Population information is important for many reasons. For example;

- ◆ Used to making decisions related to social and economic affairs.
- ◆ It indicates future requirements of the population in terms of social, health, education, employment and other socio-economic needs.
- ◆ It helps policy makers to forecast the needs of the population and to understand how to meet them.

The most methods used to gather information about human populations are;

- i. **Population census**
- ii. **Sample survey**
- iii. **Vital registration**

I. Population Census

- ⇒ Population census is the main source of population data. Census is the total process of collecting, analyzing, compiling and publishing demographic, economic and social data of all persons in a country or delineated territory at a specified time.” Official counting of all the people of a certain geographical area with a *well-defined boundary so as to collect socioeconomic and demographic information about the population*.
- ⇒ Census is the way of gathering the demographic and socio-economic data such as *size, growth rate, fertility and mortality* characteristics, marital status, employment situations, religion, ethnicity, income, educational status, housing conditions, sex and age structures and much more information about the population.

In Ethiopia, the census is one of the most important ways of collecting population data. So far, three censuses have been taken. The first was in **1984**, the second in **1994** and the last one in **2007**. Census in Ethiopia is conducted every *ten years*.

The Main Features of Census

The following are the main features that distinguish census from the rest of population data sources.

1. **Government Sponsorship;** The responsibility of the national government to provide resources necessary to conduct census and obtaining legislative support.
2. **Defined territory;** Occurred at specified geographical unit such as state, country, or province.
3. **Universality; Enumeration** must include every person within the scope of the territory without omission or duplication everyone in the country as of a fixed day.
4. **Simultaneity;** Conducted at specific well-defined time throughout the country.
5. **Individual Units;** The information that is obtained normally relates to individuals rather than groups. It is compiled and published.
6. **Periodicity; Census** should be taken at certain specified time interval. For example, United States and Ethiopia, conducted at every ten years, while Canada and the UK are at every five years.
7. **Expensiveness; Census** is the most expensive method of data gathering. This is because of its universality which necessitates complete coverage of the entire territory.

II. Sample Surveys

A sample survey is the second most important and widely used source of population data which is employed to arrive at *estimates of demographic characteristics* (age, sex, marital status, etc.), population size, population distribution, mortality, fertility and migration. Important source of population statistics in areas where census is not conducted and used to fill population information gaps. Most countries used sample survey.

- Collects information only *from a part of the whole population*.
- Generate the socio-economic and demographic data in greater detail than conventional censuses can provide.
- Conducted during a period of *transition between two consecutive censuses*.

As compared to census, sample survey is:

- ✓ Less expensive because it does not involve the entire population;
- ✓ Capable of providing very detailed information.
- ✓ The well-trained and strict supervision can provide data of a better quality than census and the accuracy of the data.

III. Vital Registration

✂ The continuous registration of the vital events population births, deaths, marriages and divorces. The *personal information recorded as after an event is occurred*. Data on vital events are gathered from birth and death certificates, marriage licenses, divorce records and other official registers.

✂ The reliable vital registration system has an *expensive* and extensive process. The completeness of registration and the reliability of the data gathered through vital registration can be affected by the following reason;

- Level of literacy and awareness of population
- Social custom may lead to non-registration
- The widely dispersed or inaccessible of rural population.

Factors Affecting the Quality of Data

❑ *The gathered information may not necessarily be accurate. Some of these problems include:*

- ✎ Financial inadequacy;
- ✎ Enumeration mechanism;
- ✎ Inadequate awareness;
- ✎ Double entry (counting of a person twice).
- ✎ Neglecting certain groups of people
- ✎ False information
- ✎ Lack of equal acceptance societies

Distribution and settlement patterns

Population distribution is the way that population is spread out over a given area. Human population is spread very unevenly over the earth's surface. While some areas are densely populated, others are sparsely populated. The *availability of natural resources, the nature of topography, the productivity of the soil*, and many other factors has resulted in an uneven distribution of people.

A. Densely Populated Regions

There are three main densely populated areas in the world. in the world. These areas are;

- ✓ Asiatic population belt
- ✓ Peninsular Europe
- ✓ Northeastern of North America

A. Densely populated

1. Asiatic population belt (supports more than 60% of world population).

1.1. *East Asia*- China, Japan and Korean Peninsula (supports 25% of world population).

1.2.South Asia - India, Pakistan, Bangladesh, Myanmar (Burma) and Sri Lanka (supports) accounts for about 25% of world population.

Favorable climatic condition for agriculture, Birthplace of one of the principal human races and high industrial development causes densely population of the region.

