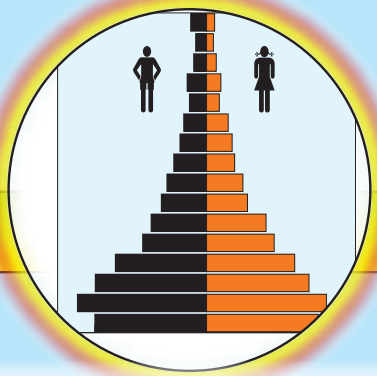
Unit 4



POPULATION OF ETHIOPIA AND THE HORN

Unit Outcomes

After completing this unit, you will be able to:

- discuss population theories, trends, growth, structure, spatial distribution and factors affecting population distribution in Ethiopia; and
- explain settlement patterns, determinants of population changes, impacts of rapid population growth and urbanization in Ethiopia.

Main Contents

INTRODUCTION

A human population is all of the people living in a specified area-such as a city, region, country, or continent-at a given time. Population is one of the most critical factors that determine the socio-economic and environmental conditions of every country in the world.

The issue of population is multi-disciplinary, so it is studied by a variety of fields, such as demography, geography, sociology, anthropology, economics, biology, statistics, and history. In geography, *population geography* is a branch of human geography that usually focuses on the spatial patterns and variations of the various characteristics of human populations. It particularly emphasizes the spatial dimensions of population size, structure, composition, distribution, settlement, density, migration, growth, and other demographic processes and facts. It also considers demographic facts in terms of both their present contexts and causes, characteristics and possible consequences to the geographical environments (i.e., both the physical and cultural environment).

Population studies in geography and other fields yield knowledge essential for planning, especially by governments, in fields such as health, education, housing, social security, employment, food security, and environmental preservation. Moreover, the studies provide information needed in the formulation of governments' population policies, which seek to modify the trends of population size, composition, and distribution in order to achieve economic, social, and environmental objectives.

This unit focuses on the study of the general features of Ethiopia's population. The unit has nine sections, which present major topics such as population theories, trends of population growth, population structure and composition, spatial distribution and settlement patterns determinants of population growth, nature of urbanization, and population policy.

4.1 POPULATION THEORIES

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

- analyze the population theories of Malthusian and anti-Malthusian.

Key Terms

- Theory
- Malthusian
- Anti-Malthusian
- Over-population
- Preventive-checks
- Positive-checks
- Food supply
- Resource

What do you know about theories?

How do you think a theory is developed?

The problem of population, particularly population growth, has been a major concern of mankind since ancient times. Based on political, social, economic, and military considerations, statesmen and thinkers held opinions about the need to stimulate or retard population growth. On the basis of these factors, they also formulated public policies. In ancient times, such policies were not based on theories. However, those policies and practices have been used as starting points for modern population theories.

Modern population theory is generally thought to have evolved in the late eighteenth century, in the writings of Malthus. Malthus's work stimulated interest in population and in the economic and social issues associated with it. His work also prompted controversy, and that controversy spurred further investigation into demographic problems, which stimulated continuing observation and analysis of these issues, which, in turn, led to formulation of other population theories.

With the help of the theories, various scholars have attempted to explain the relationships that exist between population and factors such as resources, economy, politics, and other social issues.

Focus

The main purpose of population theory is to seek appropriate answers to the following population-related questions.

- *How large can world population ultimately become, and more particularly how many human beings can the planet feed and the environment sustain?*
- *How does population growth determine the socio-economic issues of countries?*
- *How do biological, economic, social, and political factors determine population growth?*

The theories of population developed by different scholars, in response to the above questions, can be grouped into two broad categories: Malthusian/neo-Malthusian and anti-Malthusian. The two groups of theories have opposing views about the relationship between population growth and socio-economic, political, and environmental factors. Malthusian and neo-Malthusian theories are pessimistic, and the anti-Malthusian theories are optimistic.

The next figure indicates the characteristics and differences between these two types of population theory.

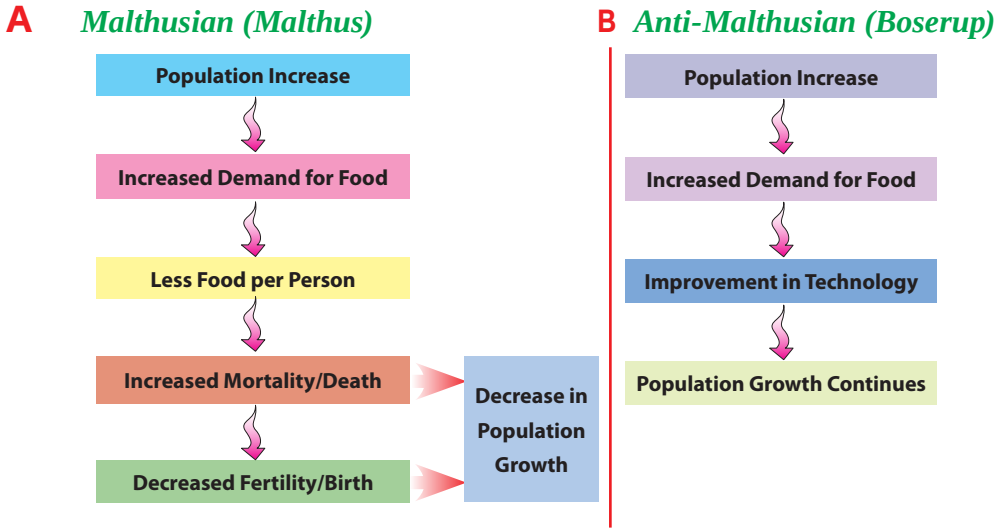


Figure 4.1: **The opposing views of Malthusian and anti-Malthusian population theories**

Activity 4.1

Study the two diagrams in Figure 4.1 to investigate the opposing views of Malthusian and anti-Malthusian population theories. In small groups, discuss the following questions.

1 What do the two diagrams in the figure tell us about the differences between the two theories?

2 Identify the optimistic one and the pessimistic one, regarding the effects of population growth. Discuss your reasons.

3 Which one do you support? Discuss your reasons.

4.1.1 Malthusian Population Theory

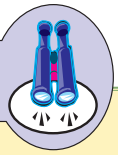
Historical Note

Thomas Robert Malthus

Thomas Robert Malthus (1766-1834) was an influential English economist who founded the science of modern demography. His theory, which appeared in 1798 in "An Essay on the Principle of Population", was an important work that marked the beginning of modern population theories.

In his work, Malthus warned of a constant tendency for human population growth to exceed food production. He classified the various ways that such growth would, in consequence, be slowed.

Malthus took an exceedingly pessimistic view, arguing that human populations are inescapably caught in a conflict between their "need for food" and the "passion between the sexes".



Focus

In his essay, Malthus put forward the following three basic propositions.

- *Passion between sexes is inevitable and universal;*
- *Food production is limited, and population cannot increase beyond the means of subsistence; and*
- *If population growth outstrips the means of subsistence, "positive checks" will apply.*

Activity 4.2

Read the following edited excerpt from Malthus's "Principle of Population" and discuss in your group what he tried to say about the causes, consequences, and solutions of population growth.

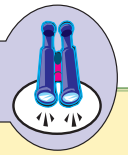
> *The passion between the sexes is so great that human beings will produce more and more children, until there is not enough food for all…. The power of population growth is indefinitely greater than the power in the earth to produce subsistence for man. Hence there must be strong and constantly operating checks on population to prevent difficulty of subsistence, followed by violent competition for increasingly scarce resources. Gigantic, inevitable famine stalks in the rear of misery and vice to limit the numbers of mankind.*
>
> ***Malthus's "Principle of Population"***

Malthus was concerned that population would grow faster than the supply of food. He believed that the supply of food can only increase by a constant amount, in ***arithmetical progression (1 – 2 – 3 – 4 – 5)***, but that the human population has a tendency to multiply in ***geometric progression, (1 – 2 – 4 – 8 – 16)***, multiplying itself by a constant amount each time. Therefore, eventually population would outstrip food supply until a catastrophe occurred. This would be in the form of famine, diseases or war. Such catastrophes would occur as human beings fought over increasingly scarce resources.

Malthus referred to the catastrophes as ***positive checks*** that control fast population growth and in the long term maintain a balance between population and resources.

Malthus considered that, in order to avoid the inevitable occurrence of the positive checks, human beings should adopt ***preventive checks***. By preventive checks, Malthus meant "moral restraint", which includes late marriage, avoiding sexual conduct before marriage and having fewer children. However, Malthus was against family planning methods; he was totally against all artificial methods of conception or birth control. Malthus, therefore, appealed to people to control their natural sexual urges in order to control the fast growth of population and to, therefore, avoid the occurrences of the disastrous positive checks.

Focus



In general, Malthus believed that the "hot passion or sexual urge" of people could lead to overpopulation, which, in turn, would result in poverty and other catastrophes *(positive checks)*. He concluded that "the poor are to be blamed for their own poverty. Neither wages nor providence, nor society is to be blamed."

Today, supporters of Malthus's pessimistic view, who fear that population growth will outstrip food supply and other resources, leading to the catastrophic consequences (the positive checks) predicted by Malthus, are called ***Malthusians or neo-Malthusians***.

Activity 4.3

In small groups:

1 Discuss Malthus's positive checks, and his idea of using preventative checks, as a way of controlling rapid population growth.

2 Discuss what Malthus meant by the statement "the poor are to be blamed for their own poverty".

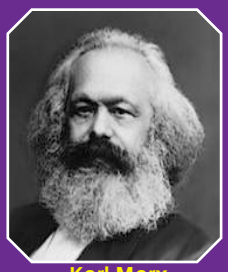
4.1.2 Anti-Malthusian Population Theories

Anti-Malthusians are optimists who argue against Malthus. They believe that either population growth will slow down well before it is limited by scarcity of food and other resources or the ingenuity/cleverness of humankind will solve the problems, overcoming potential scarcities of food and other resources.

Let's consider two anti-Malthusian theories – one was developed by Karl Marx, and the other by Ester Boserup.

A Marxian Population Theory

Historical Note


Karl Marx

Karl Marx (1818-1883) was an influential German economist, revolutionary, political thinker, sociologist, socialist, and all round major figure historian, of the 19th century. He was one of the leading opponents of Malthus. Marx's "surplus population theory" was a reaction to malthus's theory.

In his theory, Marx stated that there could be no population problem under a socialist mode of production and of ownership of resources. He believed that population becomes a *problem* of *surplus* people only under capitalist modes of production. His view was that the capitalist system not only views some of the population as surplus in an economic sense, but also causes this phenomenon: When existing food supplies are inadequate to support some of the population, capitalism calls the unsupported people surplus population. However, Marx stated, such food scarcities are purely the result of unequal distribution of resources by capitalism.

Marx believed that the capitalist system can produce food and other necessities for an indefinitely expanding population, and that it is only capitalism's unequal distribution of social wealth that makes it seem as though these resources were limited and, therefore, that population growth must have a natural limit.

Moreover, in Marx's view, the system of capitalist production is not targeted to meet the needs of poor people. Instead, its aim is to increase the accumulation of capital for the wealthy. Along the same lines, Marx stated that capitalism benefits from the conditions that produce a so-called surplus population. Those conditions create competition for jobs, thus driving down wages and therefore maximizing profits for the wealthy. Marx's solution to the problem of overpopulation was socialism with a new economic structure of society within a new social order.

Focus

While Malthus focused on individual actions and considered "moral restraint" (preventive checks) to be the solution to population problems, Marx focused on the economic structure of society and believed the solution would be found in a new social order.

Activity 4.4

Summarize the opposing views of Malthus and Marx on the following issues.

a How did their views differ regarding the relationship between the scarcity of food (and other resources) and rapid population growth?

b How did their views differ about poor people?

c How did their solutions to overpopulation and its problems differ?

B *Boserupian Population Theory*

Historical Note

Esther Boserup

Esther Boserup (1910-1999) was a Danish economist of the 20th century. In 1965, she developed a "Theory on Population and Agriculture", in which she argued against Malthus. In her theory, Boserup argued that technological advancement would ensure that food supply would keep up with population growth.

Boserup formulated an optimistic theory about the influence of population growth on agricultural development in support of her theory; she elaborated facts that showed population growth would lead to agricultural development. For Boserup, population is a variable that contributes positively to agricultural development, because it leads human-kind to innovation.

In order to explain the positive effect of population growth on agriculture, Boserup presented the following series of historical agricultural transformations that were caused by population growth, in which humans progressed from "a"

through "e" in their approach to agriculture between the n^{th} and n^{th} centuries. For each transformation, Boserup

- ⇨ *described the approach to agriculture of the specified time and explained how it used land*
- ⇨ *examined the labor requirements of that approach between the n^{th} and n^{th} centuries*

Boserup noted that, as the human population grew, the amount of land available per-capita shrank but that, in response, people developed more effective ways to use the land. With each development in land use, labor requirements grew, and the increasing population provided the labor – and, therefore, the means to implement these developments. In addition, the increased labor requirements provided occupation for the growing number of people.

a Forest-Fallow Cultivation

- ⇨ *Long periods of forest growth alternate with short periods of cultivation.*
- ⇨ *Per-capita, the population owns and must cultivate large areas of land. However, because the work required - and therefore the labor requirement - of the forest-fallow approach to cultivation is low, food supplies are adequate.*

b Bush-Fallow Cultivation

- ⇨ *Relatively long periods of bush growth alternate with short periods of cultivation. The bush-growth periods are not longer than the forest-growth periods.*
- ⇨ *The labor requirement is larger than for the first (forest-fallow) approach.*

c Short-Fallow Cultivation

- ⇨ *The land is cultivated with intervals of only a few years of abandonment. These intervals last only for only a few years. They allow the land to regenerate and are used to enhance its productivity.*
- ⇨ *The labor requirement is larger than for the first two approaches.*

d Annual Cropping

- ⇨ *The land is cultivated annually.*
- ⇨ *Fertilizers are required.*
- ⇨ *Labor requirement is larger than for all of the earlier approaches.*

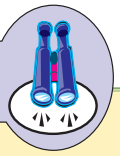
e Multiple Cropping

- ⇨ *Different crops are grown at the same time, on the same land, throughout the year. The land is used throughout the year.*
- ⇨ *The labor requirement is larger than for all of the earlier approaches.*

Boserup concluded that population growth could not be controlled by scarcity of food and other necessities, as Malthus believed. Instead, population would continue to grow because the increased demand for food and other necessities would lead to new innovations and technological advancement which, in turn, would allow production to keep pace with the needs of the increasing population.

Activity 4.5

Summarize the opposing views of Malthus and Boserup on the relationship between the scarcity of food and population growth.



Focus

Boserup thought that "As the size of population increases, it results in technological innovations and advancement." For her, population is an independent variable/factor, and agriculture is a dependent variable/factor. She believed that population growth could not be controlled by scarcity of food supply. Rather, the increasing demand for food caused by population growth would increase agricultural productivity by stimulating innovation in agricultural systems and technologies. In this regard, she said that "Necessity is the mother of invention".

4.2 TRENDS OF POPULATION GROWTH AND STRUCTURE IN ETHIOPIA

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

- explain the trends of population growth and structure in Ethiopia.

Key Terms

- Census
- Survey
- Growth rate
- Age structure
- Sex structure
- Population pyramid
- Age dependency ratio
- Sex ratio

4.2.1 Trends of Population Growth in Ethiopia

What do you know about census and surveys? What do you know about the nature of population growth in Ethiopia?

The most important source of population information (demographic data) that enables us to understand population growth rate and its trends in a country is a census. Census is defined as the periodic counting of the entire population of a country. In Ethiopia, census is a recent phenomenon introduced after the late 20th century.

In addition to census, from the 20th century onwards, several sample surveys were conducted in Ethiopia in order to estimate the total population of Ethiopia and to generate other reliable demographic data.

Activity 4.6

In small groups, discuss the following questions.

1. What are the advantages of conducting census and surveys for any country? That is, what is the use of understanding the trends of population growth in any country by conducting census and surveys?
2. Why is the Ethiopian population growing so fast?

Ethiopia is the third most populous country in Africa, next to Nigeria and Egypt. According to the 2007 Census, the population of Ethiopia is 73.8 million. The country's population is among the fastest growing in the world. The 2008 estimate of the annual growth rate of Ethiopian population is 2.23 percent.

It was estimated that, in 1900, Ethiopia had only 11.8 million persons. This number increased to about 13 million in 1920 and to 23.5 million in 1960, as is

shown in (Table 4.1). The table shows that, in 1960, the country had twice the population it had in 1900 . These values show that, during those decades, it took 60 years for the population to double in size. In contrast, since 1960, the time required for the population to double has been on the decline. This is because of rapid rate of population growth. For instance, the population doubled in size between 1960 and 1987, indicating a doubling time of only 27 years.

A historical profile of the growth rates of the Ethiopian population since 1900 shows that the population increased by less than 1.0 percent until about 1920. After 1920, however, the rate of growth slightly increased; and then, by 1950, it went up to 2.0 percent. The slow rate of population growth before 1920 reflected the country's high mortality rate. With worldwide efforts to control malaria and other diseases in the 1950s and later, the growth rate rose from year to year and reached 2.8 percent in 1980. Between 1980 and 1990, the growth rate of Ethiopian population was around 3.0 percent.

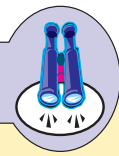
According to the results of the three census, there was a slight decline in the population growth rate over recent decades, changing from 3.1 percent in 1984 to 2.9 percent in 1994, and to 2.0 percent in 2007. This was mainly the result of the government's efforts to regulate fertility rates through the delivery of family planning services. Since 1987, family planning services have been rendered through government health institutions such as hospitals, clinics, and health centers.

Table 4.1: **Population estimates and growth rates in Ethiopia (1900-2007)**

YEAR	1900	1920	1940	1960	1970	1984	1994	2007
Population (Million)	11.8	12.9	16.3	23.5	29.5	42.6	53.5	73.8
Growth Rate (%)	0.2	1.0	1.5	2.2	2.8	3.1	2.9	2.0

Source: *CSO (2009)*

Focus



Although there has been a slight decline in the population growth rate between the three censuses, Ethiopia has one of the fastest growing populations in the world. Over the two decades between the three censuses, for instance, the population of Ethiopia increased from 42.6 million in 1984 to 53.5 million in 1994 and to 73.8 in 2007.

4.2.2 Age and Sex Structure of the Ethiopian Population

What do you know about age and sex structure? What are the benefits of knowing the age and sex structures of a given population?

A *Age Structure*

Age structure *is the distribution of a given population into age groups. This structure becomes clear after we group all of the people in that population by age.* In other words, age structure is the pattern that results from the distribution of members of a population into different age categories.

Two important statistical tools for understanding age structure are

- ⇨ *Age groups*
- ⇨ *Population pyramids*

Age Groups: Although we can use different sets of numbers to define age groups, the most widely used age groups are the five-year age groups *0-4, 5-9, 10-14, …, 60-64, 65*$^{+}$ and broad age groups *0-14, 15-64, 65*$^{+}$.

In the broad age groups, age groups 0-14, 15-64 and 65^{+} are known, respectively, as *young age* (the young dependent population), *working age* (the economically active population) and *old age* (the elderly dependent population).

Table 4.2: **Population of Ethiopia by Broad Age Groups and Census Periods (2007)**

Age Group	Population (%), by Census Year		
	1984	1994	2007
0-14	49.8	45.4	45.0
15-64	50.2	51.4	51.8
65+	3.4	3.2	3.2

Source: *CSO (2009)*

Population Pyramid: It is the graphic representation of the age distribution of a given population by sex. In countries where birth rates are high and death rates are also high, the population pyramid has the form of a triangle. This pattern is typical of the population of developing countries like Ethiopia, in which many children are born, but few reach old age. In contrast, in the developed countries,

with their lower birth rates and fewer people dying young, the population pyramid is more rectangular, narrowing only near its top. In these countries, both birth and death rates decline, with a result showing the number of people in each group at equivalent state.

Activity 4.7

Perform the following activity in small groups. Study the population pyramids of Ethiopia in Figure 4.2 and any other country for which you can get data.

Compare and contrast the two population pyramids and then write a short essay describing the characteristics of the populations of the two countries in connection with:

- the nature of the birth and death rates.
- the distribution pattern of the child, young and old-age populations.
- the nature of the age-dependency ratio.

Finally, choose a group representative who reads your essay to the class for further discussion.

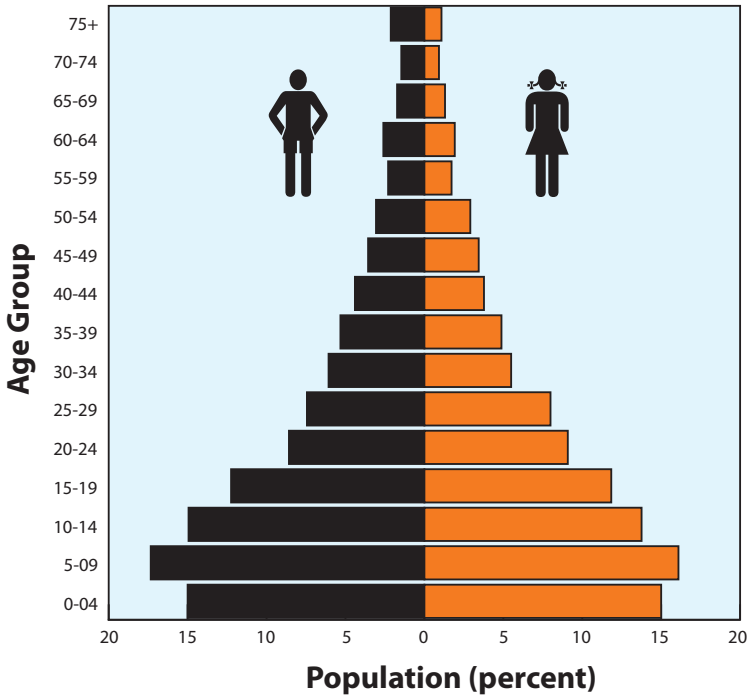
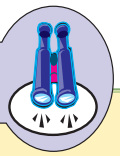


Figure 4.2: **Population Pyramid of Ethiopia**

In general, population pyramids of developing countries like Ethiopia have very broad bases, showing the dominance of the young-age population. These pyramids become increasingly narrower towards the top, advancing through the age groups, showing that the percentage of the population becomes less and less in the upper age groups (65-69, 70-74, etc.).