2. Europe (more than 10% of world population). This is caused by;

- ✓ *Favorable climate.*
- ✓ *Conducive agriculture land.*
- ✓ *High industrial development.*

B. Sparsely populated areas

- The following regions are the sparsely populated regions of the world.
 - a. *Tundra (part of N. America and Eurasia). Very cold climate (no cultivation).*
 - b. *Hot and dry lands (tropical deserts). High temperature. Shortage of water.*
 - c. *Hot and humid regions Amazon, Congo and Indonesia basins. Very high humidity, rainfall and temperature.*
 - d. *High relief areas High Mountains with rugged topography, Cold temperature. Areas with poor soil. Poor soil, badly degraded lands.*
- The condition that are *encouraging population density are; adequate rain fall, fertile soil/alluvia/,good weather, industrial congestion, agglomerated economy, good market center and etc.*
- The conditions that may *discourage population density are; Low rainfall ,Little water for farming ,infertile soil ,very leached , Very hot and dry climate, Warm & humid climate and Icecaps regions.*

Settlement Pattern

- ✓ A settlement is defined as *a place in which people live, carrying out a variety of activities*, to make their livings, such as trade, agriculture and manufacturing.

- ✓ There are varieties of settlements. These include *hamlets, villages, towns, cities, metropolises, megalopolises, etc.*
- ✓ Naturally, settlements are situated with respect to *natural features*, such as *water, fuel, food*, and protection, as well to access to *transportation and communications*. Settlements may broadly be divided into *rural and urban settlement*, based on the density *of human made structures*, population concentration and dominant economic activity.

Rural settlement

- Rural settlement are considered to *all villages* and *widely dispersed* and are dominated by *isolated homesteads settlements*. Rural settlers are mainly *engaged in agriculture*.

Urban settlement

- Refers to town or city settlements. People engaged non-agricultural activities. The criteria used to identify urban centers are; *the official status of urban settlement, size of population, and occupation of the population*.

ECONOMIC ACTIVITIES

Economic activity is the *production, distribution and exchange of goods and services*. Some examples of these activities are *hunting, fishing, farming, grazing, mining, manufacturing, transportation, trade and others*. Human must provide for his/her basic necessities such as food, clothing and shelter. Economic activity indicates the *level of development* of the country.

Classification of Economic Activities

The economic activities practiced in the world are grouped into five, namely **primary, secondary, tertiary, and quaternary and quinary**.

<i>Primary economic activity</i>	<i>Agriculture</i>	<i>Gathering</i>	<i>Extensive industry</i>	<i>Extraction</i>
<i>Secondary economic activity</i>	<i>Manufacturing</i>	<i>Construction</i>	<i>Power production</i>	<i>Value added industry</i>
<i>Tertiary economic activity</i>	<i>Retail and trade</i>	<i>Communication</i>	<i>Professional service</i>	<i>Service industry</i>
<i>Quaternary activity</i>	<i>Info</i>	<i>Research</i>	<i>management</i>	<i>High level Decision making</i>
<i>Query activity</i>	<i>Decision maker</i>	<i>White color information service</i>		

The summary of world economic activities

1. Primary Economic Activities

Focus directly on the extraction of resources from the environment and Production of food stuffs and raw materials. The primary economic activity is the beginning of the production cycle, where people live in close contact with the resources of the earth.

Primary economic activities are characterized by dependent on the natural environment. The main types of primary activities include: ***Agriculture, Forestry, Fishing and Mining***.

Agriculture

Agriculture is the science and art of cultivation 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.

Agriculture, as a primary economic activity, aims at solving the basic problems of any society. It provides foodstuffs for the population and raw materials for industries. In Ethiopia about 85 percent of the population is engaged in agricultural activities.

Forestry

Forestry is the extraction of forest products for different purposes by people. Forestry is important for the production of wood, timber, gums, nuts and barks used for various domestic and industrial purposes. The following are among the main importance of forestry; *For construction purposes; Used as a source of industrial raw materials; Used as a source of foodstuffs such as roots, leaves, fruits, barks, gums, stems, flowers, Control soil erosion., Controlling the climate of the local environment and Used as habitat for wild animals,*

Fishery

Fishing is a primary economic activity concerned with the *catching and harvesting of fish* and other marine creature. Fishing is one of the *oldest occupations* of humankind. A nations depend on fishing as the mainstay of their livelihoods, are; *Norway, Iceland and Japan.*

As compared to other primary economic activities, *fishing is not a very basic economic activity.* Provides employment opportunities for only a very small percentage of people. Ethiopia known with plentiful water resource. But, Fishing as an activity is *at infant level* of development in Ethiopia.

Mining

Mining is the extraction of mineral bearing substances from the earth's crust is closely associated to manufacturing industries. A mineral is an *inorganic chemical* element found naturally in the crust of the earth. There is also some organic minerals, such as *coal, petroleum and natural gas.* Minerals are not evenly distributed on the crust.

1. Secondary Economic activities

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,

Industry refers to the *place where manufacturing* takes place. Manufacturing uses machines, tools and labor to make things for use or sale and range of human activities, from handicraft to the use of high technology. Raw materials are transformed into finished goods on a large scale.

Manufacturing activities are characterized by the following features;

- ✦ Dependency on raw materials
- ✦ Transformation of raw materials into finished or semi-finished product;
- ✦ Manufacturing need power, skilled manpower, huge capital and modern technology;
- ✦ Characterized by a high level of division of labor;
- ✦ The end products that are ready for consumption

2. Tertiary Economic Activities

Tertiary economy sector known as the *service sector or the service industry*. The basic characteristic of this sector involved the provision of services to other businesses as well as to the final consumers.

Tertiary economic activities include *education, legal services, medical services, trade, transportation services, tourism* and etc. *Among these* the main classification of Tertiary economic activities include: *Trade, Tourism, Transportation and Communication*.

2.1. Trade

Trade is a tertiary economic activity; indicate the process of *buying, selling, or exchanging of commodities*. The earliest form of trade was *bartering*, which was an 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 satisfying human needs.

Later on they started using metal, salt, and paper as medium of exchange. The surplus of production demand for commodities; *differentiation of culture, access transport and suitable world condition* are the main bases of trade.

2.2. Transportation

Transportation is the movement of people, commodities, and mail. Now days the quality and types of transportation shows much progress. This makes people travel *long distance with lower cost*.

The flows of ideas, beliefs and innovation become faster and wider currently. This makes the world closer to each other. Transportation tools are important to spread benefit, health care and education.

The local transportations are; horse, donkey, camels, which lacks speed, with *inefficient and backward tools*. The international transportation tools are highly *interactive, fast, efficient* are road, railway, in land water, and air way are systematically coordinated Transport.

2.3. Communication

Communication is the transmission of words and messages from one place to another. The major types of communications are:

Mail; is the distribution of letters, packages as well as money. Example, Postal services.

Telephones; is a point-to-point communication system whose most basic function is to allow two people separated by large distances to talk to each other .Example: Mobile phone, land line telephone.

Radio; It is one of the most important means of communication. All over the world, information is transmitted using radios, with the help of electromagnetic waves.

Television; It is a means of communication used to transmit messages using both images and sounds. Nowadays, it is possible to receive information and entertainment via TV from any corner of the world with the help of satellites.

Internet and other modern communications tools; by using satellites and other electronic equipment like the computer and telephone, new methods of communication have been introduced to the world. Some of them include fax, e-mail and internet.

2.4. Tourism

Tourism is a collection of natural and human- made features, services and industries that deliver a travel experience, and they include transportation, accommodations, eating and Drinking establishments, retail shops, entertainment businesses, and other facilities Tourism is a source of both job opportunities and income. It is known as a *smokeless industry*.

Some of the reasons for tourism are; *Site-seeing; Conferences; Port activities Skiing, Mountaineering, Boating, Yachting Fishing, Hunting, Swimming, Secure Fresh Air Shot Springs ,Research and Religious Ceremonies.*

Features that encourage the development of a tourist industry are: *Good weather conditions; Physical landscape features* (scenic attractions); *Services, such as bathing, boating, recreation, hotels, restaurants*, etc. Accessibility (transport facilities) and *Historical sites, parks, etc.*

Primary Economic Activity: Mining Minerals, such as iron, aluminum, coal, etc. are extracted from the earth's crust. They serve as raw material for manufacturing industries.

Secondary Economic Activity: Manufacturing industries such as air craft/automobile industries use iron, aluminum, and other minerals to produce air planes or vehicles.

Tertiary Economic Activity: Whole sellers and retailers sale the semi-finished industrial products to individual consumers.

3. Quaternary Economic Activities

The Quaternary Sector seen as an advanced form of service activity involving specialized *knowledge, technical skills, communication ability, or administrative competence.*

These activities include *education, research, development, financial services*, and *the entertainment industry and government activities* and concentrated in large urban places and require higher levels of education Quaternary economic activity performed in office buildings, elementary and university classrooms, hospitals and doctors' offices, theatres and television stations.

4. Quinary Economic Activities

Quinary economic activities are generally considered to be a sub-set of quaternary activities and are those that involve *high-level decision making and scientific research skills.* The sector representing the *special and highly paid skills of top business executives*, government officials, research scientists, financial and legal consultants, and the like.

Land Use

Land is one of our most precious possessions. It provides food and shelter; it stores and filters water, and a base for urban and industrial development which is limited in quantity. Land use refers to the human activities related to *use of its resources*, or *having an impact on it*. Land must be cleverly managed to meet the needs of people. The term land use has both rural and urban aspects. The concepts of optimizing land use potential, and of land-use planning.

Population growth, limited expansion of arable land, and the rising of human need of land for non-agricultural purposes increases competition on the land. ***Currently Land is under threat of degradation which is caused by over cultivation, mining, poor management, and population pressure.***

Land Use in Ethiopia

- Only 21 % of Ethiopian total land is ***under cultivation*** and 51 % is pasture. More than 60% of the cultivated area is ***cropland***. Furthermost agricultural producers are ***subsistence because of inaccessibility, water shortage, and prevalence of disease-causing insects, mainly mosquitoes.***
- The following reasons prevent the use of large parcels of potentially productive land in Ethiopia.