Focus



- *Age structure/composition is one of the most important demographic characteristics of a population.*
- *Age information is often used to understand the sizes of school-age, labor-force, elderly, and other populations.*
- *A population pyramid is usually employed to show the age distribution of a given population by sex.*
- *The population pyramid of Ethiopia has a broad base that narrows towards the top as age increases. This shape is typical of a population with high fertility rate.*

As shown in Table 4.2, Ethiopia's young-age (0-14 years) dependent population declined from 49.8 percent in 1984 to 45.0 percent in 2007 but was still very large. In contrast, Ethiopia's old-age (65+ years) dependent population was very small - only 3.2% in the 1994 and 2007 Census.

Although the proportion of the population of working-age group (15-64) has shown modest increases over the course of time of the three census, it accounts for only a little more than half of the total population.

The population pyramid for Ethiopia demonstrates that the country's population as a whole has a high preponderance of young population, with a median age of not more than 18 years. This is a typical feature of a rapidly growing population.

The high percentage for the young-age group in Ethiopia is the result of a high birth rate, while the small percentage of the old-age group reflects a high mortality rate, which accounts for the low life expectancy of the population of the country.

Age Dependency Ratio

What do you think age dependency is? Do you think that it is a problem in Ethiopia?

*The **Age Dependency Ratio (ADR)** is the relationship between the working or economically active population and the non-working population.* It is generally accepted that people in the young and old ages are dependent on the working-age population. The Age Dependency Ratio (ADR) is used to show the magnitude of this dependency in a given population. This means that the dependency burden, represented by the non-working population in the young and old age groups, on the working-age population can be shown by the age dependency ratio. The formula for calculating the age dependency ratio (ADR) is:

$$\text{ADR} = \frac{(\%\text{ of population aged } 0 - 14) + (\%\text{ of population aged } 65+)}{\%\text{ of population aged } 15 - 64} \times 100$$

Activity 4.8

Use Table 4.2 to calculate the age dependency ratio of the Ethiopian population for the three census. Explain what these ADRs mean.

The age dependency ratio for more developed countries is usually between 50 and 75. In contrast, less developed countries like Ethiopia have ratios between 85 and 105. In Ethiopia, the age dependency ratio is very high. In other words, the dependency burden of the young and old age populations on the working or economically active population is very heavy. For example, the value of 93 for the age dependency ratio of Ethiopia in 2007 shows that for every 100 persons in the working-age group, there are about 93 dependents. In other words, every person in the working-age group has nearly one dependent.

Focus

The negative implications of heavy youth dependency in Ethiopia can be summarized as follows.

- *Even higher levels of fertility are likely to be reached when the youth group reaches reproductive age.*

- *The capacity to save is highly constrained at both the household and the national level.*
- *Limited national resources must be diverted from investment and other developmental activities in order to use those resources to provide services and meet the young peoples' basic needs, such as food, housing, education, health care, etc.*
- *The demand for the nation's employment opportunities will increase as the youth group reaches working age; this results in a further high levels of unemployment.*

In general, knowing about the age structure of a country's population helps its policy-makers and socio-economic planners to predict for the future what sorts of goods and services might be needed for how many people in which age group. As we have said, a large proportion of children means growing demands for schools; a large number of people entering their child-bearing years signals probable population growth; an increasing number of elderly people may strain pension plans and health services.

The age structure of a population also affects its growth rates. A population that has been growing rapidly will keep growing even when current birth rates slow down to replacement levels. This is because, when the large child population reaches its reproductive years, it will reproduce offsprings, unless that reproduction is kept at replacement level. In fact, reproduction will create an even larger new youth population. Thus, because the same thing is likely to happen again when that new generation reaches its reproductive years, the danger of a rising population spiral becomes higher and higher. For example, in Ethiopia, even if there were slight declines in the average number of children that each woman has, (Total Fertility Rate) in future years, these children will reproduce, producing more individuals than their own generation contains. Thus, the population of the country will continue to expand.

B *Sex Structure*

What is sex structure? What are the benefits of knowing the sex structure of a given population?

The ***sex structure*** of a population is shown by its *sex ratio*, which is the ratio of male population to female population. ***Sex ratio*** *is usually expressed as the*

number of males per 100 females in a population. A ratio greater than 100 shows a greater number – called an excess – of males than females. The formula for calculating a sex ratio is:

$$\text{Sex Ratio} = \frac{\text{Male Population}}{\text{Female Population}} \times 100$$

Activity 4.9

In small groups, discuss the following questions.

1 Why do sex ratios differ both between and within countries?

2 Why do sex ratios vary among different age groups?

The sex ratio of Ethiopia's population increased from 99.4 in 1984 to 101.3 in 1994; and to 101.9, in 2007. The low sex ratio during the 1980s appears to be due to political unrest and civil war. During those years, a large number of the male population was killed or was forced to migrate to other countries to escape being killed or forcibly conscripted into the military.

Table 4.3: **Sex ratios of Ethiopian population, by area**

Census Year	Rural	Urban	Nation
1984	100.9	86.8	99.4
1994	102.6	93.3	101.3
2007	102.5	98.8	101.9

Source: *CSO (2009)*

As you can see in the Table 4.3 above, Ethiopia's sex ratios vary between rural and urban areas; furthermore, rural ratios are higher. The table also shows that the 1984 Census showed Ethiopia's national sex ratio to be 99.4, which means that there were about 99 males for every 100 females. The respective figures for the rural and urban populations were 100.9 and 86.8. The 1994 Census indicated that the national sex ratio had increased to 101.3. The respective figures for rural and urban populations are 102.6 and 93.3. The 2007 Census showed Ethiopia's national sex ratio as 101.9, and that of the rural and urban as 102.5 and 98.8, respectively.

Note

Sex ratios in Ethiopia are generally lower for urban areas and higher for rural areas. This is primarily due to large number of females migrating to urban areas.

Sex ratio in Ethiopia also varies with age. As you now know, males predominate among newborns and the very young. However, their numbers lessen as age increases. Hence, sex ratios are high for young age groups and low for adult and old-age groups. However, in rural areas this pattern does not hold for later age groups. In the country, the situation of more male than female newborns accounts for the normal high sex ratio in the young age groups. Then, the usual situation of higher mortality among male than female children narrows the gap, which gives the normal drop in sex ratio. By the time these children reach their twenties and thirties, the ratio is below 100. However, in their later age groups, this trend – and with it, the normal development of a population's sex-ratio pattern – is reversed. This is because more rural females than males migrate to urban areas. In the above 50 age groups, males predominate in the countryside, and the sex ratio rises. After age 70, the rural ratio exceeds 120.

4.3 THE SPATIAL DISTRIBUTION OF POPULATION IN ETHIOPIA

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

- discuss the spatial distribution of population in Ethiopia.

Key Terms

- Population distribution
- Population density
- Dense population
- Sparse population

Do you know what population distribution means? How about population density?

Population distribution *refers to the way how population spreads out over a given area, i.e., of any size from a small area to the earth as a whole.* The distribution of population is indicated by population density.

Population density *is the average number of people per square kilometer in a given area.*

Activity 4.10

Use the table given below to answer the questions that follow it.

Ethiopia in 1994	
Total population	53,477,265
Rural population	46,154,058
Total area (km^2)	1,106,000
Arable land (km^2)	969,680
Cultivated land (km^2)	185,177

1 Calculate the crude density of Ethiopia in 1994.

2 Interpret the results you obtained for each measure.

In Ethiopia, the population is unevenly distributed for various physical and human-related reasons. In the nation, people mostly live in areas with agreeable life conditions such as moderate climate, adequate supply of water, good vegetation cover, fertile soil and absence of disease causing-insects. For such preferences, most people are found concentrated in the highlands and plateaus of the country. These places have the country's most favorable natural conditions for settlement and crop cultivation. Therefore, they have attracted denser populations than the lowlands. The highlands, where there are no vector-born diseases, have generally been the areas of high population concentration. On the other hand, the lowlands are of low population concentration. Thus, 77 percent of the population of Ethiopia lives in the highlands at altitudes above 1800 meters, and only 11 percent lives at altitudes below 1400 meters.

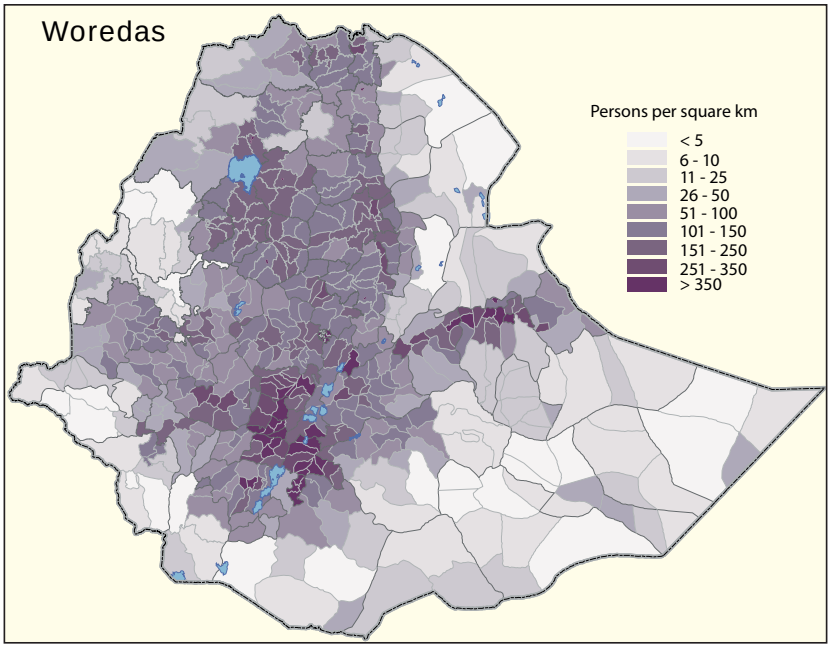


Figure 4.3: **Population Density in Ethiopia**

Densely and Sparsely Populated Areas of Ethiopia

We can clearly see wide variations in population distribution and density among the various regions of the country. To understand this better, study the following table, which shows the total population, and total area of each region of the country.

Table 4.4: **Regional Distribution of Population in Ethiopia (2007)**

Region	Total Population	Total Area (km²)
Tigray	4,316,988	50,078.64
Afar	1,390,273	96,707
Amhara	17,221,976	159,201.66
Oromiya	26,993,933	353,006.81
Somali	4,445,219	209,252
Benishangul	784,345	49,281.46
SNNP	14,929,548	112,343.19
Gambela	307,096	25,802.01
Harari	183,415	311.25
Addis Ababa	2,739,551	530.14
Dire Dawa	341,834	1,213.20

Source: *CSA, Statistical Report of the 2007 Census*

Spatial distributions of population by region vary significantly. Table 4.4 shows that the percentage share of the regions ranges from the smallest proportion of 0.5 percent in the Harari region to the largest, 36.6 percent, in the Oromiya region. That is, the largest proportion of population is found in the Oromiya region (26,993,933) while the smallest proportion of persons is in the Harari region (183,415). The Amhara region (17,221,976) and the SNNP region (14,929,548) have the second and third largest population in the country, respectively.