These are;

- ✧ Sandy desert soils cover much of the arid lowlands.
- ✧ Because of low rainfall, these soils have limited agricultural potential.
- ✧ Inaccessibility water in low land areas
- ✧ Incidences of disease-causing insects such mosquitoes
- ✧ An engagement of people of lowland areas on livestock rearing and etc.

Driving Forces in Changing Land Use

Land use is influenced by human and natural or environmental causes **either negatively or positively direction.**

- ✧ Negative land use: leading to land degradation and loss of (production) potential,.

➤ Positive influences are resulting in a higher value or potential of land productivity.

The following are the main artificial and natural factors affecting land use either negatively or positively. These are; ***Local culture; different economic activities; environmental conditions*** (soil quality, terrain, and moisture availability); ***land policy*** and ***development programs*** (agricultural programs, road building, zoning); ***Past human activities on the land*** (land degradation, irrigation and roads).

Rural Land Use versus Urban Land Use

Land use /utilization/ varies from place to place.

➤ Rural land is characterized as; ***scattered Settlement and are used for farming, forestry, pasture.***

➤ Urban lands characterized as; most areas are ***used for housing, industries transportation and other business and their Settlements are closely constructed.***

NATURAL RESOURCES

A natural resource is often characterized by the amount of ***biodiversity that exists in various ecosystems.*** Many of them are essential occur naturally within environments or human life, while others are used for satisfying our wants. Natural resources include ***fertile soil, clean water, minerals, wildlife, vegetation,*** and energy sources. People use all these resources to improve their lives.

Types of Resource

Natural resources categorized in to two Based on their renewability.

Renewable resources: are types of resources that can be replaced as they are used and replaceable if they are exploited scientifically and managed. **Example** Forests, water, soil, plant and animal life all can be renewable resources.

Non-renewable resources: non-renewable resources cannot be replaced once they have been used and non-replaceable in character. **Example** fossil fuels like, coal, oil and natural gas and minerals.

There is a great disparity in the distribution of natural resources (distributed unevenly) on the earth. The resource exploitation traditions of human being led to the occurrence of environmental

problems. The over used and misused of natural resources paved the way for *environmental degradation*. *The wisely and sustainably* used of natural resource is the best instrument of overcoming **environmental deterioration and disasters**.

Natural Vegetation

The term natural vegetation refers to the original cover of plants of a region resulting from normal conditions of climate, soil, drainage and other natural conditions. The vegetation modified by people, because of agricultural or urban development.

Direct use of natural vegetation

- ✦ Used as source of construction materials.
- ✦ Serves as a source of food such as nuts, fruits, roots, leaves, barks etc.
- ✦ Serves as a source of energy such as fuel wood, charcoal
- ✦ Serves as a source of industrial raw materials such as gums, lumber, nuts.
- ✦ Serves as a source of income.
- ✦ Regulates local climatic conditions.
- ✦ Maintains the balance of nature.
- ✦ Maintains soil fertility and regulates soil erosion.
- ✦ Serves as habitats for wild animals

The natural vegetation in Ethiopia is a most important source of raw materials for the construction and furniture industries.

Among the most common woods that are used for these purposes are junipers (tid), pod carpus (zigba), Aningeria (kerero), Arundineria (kerkaha), (weira), wanza, tikur inchet and bamboo.

Bamboo is one of the largest species natural vegetation over 1,200 different species of bamboo forest which grown in ecological zone between **2200 – 3500 meters above sea level**.

- ✦ **Alpine bamboo**; used as a material for making fences and water pipes, as well as a variety of handicraft, items.
- ✦ **The culms**; are used by **cottage industries** for woven and plaited products such as basketry, mats, and other decorative items.
- ✦ **Highland Bamboo**; used for manufacturing industrial products such as parquet flooring, window blinds, curtains and bio-energy.

Wild Animals

All wild living creatures such as Mammals, birds, fish, reptiles, amphibians and insects are regarded as wildlife. The most common important functions of wild animals for human beings are ; *Source of food, Source of industrial raw materials ,Scientific and educational purpose ,Maintaining the balance of nature ,Add beauty to the environment and Source of individual and national income.*

Minerals

A mineral is either inorganic or organic chemical elements or compounds found naturally in the crust of the earth. The major uses of minerals are as follows:

- ✓ Minerals are raw materials for a variety of manufacturing establishments.
- ✓ Sources of energy that is used to run machinery. Examples: coal, petroleum and natural gas.
- ✓ Used for making fertilizers like phosphates, sulphur, potash, and nitrates.
- ✓ Used for construction. Example minerals such as limestone, marble, granite, clay.
- ✓ Used for both aesthetic and ornamental purposes (silver and platinum are used in the minting of coins as well as for other industrial purposes.
- ✓ Diamonds, gold and some others are useful ornamental minerals.

Soil

Soil is a natural resource consisting of layers of mineral constituents of variable thicknesses. Soil composed of particles of broken rock that have been altered by chemical and environmental processes that include weathering and erosion.

Soil differs from its parent rock due to interactions between the **lithosphere, hydrosphere, atmosphere**, and the biosphere and the mixture of mineral and organic constituents that are in solid, gaseous and liquid states.

The following are the major uses of soil:

- ✦ Soil is used in agriculture, where it serves as the primary nutrient base for plants.
- ✦ Soil resources are critical to the environment and food production.

- ✦ Soil provides minerals and water to plants.
- ✦ Soil absorbs rainwater and releases it later, thus preventing floods and drought.
- ✦ Soil cleans the water as infiltrates.
- ✦ Soil is the habitat for many organisms.
- ✦ The biological component of soil is extremely important for the carbon sink.
- ✦ Bacteria, lichens and mosses capture a significant amount of carbon by photosynthesis in desert areas.
- ✦ Restoring the world's soils could offset some of the huge increase in greenhouse gases

REVIEW EXERCISE FOR CHAPTER THREE

I. Choose the correct word or phrase from the given alternatives

1. Among the following which one is not considered as the main Features of census?
A. Periodicity B. Simultaneity C. Cheapness D. Universality
2. Which population data source is collected through estimating apart of the whole population in a certain place is known as-----
A. Sample survey B. Census C. Vital registration D. All
3. Which of the following statement correctly mention the difference between census and Sample survey in population data source?
A. Sample survey is more expensive than census
B. Census is cheaper than sample survey
C. Census provide detail information than sample survey
D. Census is more expensive than sample survey
4. The completeness of registration and the reliability of the data gathered through vital registration affected by the following except-----
A. Level of literacy B. Social awareness C. Social custom D. none
5. Which of the following is not the factor affecting the quality of population data.
A. Inadequate awareness B. False information C. Double entry D. Financial adequacy
6. Which of the following is the sparsely populated region of the world?
A. East Asia B. South Asia C. Tundra land D. European peninsula
7. Which statement is not true about the characteristics of rural population settlement?
A. Widely dispersed C. Isolated homesteads
B. Engaged in agriculture D. Engaged non-agricultural activities
8. Which activity is not part of primary economic activity?
A. Agriculture B. Forestry C. Mining D. Communication
9. Among the following nations one is not used fishery as the mainstay of their livelihoods?
A. Ethiopia B. Norway C. Iceland D. Japan
10. Which type of economic activity known as smokeless industry?
A. Forestry B. Mining C. Trade D. Tourism
11. All are an example renewable resource except-----
A. Mineral B. Water C. Vegetation D. Soil

II. Match Items In Column ‘B’ With Items In Column ‘A’

(A)

- 12. Primary economic activity
- 13. Secondary economic activity
- 14. Tertiary economic activity
- 15. Quaternary economic activity
- 16. Query economic activity

(B)

- A. Research
- B. Service industry
- C. Power production
- D. White color information service
- E. Extensive industry

III. Give short answer for the following question

- 17. State factors which influence land use changes in Ethiopia.
- 18. What are the differences between land use in urban and rural areas?
- 19. List the main characteristics of manufacturing activities.

CHAPTER FOUR

PUBLIC AND POLICY RELATED ISSUES IN ETHIOPIA

This public issues and policy related issues in Ethiopia such as ;HIV/AIDS, Environmental Policy and Economic Policy are the main concern of this Unit .Ethiopia belongs to the countries of sub-Saharan Africa that are heavily affected by Socio -economic and environmental factors.

The Human Immune deficiency Virus (HIV) is the virus that causes Acquired Immune Deficiency Syndrome (AIDS). HIV destroys the natural ability of the human body to fight off opportunistic infections.

The aim of environmental policies and programs are to protect the environment from natural and human-made problems. Ethiopia has formulated environmental policies and programs which protect the environment by law. The law is designed to protect soil, water, forest, and minerals.

1. HIV/AIDS

- The spread of the HIV/AIDS epidemic has emerged as one of the most critical problems of the population of the world, causing a high level of deaths as well as social and economic problems. There are many ways in which a person can be infected with HIV/AIDS. Virus can get into a person's with the direct contact of body fluids such as blood from the infected person. A person infected with HIV can stay for a long time ***without showing any symptoms.***

The most common ways of contracting an HIV/AIDS infection are through:

- ✦ Unsafe or unprotected sexual intercourse.
 - ✦ Shared use of items such as needles, blades and other sharp objects.
 - ✦ Transfusion of infected blood,
 - ✦ Unsafe delivery and breast feeding.
- A person whose blood test shows an infection with HIV/AIDS is referred to as HIV-positive. Any one cannot get infected with HIV/AIDS by sitting, eating, swimming or shaking hands, etc. with a person who is HIV-positive.
- In the last two decades the expansion of HIV/AIDS in Ethiopia was risen a larger rate because of ***absence of awareness in a society, vaccination and different cares.***

- ✧ Due to this, millions of peoples, particularly youths or productive age groups left their life in sub Saharan Africa including Ethiopia. Many *orphans were vulnerable to poverty and exploitation* and to becoming infected with HIV themselves.
- ✧ They were often forced to *leave the education* system and find work, and sometimes to care for *younger siblings or to head a family*. The first two AIDS cases were reported in 1986. Since then, the disease has spread at an alarming rate. In *sub-Saharan Africa*, AIDS killed approximately 1.4 million people in 2008. HIV prevalence varies considerably across this region – ranging from less than 1 percent in Madagascar to over 25 percent in Swaziland
- ✧ Average survival in the *absence of treatment* is around 10 years after infection. The primary mode of HIV transmission in Ethiopia is sexual contact. Even though of small magnitude at present, the next most common modes of infection are *harmful indigenous practices and unsafe injections*. These major causes for the spread of the virus, require *due attentions*.