Note

According to the 2007 Census, Ethiopia had significant variation of population distribution between the rural and urban areas. At the national level, 83.9 % of the total population lives in rural places, while the urban population accounts for only 16.1 %.

Activity 4.11

Use the data in Table 4.4 to calculate the crude density for each region.

Excluding Addis Ababa, Dire Dawa, and Harari Regions, (which are mostly urban areas with relatively small geographical sizes) identify the three most densely populated and three most sparsely populated regions of Ethiopia.

In terms of density of population, Addis Ababa, Dire Dawa, and Harari Regions have exceptionally different and much higher population densities than the rest of the nation. This is because they are urban-dominated regions with high population concentration in very small geographical areas. Excluding these regions, the most densely populated region in Ethiopia is the Southern Nations, Nationalities and Peoples Region (SNNP) (133 persons/km^2), followed by the Amhara (108.2 persons/km^2) and Tigray (86.2 persons/km^2) regions. On the other hand, the Somali, Afar and Gambela regions are the most sparsely populated regions in the country.

When population densities are considered in terns of *zones*, the variation of population density in Ethiopia is generally greater than the differences among the regions. Nation wide, there are several zones with population densities of over 200 persons per square kilometer. Some of the zones with very high population

densities are *Ghedeo (424 persons/km²), Sidama (299 persons/km²), Kembata-Alaba-Tembaro (299 persons/km²) and Hadiya (264 persons/km²).* In contrast, there are zones with population densities of less than 10 persons per square kilometer, two of which are *Kamashi (5.7 persons/km²) and Metekel (7.7 persons/km²).* Some of the zones in the Somali and Afar regions, for which densities have not been calculated, have even lower densities.

4.4 FACTORS AFFECTING POPULATION DISTRIBUTION IN ETHIOPIA

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

- state factors affecting population distribution in Ethiopia.

Key Terms

- Altitude
- Soil fertility
- River valley
- Tropical disease
- Crop farming
- Nomadic herding

You can easily see from the preceding information, that the distribution of population in Ethiopia is extremely uneven. This extreme unevenness is the result of a number of factors operating in combination. These factors can be grouped into two as: **physical** and **human**.

4.4.1 Physical Factors

Do you know the reasons for the significant variation of population distribution over the highlands and lowlands of Ethiopia?

The most significant physical factors affecting the distribution of population in Ethiopia are the following.

- *Climate (mainly rainfall and temperature)*
- *Soil fertility*
- *Natural water supply*
- *Relief (slope and altitude)*
- *Vegetation cover*

Activity 4.12

In small groups discuss the following questions.

1 What are the major factors that attract large populations to the highland areas of Ethiopia for settlement?

2 Why are the lowland areas of Ethiopia sparsely populated?

3 In most parts of the world, valleys of major rivers are zones of large concentrations of population. In contrast, the valleys of major rivers of Ethiopia are areas of sparse population distribution. Why is this so?

In Ethiopia, most of the physical factors are influenced by altitude. Therefore, *altitude* is the most crucial physical factor influencing patterns of population distribution and settlement in the country. Studies in climatology make it clear that rainfall increases while temperature decreases with an increase in altitude. Incidentally, this means that rainfall is very low and temperature is high in lowland areas, while rainfall is high and temperature moderately low in the highlands. Since soil formation and vegetation growth are closely associated with adequate rainfall and moderate temperature, highlands tend to have better soils and vegetation cover.

Lowlands in Ethiopia are characterized by scarcity of rainfall, high temperature, and poor vegetation and soil conditions. In addition to these negative factors, the prevalence of tropical diseases such as malaria and yellow fever contributes to the sparse population distribution in such areas.

For reasons of tropical diseases, most of the valleys of the major rivers of Ethiopia are also characterized by sparse population concentration. The main exception is the Awash River Valley, where irrigation agriculture is practiced. This overall pattern differs from what can be seen in other parts of the world, where valleys of major rivers are zones of large concentrations of people. However, with improvements in agricultural and medical technology, Ethiopia's lower major river valleys might, in the future, attract more people from the densely populated highland areas.

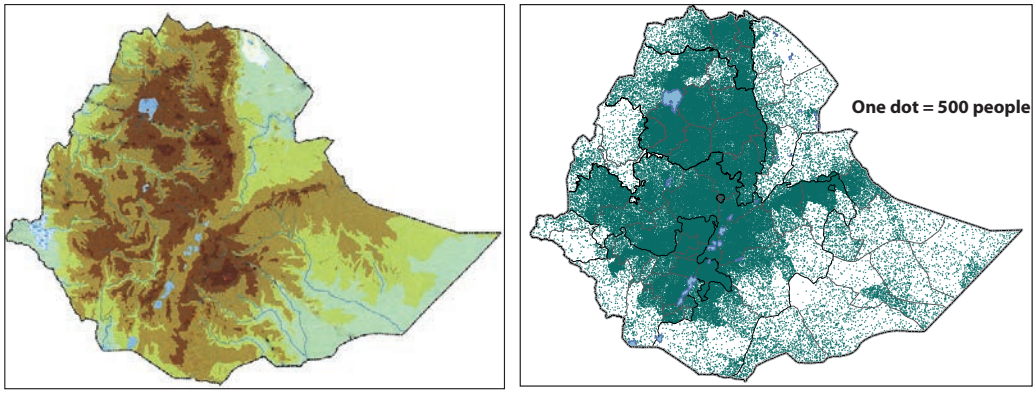


Figure 4.4: **The Physical and Population Density Maps of Ethiopia** **Source:** *CSA (2007)*

Table 4.5: **The Relationship between Altitude and Population in Ethiopia**

Altitude (Meters)	Area (%)	Population (%)
Above 2600	5.8	10.4
1800-2600	31.8	67.1
1400-1800	28.1	11.5
1000-1400	13.4	8.2
Below 1000	21.5	2.8

From the Table 4.5, we can understand that *77.5 percent* of the population of Ethiopia lives in areas with altitudes above 1800 meters, and that these areas constitute only *37.6 percent* of the total area of the country. Areas below 1800 meters, which constitute about *63 percent* of the total area of Ethiopia, supports only *22.5 percent* of the total population of the country. This information clearly shows that altitude is the most significant physical factor that affects the distribution of population in Ethiopia.

4.4.2 Human Factors

Can you mention the major human factors that have influenced population distribution in Ethiopia?

The major human factors which have influenced population distribution in Ethiopia are the following.

- Types of economic activity
- Historical patterns of population movement

Activity 4.13

In small groups, discuss this question.

Why do Ethiopia's crop farming areas have high carrying capacities and high population densities, while its areas of pastoralists have low carrying capacities and low population densities?

A *Types of Economic Activity*

The types of economic activity performed in an area strongly influence the carrying capacity of that land. Consequently, the carrying capacity influences the number of people that can inhabit a given area. Being a country of diverse environmental and cultural conditions, Ethiopia offers ample evidence of these relationships.

The arid and semi-arid lowland areas of Ethiopia are areas that are more suitable for pastoralist activities than for crop farming. By its nature, pastoralism is an economic activity that requires large areas of grazing lands. In most pastoralist areas of Ethiopia, the land requirement for grazing is as large as 20 hectares or more per head of cattle. Each household might possess hundreds of cattle, and as a result, people need large areas of grazing land. This forces them to move from one area to another in search of better pasture lands and water for their animals, as these resources become exhausted over time at each place of arrival.

Under such conditions, the distance separating one pastoralist community from another is usually be large. That is why pastoralism is considered as "*greedy of space*". Due to these conditions, population densities are extremely low in areas of pastoralism.

Figure 4.5: **Pastoralist Area in Ethiopia**

As has been said earlier, compared to pastoralist areas, crop-farming areas have greater carrying capacity and higher densities of population. This is typically the case in the highland areas of Ethiopia where natural conditions are suitable for crop cultivation. In the crop-farming highland areas, the land-man ratio is significantly higher than the one in the pastoralist lowlands.

However, the crop-farming areas of Ethiopia do not have uniform carrying capacities or population densities. Population density is significantly influenced by the types of crops cultivated. For instance, in the northern and north central highland areas of Ethiopia, the most cultivated crops are cereals. Cereals have relatively low yields per unit area. Therefore, these areas tend to have relatively lower carrying capacities and population density. In contrast, the southern *enset* and coffee growing regions of the country have greater yields per unit area. This is an important reason for the very high population densities in some zones and *weredas* of the southern region that you read about earlier.

Figure 4.6: **Crop Farming Area in Ethiopia**

The development of commercial farms in some parts of Ethiopia, such as *Awash* valley, is another significant factor in population movements and their resulting effects in population distribution. Some decades ago, there were very few people in the *Awash* valley. However, because of the development of many small and a few large commercial farms, several thousands of settled and migratory people are found there now.

In Ethiopia, urban and industrial growth/expansion are other human factors that bring about population re-distribution over time, and they are responsible for considerable spatial variation of population density at present.

B *Historical Pattern of Population Movement*

In the history of Ethiopia, the pattern of movement of two major groups of people

had direct impact on the distribution of population in the country. These two groups, which make up the largest part of Ethiopia's population, are the Semitic and the Cushitic populations. The two waves of population movement, one from the north (the Semitic) and the other from the south, (the Cushitic) led to the high concentration of people in and around the central highlands of Ethiopia.

4.5 SETTLEMENT PATTERNS OF ETHIOPIAN POPULATION

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

- realize settlement patterns of Ethiopian population.

Key Terms

- Settlement
- Urban settlement
- Rural settlement
- Villagization
- Nucleated settlement
- Dispersed settlement

Activity 4.14

In small groups, discuss the following questions.

1. What do you know about the concept of settlement?
2. Do you know why settlement patterns differ from place to place in Ethiopia?

Focus

In Ethiopia, different settlement types have been developed in response to mainly the following and other physical and human factors.

- *Relief (altitude and slope of the land)*
- *Climate (the magnitude of rainfall and temperature)*
- *The kind of land ownership*
- *The level of development (transportation and industrialization)*
- *The need for community defense*
- *The need for communal field labor*

Ethiopian settlements are broadly categorized as rural and *urban*. The primary bases for this dichotomy are the dominant economic activities and the degree of population density. Urban settlements are usually branded by non-agricultural economic activities, while the rural settlements are typically agricultural. Leaving social, cultural and physiological differences aside, rural and urban settlements in Ethiopia can very well distinguished by population densities, which are generally very high in urban settlements compared to the relatively lower densities of population in rural settlement areas.

4.5.1 Rural Settlements

What kinds of settlements exist in the rural areas of Ethiopia?

*Settlements i*n the rural areas of Ethiopia can be broadly grouped into two: permanent and temporary/mobile settlements.

Permanent Settlements

What kinds of settlements are considered as permanent? In which areas of Ethiopia that these types of settlements mostly found? Highlands or lowlands?

Settlements are considered permanent if their locations do not frequently change, i.e. if they remain in place for more than ten years. In this sense, most rural settlements over the highland areas of Ethiopia are permanent. The permanent rural settlements of Ethiopia are mostly associated with *the crop-farming highland areas of the countr*y.

The p*ermanent rural settlements of E*thiopia can also be broadly divided into two: the scattered (diffused or dispersed) settlements and the grouped (nucleated) settlements. In areas of scattered settlements, homesteads are separated by relatively long distances. On the other *hand, the gro*uped settlem*ents are char*acterized by a large number of homesteads/households concentrated in one place.

In Ethiopia, the Derg Regime's compulsory villagization program resulted in the formation of grouped settlements (villages) in many parts of the country. In most parts of the northern regions of the country, such settlements have remained in place for years with the idea that they would enhance communal ownership of land and the provision of social services. But, because the program was conducted by forcing people into villages against their will, and because the services were

non-existent, people began to return to their original sites, in a manner of reversal move. This movement began even before the regime was overthrown. The current government of Ethiopia has recently conducted villagization programs that are based on peoples' will to leave their original settlement sites.

Temporary Settlements

What kinds of settlements are temporary? Do you know the areas of Ethiopia in which these types of settlements mostly found? What do you think are the reasons?

The lowlands in most parts of the Rift Valley and peripheral areas of Ethiopia are characterized by pastoralism with temporary settlements. The settlements in these areas are temporary because the pastoralists have to look for new sites for water and pasture lands for their livestock when these resources are exhausted at each new site.

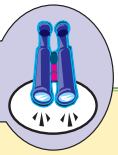
The major problem posed by mobile settlements in these pastoralist areas is the difficulty in providing the people with social services like clean wellspring water, schools, hospitals, electricity, etc. Because most of these services cannot move from place to place as do the pastoralists, the only way that the pastoralists could receive and benefit from them is by settling in permanent locations. However, making such a change can happen only after major alterations have been made in the peoples' values and attitudes. The current government is involved in progressive activities to help the pastoralists make permanent settlements in a gradual manner.

4.5.2 Urban Settlements

What kinds of settlements are considered urban? Can you mention some examples of urban settlements in Ethiopia? Do you know the features that make urban settlements different from the rural settlements in Ethiopia?

Urban settlements include residence in cities and towns. The process of development of urban settlements is known as urbanization. In most parts of Africa, urbanization is a recent phenomenon, and is attributed to colonialism. Urbanization in Ethiopia is not influenced by European colonialism. It is an unplanned, natural phenomenon of the late 19th and early 20th centuries.

Focus



Not all grouped settlements are classified as urban centers. Different countries use different criteria for assigning the status of urban center to a settlement. The major criteria used in Ethiopia are

a the settlement has a minimum of 2000 people.

b two-thirds of the population in the settlement are engaged in non-agricultural activities.

c the settlement has a chartered municipality.

Historically, two major factors contributed to the development of urban centers in Ethiopia. They are:

- ⇨ *The interconnection of the different parts of the country by all-weather roads, which radiate from Addis Ababa.*
- ⇨ *The five-year Italian occupation, which intensified the construction of roads, and the development of small-scale industries and service-giving institutions.*

Most urban settlements of Ethiopia have developed along major transport routes, which have attracted people to settle in those areas. Consequently, the areas have turned into centers of greater transport-route network, home of larger numbers of urban populations and, generally, spot of higher population densities.

Activity 4.15

In small groups, discuss this question.

Why are Ethiopia's urban settlements concentrated along the nation's major transport routes and networks.

Two main areas in the country have relatively large **c**oncentrations of urban populations: the Shewan and the Harerghe plateaus. Together, these regions account for more than 50 percent of the urban population of the country. The major reasons for this situation are:

- ⇨ *relatively high concentration of industries*

- *greater assemblage of social services, such as schools, health institutions, water supplies, electricity, transportation, etc.*

Peoples' needs for such facilities, services, and employment opportunities captivated urban setters to come to those places.

4.6 DETERMINANTS OF POPULATION CHANGE IN ETHIOPIA

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

- compare fertility and mortality from a given data.

Key Terms

- Mortality
- Fertility
- Migration
- Natural increase
- Birth rate
- Death rate

As you are aware from your previous classes in population geography, population change in any country is affected by three major factors: fertility (births), mortality (deaths), and migration (movement into or out of the nation).

Focus

Population change in any country is the result of the following.

- *The difference between fertility (births) and mortality (deaths), which is called natural increase.*
- *The balance between immigration (in-migration) and emigration (out-migration), which is known as net migration.*

Look at Figure 4.7, below; it is an input-output model of population change.

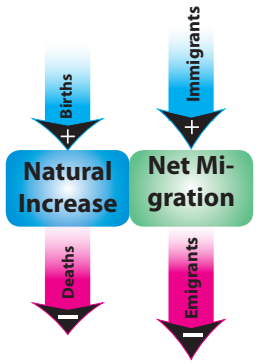


Figure 4.7: **Population change**

Activity 4.16

In pairs, perform the following activity.

Using the preceding input-output model of population change, categorize the four factors of change as an input or an output. Explain your reasons for each of your categorizations.

Example:

- *Population of X at the beginning of the year: 5000*
- *Population change during the year:*

The following example presents the population changes of a hypothetical population, X, during a given year. The changes are the result of births, deaths, immigration, and emigration.

Additions	**Losses**	
Births: 150	Deaths: 60	
Immigrants: 20	Emigrants: 10	
Rates of change based on the preceding data:		
Birth Rate: 30/1000	Death rate: 12/1000	Rate of Natural Change: +18/1000
Immigration rate: 4/1000	Emigration rate: 2/1000	Rate of Net Migration: + 2/1000
Total population of X at the end of the year: = 5100 (5000 + 90 of natural change + 10 of net migration)		

As indicated in the previous sections, Ethiopia is characterized by a high rate of population growth. Fertility and mortality are the most important factors

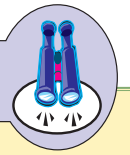
contributing to high population growth nation wide. The effect of migration is insignificant.

4.6.1 Fertility in Ethiopia

How does fertility determine the size and structure of the population of a country?

Fertility is one of the three principal components of population change that determine the size and structure of the population of a country. In its general sense, fertility refers to the occurrence of birth in a given country or region.

Focus



Before studying the fertility characteristics of the population of Ethiopia, become familiar with the following measures of fertility.

- ⇨ *Crude Birth Rate (CBR): this is the total number of births occurring in a given year, per 1000 population.*
- ⇨ *General Fertility Rate (GFR): this one is the number of births occurring in a given year per 1000 women in the reproductive ages (i.e., women aged 15-49).*
- ⇨ *Age Specific Fertility Rate (ASFR): this is the number of births that occur in a given year per woman in the reproductive ages, presented in five-year age groups.*
- ⇨ *Total Fertility Rate (TFR): this is the number of children a woman may have produced by the end of her reproductive period, given the current ASFR.*

Fertility Levels and Differentials in Ethiopia

Ethiopia, like most countries in sub-Saharan Africa, has rapid population growth, characterized by a high level of fertility. The result of the most recently conducted demographic and health survey of Ethiopia (EDHS 2005) indicate that the fertility level of Ethiopia's population, as measured by TFR (5.4), GFR (179) and CBR (35.7), is among the highest in the world.

There is also significant variation in fertility levels between the urban and rural populations of the country. As expected, fertility is considerably higher in the

rural areas than the urban areas. For instance, EDHS 2005 showed that the TFR in rural areas was 6.0, which was almost two and half times higher than the 2.4 TFR in urban areas.

Study the following figure, which shows the level of fertility (TFR and CBR) for Ethiopia as a whole, and for its urban and rural areas.

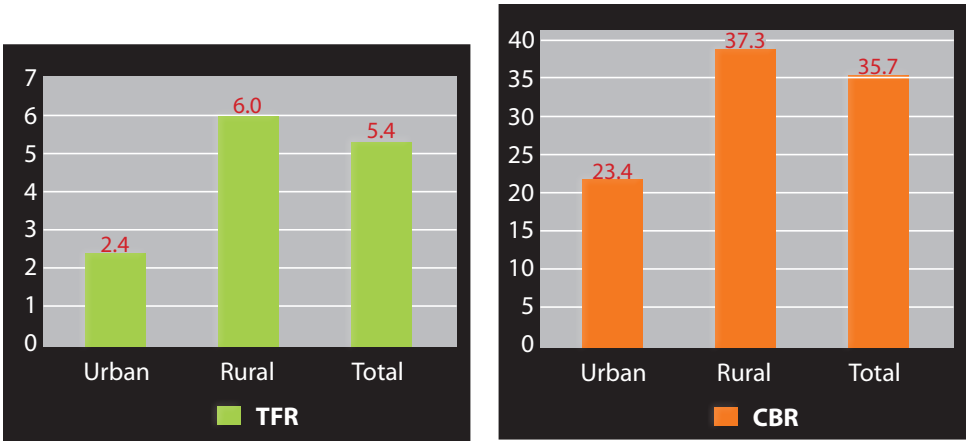


Figure 4.8: **Levels of Fertility in Ethiopia (TFR and CBR) (2005)**

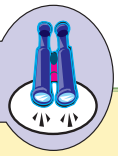
Activity 4.17

1 How do you interpret the following rates of fertility for the population of Ethiopia?
   - ⇨ TFR = 5.4
   - ⇨ CBR = 33.5
   - ⇨ GFR = 179

2 What are the reasons for the considerably higher rates of fertility in rural areas than urban areas in Ethiopia?

3 The 6.0 TFR in rural areas is almost two and half times higher than the 2.4 TFR in the urban areas. What does this mean?

Focus



The total fertility rate (TFR) for Ethiopia is 5.4 children per woman. This means that the total number of children an Ethiopian woman would have by the end of her child-bearing period (reproductive age) is about 5.4 children.

In Ethiopia, there are also substantial differentials in fertility among regions, ranging from a low TFR of 1.4 in Addis Ababa to a high of 6.2 in *Oromyia.* With the exception of *Somali* and *SNNP*, fertility levels in the other regions are lower than the national average (5.4). Look at the following figure, which shows regional distribution of total fertility rate in Ethiopia.

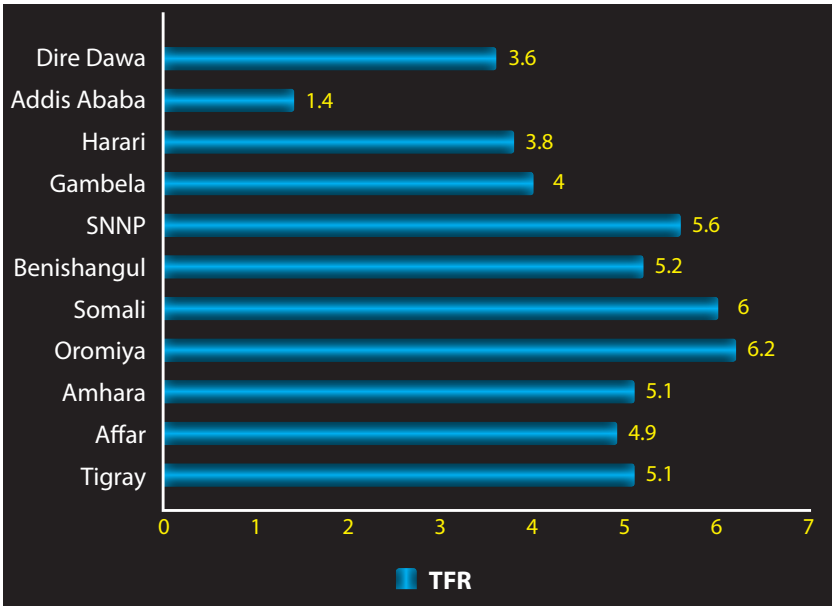


Figure 4.9: **TFR by Region (2005)**

Focus

In general, fertility rates are high in Ethiopia due to the following major factors.