Impacts of HIV/AIDS

HIV/AIDS has several multifaceted impacts on humanity. So far, it has

- ✧ Shortened life expectancy and caused an increase in tuberculosis.
- ✧ Increased hospital bed occupancy.
- ✧ Depleted the productive work force.
- ✧ Intensified food insecurity.

Vulnerability

- *Women, young commercial sex workers, and orphans and children* in general are the most vulnerable groups in Ethiopia. *Women, due to economic, educational and biological factors* as well as various harmful traditional practices, such as female circumcision and body scarification, are considered more vulnerable than men. Age, emotional development and financial dependence as well as *poverty* and *lack of awareness* about the disease, are major factors of vulnerability among the youth.

2. ENVIRONMENTAL POLICY

- Environmental policies are guidelines formulated for a **wise use of environmental resources**. They help us to form **systematic conservation techniques**, which help to **minimize miss use of resources**.

- Most solutions for major conservation problems are derived from environmental policies. The main goal of these policies is the protection of the environment from natural and human-made problems.
- When people use natural resources to make a living, they *affect the environment*. The *unwise use of resources* is a threat to the environment. Many human activities can *cause pollution, putting toxic or poisonous* substances into the land, water, and air.

Land and water

- ✓ **Chemicals** that farmers use may increase the productivity of their crops but some also damage the land.
- ✓ **Pesticides** or chemicals that kill insects can pollute rivers and ground water.
- ✓ **Illegal dumping** of dangerous waste products also causes problems. **Untreated sewage** reaching rivers pollutes lakes and groundwater as well.

Air

- ✓ **Industries and vehicles** that burn fossil fuels pollute air.
- ✓ **Fumes from cars** and other vehicles poison the air.
- ✓ The **chemicals** in polluted air can seriously damage people's health.
- ✓ *Acid rain corrodes* the surfaces of buildings, kills fish, and can destroy entire forests.

Energy

- Fossil fuels are most often used to generate electricity, heat buildings, run machinery, and power vehicles contribute to air trash. The above-mentioned problems are becoming very serious. Therefore Ethiopia has launched a policy of environmental protection.

The Objectives (Goals) of the Environmental Policy of Ethiopia

The overall goals of Ethiopia's environmental policy are;

- ☞ To *improve and enhance the health and quality of life* of all Ethiopians and
- ☞ To *promote sustainable social and economic development* through the *sound management* and use of natural, human-made and environment as a whole.
- ☞ This goal aims at *meeting the needs of the present generation without compromising the ability of future generations* to meet their own needs.

Specific Policy Objectives

The specific objectives of the environmental policy of Ethiopia are to:

- ☞ Promote development that is *sustainable* and *optimize resource use and management opportunities*.
- ☞ Ensure that *environmental* concerns are explicitly *addressed and incorporated* into the decision-making process.
- ☞ Develop, implement and measure programs that promote *management systems for the environment*.
- ☞ Prevent, minimize or offset the adverse *impacts of municipal waste and other potential pollutants*.
- ☞ Prevent the adverse effects of developmental proposals that may *generate hazardous substances or wastes*.
- ☞ *Raise public awareness* and promote understanding of the essential linkages between *environment and development*.

Sectorial environmental Policies

Developing countries of the world, major environmental problems include *deforestation, soil degradation, wildlife destruction and misuse of water resources*. Therefore, the environmental policies of the developing countries focus on such problems. The environmental policies of Ethiopia related to major resources are summarized as follows;

1. Policy Related to Soil and Agriculture

- ✓ Increasing *agricultural production on sustainably improving and intensifying existing* modern and technological farming systems.
- ✓ Planning for agricultural development in corporates in its *economic cost-benefit analysis the potential costs of soil degradation through erosion.*
 - ✦ To safeguard the *integrity of the soil and to protect its physical and biological properties*, through management practices for the production of crops and livestock
 - ✦ To promote the use of appropriate organic matter and nutrient *management for improving soil structure, nutrient status, soil conservation and land husbandry.*
 - ✦ Securing *human and environmental health*, prepare regulation of agricultural (crop and livestock) chemicals.