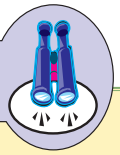
- *Low levels of family planning practices, due to lack of awareness and religious beliefs;*
- *Early marriage, particularly of females;*
- *Perception of high social and economic value of children;*
- *Low social status of women; and*
- *Relatively high infant and child mortality (death) rates, which leads parents to produce larger number of offspring, in compensation.*

4.6.2 Mortality in Ethiopia

How does mortality determine the size and structure of the population of a country?

Mortality is the second principal factor in population change that determines the size and structure of the population of a country. In its general sense, *mortality is the occurrence of deaths in a given population.*

Focus



Before studying the mortality characteristics of Ethiopia's population, become familiar with the following measures of mortality.

- *Crude Death Rate (CDR): this is the total number of deaths occurring in a given year, per 1000 people.*
- *Infant Mortality Rate (IMR): this is the number of deaths in a year among infants under one year of age, per 1000 live births.*
- *Child Mortality Rate (CMR): this is the number of deaths in a year among children between one and five years of age, per 1000 children between the same ages.*
- *Under-Five Mortality Rate: this is the number of deaths in a year among infants and children between birth and five years of age, per 1000 live births.*
- *Maternal Mortality rate (MMR): this is the annual number of maternal deaths occurring during pregnancy, child birth, or within two months after the birth or termination of pregnancy, per 1000 women between 15 and 49 years of age (reproductive age).*
- *Adult Mortality Rate (AMR): this is the number of deaths in a year among adults between 15 and 49 years of age, per 1000 adults in the same age group.*
- *Age-Specific Death Rate (ASDR): this is the number of deaths that occur in a given year per 1000 of the population in five-year age group.*
- *Life Expectancy: this is the average number of years a newborn baby is expected to live if he/she is exposed throughout life to the prevailing pattern of age-specific death rates.*

Levels and Differentials of Mortality in Ethiopia

In general, mortality rates have been declining around the world, including in Ethiopia. However, as in most countries in sub-Saharan Africa, Ethiopia is still characterized by a high level of mortality. The most recently conducted demographic and health survey of Ethiopia (EDHS 2005) showed that the mortality level of Ethiopia's population, as measured by IMR (80), CMR (56), MMR (1.34) and AMR (5.99), is among the highest levels in the world.

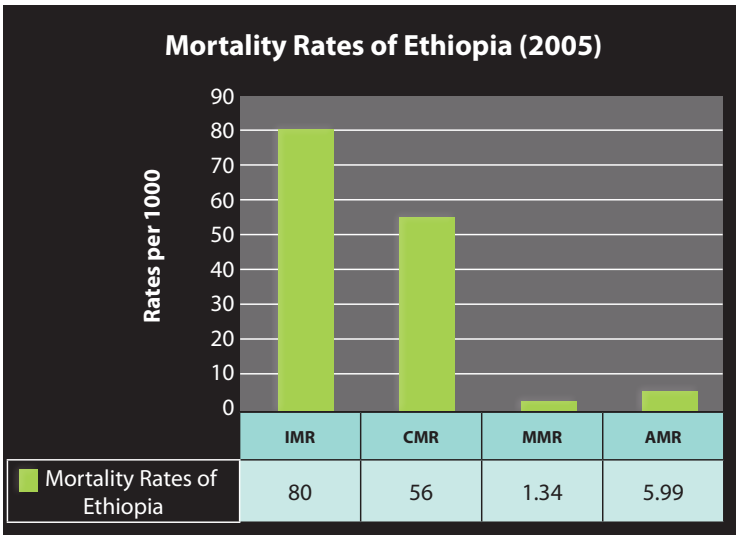


Figure 4.10: **Mortality levels in Ethiopia (2005)**

Activity 4.18

In pairs, work on the following questions.

How do you interpret the following mortality rates in Ethiopia?

- IMR = 80
- CMR = 56
- MMR = 1.34
- AMR = 5.99

Crude Death Rate

Do you know what crude death rate means and how it is calculated?

The crude death rate is the number of deaths per 1000 people during a given year. In 2005, there were just over than normal deaths in Ethiopia, for a CDR of deaths per 1000 population. However, the CDR of a given population reveals neither the age and sex patterns of mortality levels nor the socio-economic characteristics of a given population. Therefore, IMR, CMR, MMR, AMR and life expectancy are

generally regarded as better indicators than CDR of mortality in relation to the socio-economic characteristics of population of a given country.

Infant and Child Mortality

What is the difference between infant and child mortality rates? What are the benefits of measuring infant and child mortality rates?

Infant mortality rates and child mortality rates are used, respectively, to indicate a countries' health status and socio-economic development status. (Infant mortality rates and health status are considered more specific indicators and measures than are child mortality rates and socio-economic development status.). The analyses of these rates are thus useful in identifying needs and planning health programs and initiating child-survival efforts. In addition, these measures are useful for population projection.

Focus

Infant mortality rate (IMR) is the number of deaths among infants between the moment of birth and the first birth day. Child mortality rate (CMR), on the other hand, is the number of deaths among children between the exact ages of one and five, (i.e. From the first birthday, up to but not including the sixth birth day). The under-five mortality rate, however, includes both IMR and CMR, as it refers to the number of deaths of infants and children between birth and the fifth birth day.

One of the targets of Ethiopia's millennium development goal (MDG) is a two-thirds reduction in infant and child mortality by 2015, to be achieved by way of:

- *upgrading the proportion of births attended by skilled health personnel.*
- *increasing immunization against the six vaccine-preventable diseases.*
- *upgrading the status of women through education and enhancing their participation in the labor force.*

As shown in Figure 4.11, the IMR and CMR in Ethiopia in 2005 were 80 and 56, respectively. The under-five mortality rate for the same period was 132 deaths per 1000 live births. This means that one in every thirteen (1/13) Ethiopian children died before reaching age one, while one in every eight (1/8) did not survive to the fifth birthday.

The IMR of Ethiopia's population is not only significantly higher than the global average (52/1000), but is also much higher than the average in the less developed countries (57/1000). Ethiopia's very high IMR is even more striking when we compare it with the lowest rates among the world's developed countries, such as Japan (4.4/1000 – the lowest in the world), Sweden (5.7/1000), Finland (5.8/1000), Taiwan (6.0/1000), Switzerland (7.3/1000) and the USA (8.8/1000).

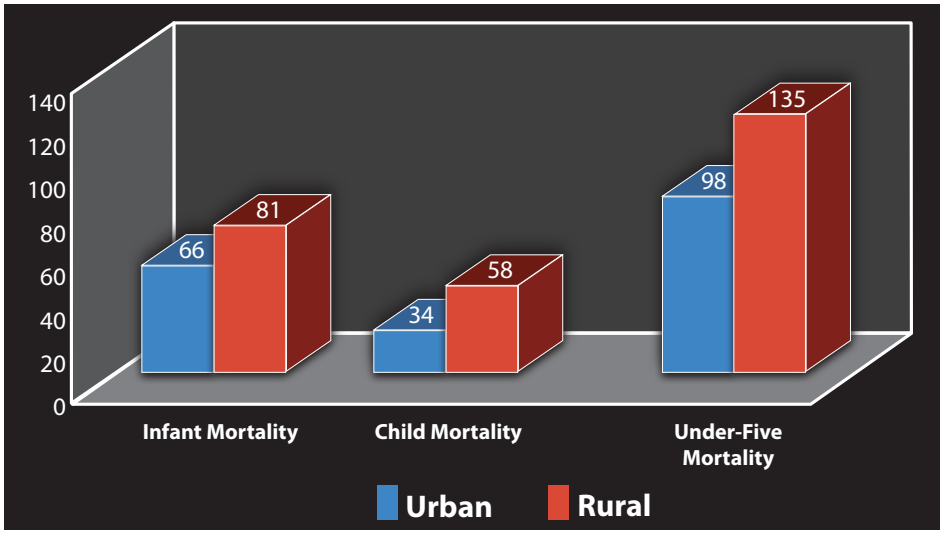


Figure 4.11: **Mortality Rates in Ethiopia by Urban and Rural Residence (2005)**

Activity 4.19

Answer the following questions, based on Figure 4.11.

1 Which area (urban or rural) has the highest rates of mortality?

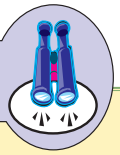
2 Discuss the reasons for the differentials in childhood mortality rates for urban and rural areas of Ethiopia.

It is clear that infant and child survival in Ethiopia is influenced by maternal socio-economic characteristics, and that those conditions differ between regions and between rural and urban areas. There is significant urban-rural and regional variation in child mortality levels. Mortality in urban areas is consistently lower than in rural areas. For example, EDHS 2005 showed that infant mortality in urban areas was 66 deaths per 1000 live births, compared to 81 deaths per 1000 live births in rural areas.

There are wide regional differentials in infant, child and under-five mortality

levels in Ethiopia. The lowest level is that of Addis Ababa (72/1000), which is the most urbanized part of the country. On the other hand, the highest levels are in Benishangul-Gumuz (157/1000), Gambela (156/1000) and Amahara (154/1000).

Focus



Survival of infants and children in Ethiopia is strongly influenced by maternal education and socio-economic status, age at birth, child birth order, birth interval, and gender. For instance, EDHS 2005 showed that:

- *Under-five mortality among children born to mothers with no education is more than twice as high as that among children born to mothers with secondary or higher education.*
- *Childhood mortality is higher among children born to mothers under age 20 and over age 40.*
- *Children born within two years of a preceding birth are more than three times as likely to die within the first year of life as are children born after an interval of three or more years.*
- *First births and births of order seven and higher also suffer significantly higher rates of mortality than births of orders two to six.*
- *Male children experience higher mortality than female children.*
- *Children born at home with the help of traditional birth attendants experience higher mortality than those born in modern health centers with skilled medical personnel.*

Maternal Mortality

What do you think maternal mortality is? What are the benefits of measuring maternal mortality rates?

Maternal mortality *is any death that occurred during pregnancy, childbirth, or within two months after a birth or termination of a pregnancy. Maternal mortality rate is the annual number of maternal deaths per 1000 women aged 15-49*. Such a rate is an important indicator of reproductive health status, broadly, and maternal health status, specifically, of the population of a given country.

The maternal mortality rate in Ethiopia is high, in relation to such rates in the developed countries. For instance, the average Ethiopian value for the maternal

mortality rate for the period 1994-2005 was 1.34. The figure seems low, but during this period, maternal deaths in the country accounted for 21 percent of all deaths of women aged 15-49. In other words, more than one in five (1-5) Ethiopian women who died in this period died from pregnancy or pregnancy-related causes. This shows how high the maternal mortality level is in Ethiopia.