2. Policy related to Forest, Woodland and Tree Resources

- ✦ To recognize the complementary roles of communities, private entrepreneurs and the state in *forestry development.*
- ✦ To encourage all concerned individuals and communities as well as the government to be actively *involved in the planning and implementation of forestry.*
- ✦ To ensure that *forestry development* strategies integrate the development, management and conservation of forest resources.
- ✦ To *pursue agricultural and other policies and programs* that will reduce pressure on fragile woodland resources and ecosystems
- ✦ To promote changes in *agricultural and natural-resource management with limiting over grazing.*

3. Policy related to Genetic, Species and Ecosystem Biodiversity

- ❑ To promote the *involvement of local communities* inside and outside protected areas in the planning and management of such areas.
- ❑ *To ensure that the conservation of biological diversity* outside the protected-area system be integrated with strategic land use plans, local level plans and *sustainable agricultural and pastoral production strategies.*

4. Policy related to Water Resources

- ✦ To promote the *protection of the interface between water bodies and land*.
- ✦ To *involve water resource users*, particularly women and animal herders, in the *planning, design, implementation and follow up in their local water*.
- ✦ To subject all major water conservation, development and management projects such as *watershed forests, wetlands and other relevant ecosystems*.
- ✦ To improve the performance of medium to large-scale irrigation schemes.

5. Policy related to Energy Resources

- ✦ To adopt *inter-sectorial planning and development* with energy conservation, environmental protection and sustainable utilization of renewable resources.
- ✦ To locate, develop, or adopt *energy sources and technologies to replace biomass fuel*.

6. Policy related to Mineral Resources

- ✓ To provide *technical and material assistance* to artisan miners to improve environmental protection and output efficiency.
- ✓ To encourage and support **small-scale miners** to practice consistent application of environmental laws, rules and regulations.
- ✓ To **advise and train mining communities** in methods of environmental protection and reclamation of abandoned mining areas.

7. Economic Policy of Ethiopia

Economic policy covers the system for setting interest rates and government budget as well as actions related to the labor market, national ownership and many other areas of government intervention in the economy.

8. Types of Economic Policy

The following are the main economic policy of Ethiopia;

- ✦ Macroeconomic stabilization policy;
- ✦ Trade policy;
- ✦ Policies designed to create economic growth;
- ✦ Policies related to development economics and Industrial policy.

Based on the new economic policy, the Ethiopian government formulated a long-term economic development strategy known as *Agricultural-Development-Led-Industrialization* which is devised to stimulate the country's underdeveloped economic structure.

It is a two-sided strategy, integrating:

- The external sector (export-led)
- The internal sector which explains the forward and the backward relationship between agriculture and industry.

The Objectives (Goals) of the New Economic Policy of Ethiopia

- Changing the role of the state in the economy.
- Mobilizing *external resources* to the development efforts of the country.
- Involving *regional administrations* in economic management.
- Promoting *public participation* in development.
- Promoting *private investment to Agriculture and Food Production*.
- Increasing *extension and research services* with extension packages that provide better solutions to respond *to farmers' needs*.
- Adoption of *new rural land proclamations* in the four largest regions of the country.
- Shifting of the rural labor force from *agricultural to non-agricultural activities*, which would improve productivity and ease the population pressure on rural land.

8.1. Policy Related to Industrial Sector

- This underlined the **development of the manufacturing sector** which produces materials mainly for domestic markets.

8.2. Policy Related to Energy

- The energy sector policy strains the need for the *expansion of hydro-power, the exploitation of geothermal energy and the sustainable utilization* of traditional energy sources.

9. Policy Related to Transport/Communication

- ✧ Focused on the expansion of facilities, especially *rural roads*, the improvement of *construction material supply* and ultimately *self-sufficiency*, planned and coordinated development

10. Policy Related to Education

- ✧ The main objective of the education policy is to improve the relevance and quality of teaching methods and materials and to foster student success and equity.
- ✧ Upgrading *standards, through the provision of educational abilities and instructional materials as well as upgrading the quality of teachers.*

The overall goal of the educational policy of Ethiopia is;

- ✧ To improve *quality*.
- ✧ Increasing *student's access to educational opportunities at the primary level* and to achieve universal primary education by the year 2015.
- ✧ To enhance *efficiency and use resources wisely*.
- ✧ To address equity issues by *narrowing the gap* between male and female, among regions, and between rural and urban areas
- ✧ To provide increased access to *Adult and Non-Formal Education in order to combat the problem of adult illiteracy*.
- ✧ To increase *access to quality secondary education* based on the demand of the economy for skilled human resources and the intake capacity at the tertiary level.

11. In Technical and Vocational Education and Training /TVET;

- ✧ To provide relevant and demand-driven *education and training to satisfy the needs of economic and social sectors for employment and self-employment*.
- ✧ *To assure the quality of TVET training programs.*
- ✧ To enable TVET institutions to *generate their own income and thereby reduce government allocations* to the sub-sector.

11.1. In Tertiary Education

- ✧ To develop responsible and *competent citizens* who meet the nation's *quantitative and qualitative* demand for a *high-level trained labor force*.
- ✧ To set up cost-effective, efficient and results-oriented systems and develop *modern and effective human-resource management procedures and practices*.
- ✧ To develop the *volume, quality and relevance of research and consultancy* services directed to the needs of the country.