Activity 4.20

In small groups discuss, this question.

Why does Ethiopia have a high rate of maternal mortality?

4.7 IMPACTS OF RAPID POPULATION GROWTH IN ETHIOPIA

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

- analyze the impact of rapid population growth on Ethiopia's socio-economic and environmental conditions.

Key Terms

- Deforestation
- Pollution
- Environmental degradation
- Food scarcity
- Drought
- Famine
- Health care
- Housing
- Employment

Can you mention some of the challenges of rapid population growth in Ethiopia? Can you mention some of the real problems that have resulted from population growth in your locality?

As we have already discussed, the size of Ethiopia's population has been growing very rapidly. The population growth rate is much higher and is increasing much faster than the economic growth rate and is growing beyond the carrying capacity of the country's natural resources, such as land, water, soil, forest, etc. These negative results of rapid population growth have caused many environmental and socio-economic problems.

For example, population growth causes serious environmental degradation in the area where it occurs, including deforestation, pollution, soil erosion, depletion of resources, etc.

Activity 4.21

In small groups, discuss these questions.

1 What do you know about global warming?

2 How does rapid population growth lead to environmental degradation?

4.7.1 Deforestation

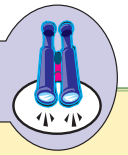
What is deforestation? Can you mention some of the problems caused by deforestation? is deforestation a problem in your locality?

Forests are the lungs of the earth. They absorb carbon dioxide from the atmosphere and exhale oxygen. They also store energy from the sun, bind topsoil to land, and aid in climate control by capturing and releasing water. They also provide a habitat for innumerable species of plants and animals, serving as a global storehouse of genetic diversity.

> Deforestation refers to the removal of forest cover of an area without adequate replacement. In other words, it is the process of the indiscriminate destruction of the natural vegetation cover of a forest area.

The forest cover resource of Ethiopia has been declining significantly over time. This is caused mainly by rapid population growth and the increasing population's needs for forest resources such as wood and land. Many people in the country use wood for cooking, heating, and lightning, as well as for houses and furniture. Similarly, the increasing demand for agricultural and settlement lands is a major cause of forest destruction in the country. In Ethiopia, there is a direct correlation between population density and deforestation – the more people there are in an area, the more trees they cut down. New trees do not spring up to replace the old ones.

Focus



In Ethiopia, rapid population growth leads to deforestation mainly because of peoples' increasing needs for more:

- *wood*
- *agricultural land*
- *settlement land*
- *grazing land*

Such deforestation has various negative consequences, both directly on the natural environment, and indirectly on the socio-economic conditions of the people. Its direct consequences include the following.

- *It accelerates soil erosion.*
- *It destroys biodiversity.*
- *It affects rainfall by decreasing evapotranspiration.*
- *It results in shortages of wood supply.*
- *It affects the natural beauty of the affected areas.*

Activity 4.22

In pairs, discuss this question.

What are the indirect consequences of deforestation on socio-economic conditions?

4.7.2 Pollution

Pollution refers to any undesirable change in natural conditions of water, air, and other components of the natural environment that has negative effects on the health and activities of human beings and other living creatures.

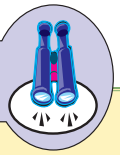
Can you mention some of the causes of air and water pollution? Is pollution a problem in your locality?

Water and air pollution are mainly caused by human activities in households, industries, farmlands, means of transportation, and so on. However, it can also be

caused by natural events such as volcanic eruption, wildfire, and the like.

When an area is overcrowded (i.e. inhabited by a rapidly growing number of people) the natural environment is polluted by a variety of unwanted and harmful wastes that peoples' activities produce. In Ethiopia, pollution is a major problem in overpopulated urban centers. In large cities like Addis Ababa, most people live in unsafe environments that have extremely polluted air and water. They are surrounded by the garbage and pollutants that households, industries, automobiles, and other sources discharge.

Focus



In Ethiopia, rapid population growth leads to environmental pollution by increasing emission of the amounts of pollutants such as:

- *Sewage, solid wastes, and pollutant gases generated by households.*
- *Pollutant gases, liquids, and solid chemicals generated by expanded industries.*
- *Pollutant gases generated by the increasing number of automobiles.*
- *Agricultural pollutants, such as fertilizers, pesticides, animal wastes, etc.*

Activity 4.23

Group Project

1 Form a small group with the help of your teacher.

2 Your teacher will assign one of the following topics to each group.

- Impact of rapid population growth in Ethiopia on:
  - Housing
  - Food supply
  - Farmland
  - Education
  - Health care
  - Drought and famine

3 Write a short paper on the issue.

4 Choose a group representative to present your paper to the class for further discussion.

4.8 POPULATION POLICY OF ETHIOPIA

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

- adhere to the realization of population policy of Ethiopia.

Key Terms

- Policy
- Population policy
- Anti-natal policy
- Pro-natal policy
- Reproductive health
- Family planning

Why do governments and organizations, especially in developing countries like Ethiopia, strongly encourage population planning?

Focus

- *A population policy is a policy that is formulated and implemented by a government in order to plan and control population growth, based on the economic, social, cultural, political, and demographic conditions of the country. It is needed mainly to address population-related problems in a country.*
- *The population policies of countries can be broadly categorized into two groups as: anti-natalist and pro-natalist policies.*
  - *Anti-natalist population policy seeks to lower fertility rates, in particular, and population growth rates, in general.*
  - *Pro-natalist population policy seeks to increase fertility rates, in particular, and population growth rates, in general.*

History of Population Policy in Ethiopia

In Ethiopia, population policies were given low priority before the early 1990s. After the Derg regime, the Transitional Government of Ethiopia (TGE) adopted a national population policy in 1993. The policy was based on the awareness that large population size and continued rapid population growth in Ethiopia can be an enemy of development and can cause economic, social and environmental problems in the country.

Activity 4.24

In pairs, discuss the following questions.

- Which of the two types of population policies is appropriate for addressing population-related problems in Ethiopia and in other similarly developing countries of the world? Explain why.
- What kinds of countries use pro-natalist population policies? Explain why.

Note

Similar to most of the developing countries, the type of population policy used in Ethiopia is basically anti-natalist. Such policies promote lowered fertility rates, in particular, and lowered population growth rates, in general.

Goals and Strategies of Ethiopia's Population Policy

Ethiopia's anti-natal population policy formulates several goals and strategies to regulate population for the over all good of the country.

Ethiopia's Population-Policy Goals

Ethiopia's population policy has the following types of goals:

- *Broad*
- *General*
- *Specific*

The broad goal of Ethiopia's population policy is to promote social welfare by harmonizing the rate of population growth and the country's capacity for socio-economic development and the rational utilization of natural resources. The policy expresses particular concern over the age structure of Ethiopia's population, which is greatly dominated by young people. The policy is also concerned with the large number of women in childbearing age, which is likely to result in continued rapid population growth.

General objectives of Ethiopia's population policy include:

- *Closing the gap between high population growth and low economic productivity, through planned reduction of population growth and increasing economic returns;*

- *Expediting socio-economic development processes through holistically integrated development programs;*
- *Reducing the rate of rural-to-urban migration;*
- *Ensuring environmental protections;*
- *Reducing morbidity and mortality;*
- *Raising the economic and social status of women; and*
- *Improving the social and economic status of vulnerable groups, such as adolescents, children, and the elderly.*

Specific objectives of Ethiopia's population policy include:

- *Reducing the total fertility rate (TFR) of 7.7 children per woman in 1990 to 4.0 by the year 2015;*
- *Increasing the prevalence of contraceptive use from 4.0 percent in 1990 to 44 percent in 2015;*
- *Reducing maternal, infant, and child morbidity and mortality rates, as well as promoting the level of general welfare of the population;*
- *Significantly increasing female participation at all levels of the educational system;*
- *Removing all legal and customary practices that prevent women from the full enjoyment of economic and social rights, including the full enjoyment of property rights and access to gainful employment;*
- *Ensuring spatially balanced population distribution patterns, with a view to maintaining environmental security and extending the scope of development activities;*
- *Improving productivity in agricultural activities and introducing off-farm and non-agricultural activities for the purpose of employment diversification; and*
- *Mounting effective country-wide population information and program s that address issues pertaining to small family size and its relationship to human welfare and environmental security.*

Ethiopia's Population-Policy Strategies

The strategies by which the goals and objectives of the population policy are to be attained include the following.

- *Expanding contraceptive distribution;*

- *Diversifying available contraceptive methods;*
- *Raising the minimum age of marriage for girls from 15 years to at least 18 years;*
- *Promoting breast-feeding as a means of birth-spacing;*
- *Implementing career counseling services in schools;*
- *Integrating women into the modern sector of the economy;*
- *Amending all laws "impeding, in any way, the access of women to all social, economic, and cultural resources";*
- *Amending relevant articles and sections of the civil code to remove unnecessary restrictions to "advertisement, propagation and popularization of diverse contraceptive methods";*
- *Establishing teenage and youth reproductive health counseling centers;*
- *Increasing research in reproductive health; and*
- *Promoting the involvement of males in family planning.*

The population policy of Ethiopia acknowledges that existing reproductive health service delivery systems are limited in scope and that choice of family planning methods is limited. To correct these problems, it calls for an expansion of reproductive health service delivery, currently available only through the limited formal health structure, to clinical and community-based outreach services. It also recommends the involvement of non-governmental organizations (NGOs) in providing reproductive health services, including the widest possible choice of contraceptives.

The policy also acknowledges a need to expand capacity for performing population research and training family planning advisors. To implement these, it calls for family planning to be integrated into the curricula of medical schools, nursing and health assistants' schools, junior colleges, and technical-vocational schools.

The population policy also calls for the expansion of Information, Education, and Communication (IEC), and community involvement in achieving the goals and objectives of the policy.

In general, the population policy covers all major ground that needs to be covered in providing directives on the management of population growth in the interest of sustainable development.

Activity 4.25

Write a short essay on the following question.

What are your responsibilities and roles in the realization of Ethiopia's population policy?

4.9 URBANIZATION IN ETHIOPIA

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

- explain the concept of urbanization; and
- discuss the rate of urbanization and its regional variation in Ethiopia
- compare rate of urbanization.

4.9.1 The Concept of Urbanization

What do you know about the concept of urbanization, its causes, and consequences?

Urbanization is the process of population shifts from rural areas to cities, and the resulting growth of urban areas. It is the process whereby large numbers of people leave countryside/rural places and small towns in order to settle in cities and surrounding metropolitan/urban areas. A nation is said to have become more urbanized as its cities grow in number, its urban populations increase in size, and the proportion of its population living in urban areas rises.

The degree of urbanization varies throughout the world but generally reflects the wealth of individual countries. The rich, industrialized countries tend to be the most highly urbanized, while the poor countries tend to be the least urbanized. In the Netherlands, for example, 89 percent of the population is urban, compared to only 16 percent in Ethiopia.

In most developing countries, including Ethiopia, most rural migrants to the cities have bettered themselves in comparison to their former standard of living in rural areas. However, the rapid growth of population in urban centers of such countries has been causing serious problems such as overcrowding, substandard housing, homelessness, inadequate municipal services, crime, poverty, and pollution.