12. Policy Related to Health

- ✧ The health policy focuses on primary and preventive health measures, with a new five year policy of health delivery, based on community-level services. In order to **achieve the Health Sector Developmental Program**, the following strategies have been designed:
- ✧ Vigorous *implementation of the Health Service Extension Program* for the effective prevention and control of communicable diseases and promotion of healthy living;
- ✧ Enhancing the *capacity of district health offices in the expansion of Public Health Centre (PHC)* facilities and services;
- ✧ Improving the *quality of health care through provision of adequate resources, implementation of a two-way referrals system, and enhancing the capacity of Health Education Workers*.
- ✧ Strengthening secondary and **tertiary hospitals** and **referral laboratories**;
- ✧ Improving the *number, skills, distribution and management of health workers*;
- ✧ Ensuring the *planned training of health managers in adequate* numbers and providing them with appropriate knowledge and skills;
- ✧ Mobilizing *adequate financial resources, ensuring their efficient utilization, and strengthening sustainable financing mechanisms for the health sector*;
- ✧ Improving the *health information system* and the capacity for effective monitoring and evaluation;
- ✧ Ensuring *full community participation in the planning, implementation, monitoring and evaluation of health care*;
- ✧ Promoting and *coordinating* the activities of the *public sector, private sector, international organizations and NGOs in health intervention*.

REVIEW EXERCISE FOR CHAPTER FOUR

I. Choose The Correct Word Or Phrase From The Given Alternatives

1. The most vulnerable social group to HIV/AIDS infection are-----
A. Women B. Elites C. Business men's D. Researches
2. Among the following one is not the main impacts of HIV/AIDS?
A. Depleted the productive work force C. Shortened life expectancy
B. Food insecurity D. Prosperity
3. In the last two decades HIV/AIDS Vulnerability was very high in sub-Saharan Africa because of; A. Lack of awareness B. Financial problem C. Poverty D. All are correct
4. All are the serious cause of air pollution in the world currently accepted----?
A. Industries wastes B. Fumes from Vehicles C. Acid rain Vegetation cover
5. Which of the following is the main environmental problem in developing regions?
A. Deforestation B. Soil degradation C. Wildlife destruction D. All are correct
6. Among the following which one is not considered as specific objectives of environmental Ethiopia
A. Maintaining Impacts of municipal waste and other potential pollutants.
B. Promoting unwise use of resource
C. Preventing hazardous substances or wastes
D. Promote management systems for the environment.
7. Which one is true about over all educational policy of Ethiopia?
A. Increasing student's access to educational opportunities
B. Addressing educational equity among female and male
C. increased access to Adult and Non-Formal Education
D. All are correct
8. Which one of the following is not an environmental problem?
A. Deforestation B. Soil degradation C. Wildlife depletion D. Reforestation

II. MATCH ITEMS IN COLUMN 'B' WITH ITEMS IN COLUMN 'A'

-A-

9. Policy related to Health
10. Policy related Education
11. Policy related Transport
12. Policy related Energy
13. Policy related Industrial Sector
14. Policy related Forestry
15. Economic Policy
16. Policy to Mineral Resources
17. Policy Related to Soil
18. Policy to Water Resources

-B-

- A. Limiting over grazing.
- B. Development of the manufacturing sector.
- C. Application of miners environmental laws
- D. Strengthen referral hospital laboratories.
- E. Exploitation of geothermal energy.
- F. Promoting large-scale irrigation schemes.
- G. coping soil erosion
- H. Combating the problem of adult illiteracy.
- I. Agriculture led industrialization
- J. Expansion rural roads inter connection

III. GIVE SHORT ANSWER FOR THE FOLLOWING QUESTION

19. Are forests, wildlife and soils legally protected in your area? What happens to people who misuse these resources?
20. List some objectives of the Ethiopian environmental policy.

Answer key for chapter four

1. C
2. C
3. D
4. D
5. D
6. C
7. D
8. D
9. A
- 10.D
- 11.A
- 12.A
- 13.C
- 14.B
- 15.A
- 16.D

17. Cultivation culture, environmental condition, land productivity, different economic activities.

18. ***Some the characteristic of urban land use are***; used for house, used for industrial accessibilities, are densely populated and engaged on nonagricultural activities.

Some of rural land uses are; used for agricultural activities scattered in settlement and mostly engaged on farming and forestry.

19. ***Manufacturing activities characterized by***; Dependency on raw materials, Transformation of raw materials into finished or semi-finished product; Manufacturing need power, skilled manpower, huge capital and modern technology; characterized by a high level of division of labor; and The end products that are ready for consumption

Answer key four chapter Four

1. A
2. D
3. D
4. D
5. D
6. B
7. D
8. D
9. G
10. H
11. J
12. E
13. B
14. A
15. I
16. C
17. G
18. F