Today, these characteristics mark the lives of many people in most urban centers of the developing countries. Dealing with these conditions, especially in very large cities like Addis Ababa, presents massive difficulties for governments.

4.9.2 Trends of Urbanization in Ethiopia

What factors are responsible for the varying trends of urbanization in Ethiopia?

As been pointed out earlier, urbanization is a recent phenomenon in Ethiopia. It was introduced mainly after the late 19th and early 20th centuries. Factors Contributing to Urbanization in the nation include: firstly, peoples' need for better living conditions this has been the major cause for the origin, growth and development of many of the urban centers; secondly, people's desire to come close to clustered settlements, many rural Ethiopians have been motivated to move and settle in urban places where there are relatively higher concentration of social services, industries, and employment opportunities.

Focus

In the history of Ethiopia, major factors contributed to the origin and development of most urban centers

- ⇨ *The interconnection of the different parts of the country by all-weather roads, which radiate from Addis Ababa.*
- ⇨ *The five-year Italian occupation, which intensified the construction of roads, and the development of small-scale industries and service-giving institutions.*

Most urban centers of Ethiopia have developed along major transport routes, which have attracted people to these areas. Consequently, areas with greater transport route network have larger numbers of urban settlements, and higher population densities.

Two main areas have relatively large concentrations of urban centers and urban population: the *Shewan* and the *Harerghe* plateaus. Together, these regions account for more than 50 percent of the urban population of the country. The major reasons for this situation are:

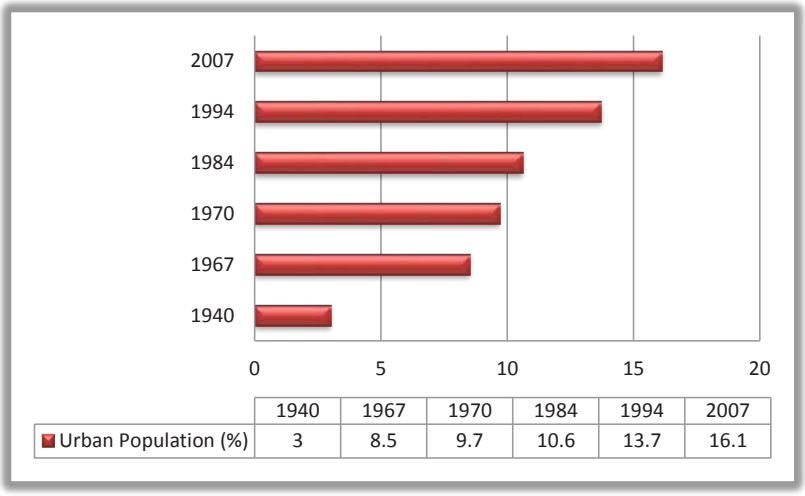
- ⇨ *Concentration of industries that results in relatively higher opportunities for employment.*

- *Concentrations of social services and facilities, such as schools, health institutions, water supplies, electricity, transportation, etc that result in, relatively, better living conditions.*

Levels and Distribution of Urbanization in Ethiopia

In spite of the high rate of rural-urban migration in Ethiopia, the level of urbanization has been very low in the country. Less than 3 percent of Ethiopia's population lived in urban areas in the 1940s. This figure increased to about 8.5 percent in 1967 and then to 9.7 percent in 1970. The three censuses of the country indicate that the percentage of urban population was 10.6 percent in 1984, 13.7 percent in 1994, and 16.1 percent in 2007.

Although these figures show that urbanization is increasing in Ethiopia, their absolute values also indicate that the country's urbanization is low, and that its urban population is one of the smallest in the world. This indicator reflects the country's status as a very undeveloped nation.



	1940	1967	1970	1984	1994	2007
Urban Population (%)	3	8.5	9.7	10.6	13.7	16.1

Source: *OPHCC (1991), CSA, (1984, 1994, 2007 Censuses)*

Figure 4.12: **Trends of Urbanization (Urban Population Growth) in Ethiopia**

The other aspect of urbanization in Ethiopia is great variation in the distribution of urban populations illustrated in Figure 4.13. According to the 2007 Census, the urban population rate ranges from 10 percent in SNNP to 100 percent in Addis Ababa. Despite the fact that Addis Ababa City Administration is entirely urban, its percentage share of Ethiopia's total urban population is only 23.1 percent. The largest share, about 28 percent, is living in Oromiya Region. In contrast, Gambela

region has the smallest share of the country's urban population, although more than one-fourth of the region's population lives in urban areas.

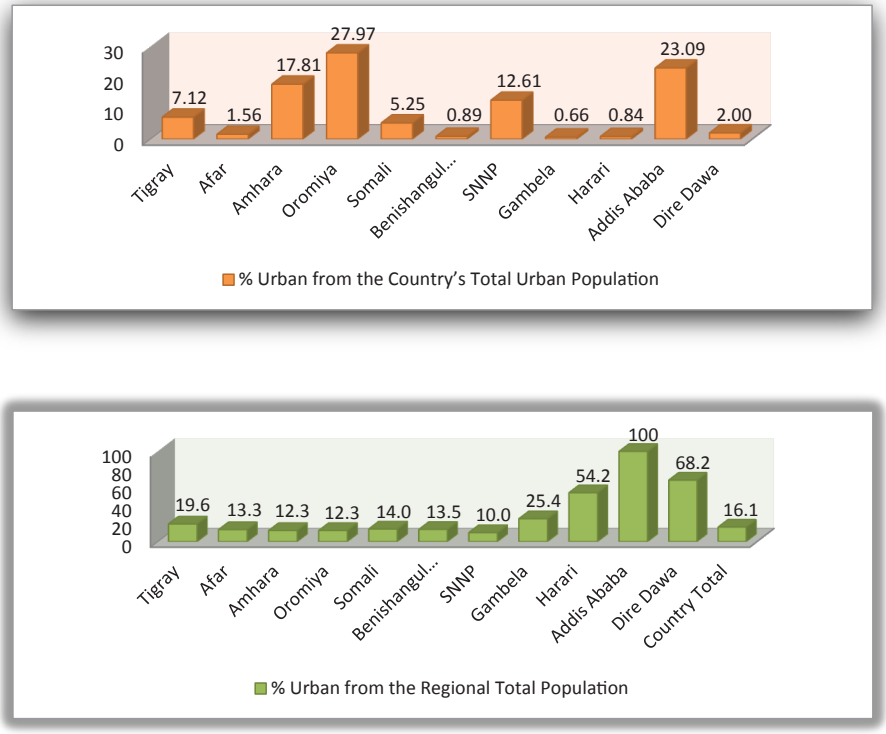


Figure 4.13: **Regional Distribution of Urban Population in Ethiopia**

Source: *CSA, 2007 Census*

Activity 4.26

Refer to the preceding figure to answer the following questions.

1 What are the three least urbanized regions of Ethiopia?

2 Which three regions have the smallest urban populations, as compared to the urban population of Ethiopia as a whole? What are the reasons for the regional variation of urban population in Ethiopia?

Unit Review

UNIT SUMMARY

- Malthusian population theory is very pessimistic about population growth and its effects, while the anti-Malthusian theories are optimistic.
- Ethiopia is the third most populous country in Africa, with a population of 73.8 million. With a growth rate of 2.23, the country's population is among the fastest growing in the world.
- In Ethiopia a high percentage of the national population is the young age group. This is the result of high birth rate.
- In Ethiopia, the population is unevenly distributed; this is due to various physical and human-related factors.
- Settlements in Ethiopia are broadly categorized as *rural* and *urban*. The primary bases for this distinction are the dominant economic activities and population density.
- Population change in any country is affected by three major factors. These factors are: fertility (births), mortality (deaths), and *international* migration (movement into or out of country).
- Ethiopia is characterized by rapid population growth, resulting from a high level of fertility. However, fertility has been declining, moderately especially since the late 1980s.
- Although, in general, mortality rates have been declining in Ethiopia, as in most countries in sub-Saharan Africa, the country still has a high mortality rate.
- In Ethiopia, the number of international emigrants is higher than the number of immigrants. Within the country, there have been substantial internal movements of people. This has been due to various reasons, including economic, social, political and natural factors.
- In Ethiopia, rapid population growth has brought about serious negative impacts on the country's socio-economic development and on its environmental protection.
- Similar to most of the developing countries, the type of population policy used in Ethiopia is basically anti-natalist, promoting lowered fertility rates, in particular, and lower population growth rates, in general.
- In Ethiopia, urbanization is a recent phenomenon introduced mainly after the late 19th and early 20th centuries. The country is categorized as one of the least urbanized countries of the world. In Ethiopia, the proportion of urban population varies greatly by region.

REVIEW EXERCISE FOR UNIT 4

I *Answer TRUE or FALSE.*

1 The main reason for the broad base of Ethiopia's population pyramid is high rate of mortality in the country.

2 Malthusian population theory believes that population growth has positive consequences.

3 Since 1990, the TFR of Ethiopia's population has been declining.

4 The high age dependency ratio in Ethiopia is the result of large numbers of people in the old-age group.

5 In Ethiopia, altitude is the major factor that influences population distribution.

II *Choose the best possible answer from the alternatives provided.*

6 Which of the following areas is in the most sparsely populated areas of Ethiopia?

A Kembata
B Sidama
C Borena
D Hadiya
E B and D

7 Which one of the following indicators measures the total number of births occurring in a given year, per 1000 population?

A Total Fertility Rate
B Crude Birth Rate
C General Fertility Rate
D Age Specific Fertility Rate
E Rate of Natural Increase

8 In Ethiopia, socio-economic conditions affect all of the following, except:

A Urbanization
B Migration
C Age structure
D Population density
E None of the above

9 The high rate of maternal mortality in Ethiopia is the result of:

A High educational status of women.
B High frequency of births per woman.
C Low access of women to reproductive health services.
D Early marriage
E All except "A"

10 Which one of the following is a push factor for the migration of many people from rural areas to urban areas in Ethiopia?

A Poor employment
B Better job prospects
C Better services and facilities
D Improved housing
E Improved living conditions

III *Match the items given under Column A with those under Column B.*

	A		B
11	Population growth leads to innovation	A	Death below age 1
12	Population growth leads to catastrophes	B	Rural-to-urban migration
13	Ethiopia's population policy	C	Anti-natalist
14	Infant mortality	D	Boserup
15	Smallest proportion of internal migrants	E	Death below age 5
		F	Malthus
		G	Urban-to-rural migration
		H	Pro-natalist

IV *Fill in the blank spaces.*

16 The process of the shift of population from rural areas to cities, and the resulting growth of urban areas is _____ .

17 Any death that occurs during pregnancy, child birth, or within two months after the birth or termination of a pregnancy is defined as _____ .

18 According to the 2007 Census, the TFR of Ethiopia's population is about _____.

19 In the pastoralist areas of Ethiopia, population densities are _____.

20 The Ethiopian region that has the highest proportion of the nation's population is _____.

V *Answer the following questions briefly in writing.*

21 What are the two reasons for the high fertility rates in Ethiopia?

22 Why are the lowland areas of Ethiopia sparsely populated?

23 Why is the age dependency ratio of Ethiopia's population very high?

24 What are the major goals of Ethiopia's population policy?