A Contemporary Geography of Ethiopia

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India - 1,692
China - 1,313
Nigeria - 433
USA - 423
Pakistan - 314
Indonesia - 309
Bangladesh - 226
Brazil - 223
Philippines - 150
Ethiopia - 174
Rest of the World - 4,330
Distribution of Blindness Impairment

Percent of Population
- 0.02% - 0.13%
- 0.14% - 0.24%
- 0.25% - 0.35%
- 0.36% - 0.47%
- 0.48% - 0.58%

No Data / Parks

Map boundaries do not have official regional or federal endorsement

What are the stories?
Where? (distribution)
What & how? (process)
Why? (importance)
Hypotheses?

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THE SYSTEMATIC STUDY of a geographical region like Africa, or, a specific country such as Ethiopia can begin with the physical characteristics of its landscape. However, we are choosing to focus first on population geography. Why? First, we want to underscore that it is for the people that the place known as Ethiopia has its primary significance. In short, place derives its significance from people. For that reason, "... geography remains fundamentally anthropocentric, placing humanity at the centre of life on earth" (Van der Merwe and Van der Merwe 2000, 158). Second, consideration of the human impact on the environment – which will be featured at the end of future chapters – requires knowledge about the characteristics of Ethiopia’s population.

This chapter examines the growth, distribution, composition, and migration of the Ethiopian population using key concepts and comparative examples at various scales of analysis. We should note that population geography “... differs from demography, that statistical study of human population, in its concern with spatial analysis – the relationship of numbers to area” (Getis, Getis, Fellmann 1996, 182). The end of the chapter considers the implications of Ethiopia’s population story upon its resource base, food supply, and health, which are fundamental expressions of the human-environmental relationships that lie at the heart of geographic inquiry.

POPULATION CHANGE – whether it is one of growth or decline – is the result of interaction between three processes: births, deaths, and migration. According to the latest estimates, world population is expected to increase from 6.83 billion in 2010 to 9.6 million in 2050. This represents a steady slowing of the global rate from its all-time peak of 2.19% per year in 1963 to an estimated 0.49% in 2049 (USCB 2008). The current rate of global population increase is 1.2% per annum (PRB 2011). By comparison, Africa’s growth rate is 2.6%. The 1,051 billion people on the continent of Africa, which now represent 15.0% of the globe’s population (2011), is expected to rise to 1.8 billion in 2050 (Woa 2008).

The primary reason for Africa’s high growth rate is because its average fertility rate is much higher than its death rate. (Rates simply record the frequency of occurrence of an event during a given time frame for a designated population.) The crude birth rate is the most common fertility measure. Africa’s average birth rate of 36 births per 1,000 people per year is much higher than its death rate of 12 deaths per 1,000, which thus yields a rate of natural increase of 2.4% (PRB 2011). How does Ethiopia’s rate of natural increase compare to that of Africa as whole? Its birth rate is estimated at 37 and its death rate at 10, which yields a natural increase rate of 2.7% (PRB 2011).

Every country’s population growth rate has very important and practical implications, although for different reasons. Here are some of the primary implications associated with high rates of growth in the case of Ethiopia. Can the national food supply be grown as fast as population? How can an adequate number of teachers, schools, and learning tools be ensured so as to educate Ethiopia’s children, given that 44% of the country’s population is under the age? And can real economic growth continue to exceed the population growth rate of 2.7% and thus, be sustained over the coming decades so as to maintain the current living standards, much less to raise them? Most other African countries face the same fundamental challenges. Significantly, it is the answers to such questions, which constitute the basic components of any government’s social contract with its people. Applied to the case of Ethiopia, it is the real and perceived answer to such questions by which the Ethiopian people have, and, will be expected to judge their government.
Ethiopia Geography Online

Addis Ababa University
Bahir Dar University
Dilla University
Haramaya University
Gondar University
Mekele University

Digital Atlas Workshop
Goal #1:

To publish a new geography of Ethiopia

This digital book will be "published" online and grow as a collaborative project over time.

The online book – *A Contemporary Geography of Ethiopia* – will support the delivery of the recently harmonized geography curriculum for the geography departments at 30 different Ethiopian universities.

The ultimate goal is to produce a book with a chapter for each of 22 geography courses that comprise the curriculum for university-level geography in Ethiopia.
Chapter 1: Population

THE SYSTEMATIC STUDY of a geographical region like Ethiopia often begins with the physical characteristics of its landscape. However, we are choosing to focus first on population geography. Why? First, we want to underscore that it is for the people that the place known as Ethiopia has its primary significance. In short, places derive their significance from people. For that reason, "...geography remains fundamentally anthropocentric, placing humanity at the centre of life on earth". Second, consideration of the human impact on the environment – which will be featured later – requires knowledge about the distribution and characteristics of Ethiopia’s population.

This chapter will examine the size, growth, distribution, composition and migration of the Ethiopian population using key concepts and comparative examples at different scales of analysis. We should note that population geography "...differs from demography, the statistical study of human population, in its concern with spatial analysis – the relationship of numbers to area". The conclusion of this chapter considers the implications of Ethiopia’s population upon its resource base, food supply and health, each of which are fundamental expressions of the human-environment relationships that lie at the heart of geographic inquiry.

World Population Growth:

The CVN (total of AFRICA) is home to 3.5 billion people. That represents 12% of the world's population. Add Ethiopia is one of four countries that significantly altered the population size of the other fifty-two countries on the continent.
Goal #2:

To illustrate the utility of an interactive online text to a university curriculum in a developing country.

This project relies on three features available with Esri’s ArcGIS Online – intelligent web maps, templates for storytelling-with maps and a new Map Journal app – to facilitate the construction of a geography textbook.

The chapters are bundles of related maps coupled with narrative, which explain them in adjacent windows.
Chapter 1: Population

World Population Growth

The continent of Africa is home to 1.1 billion people. This represents 15% of the world's population. And Ethiopia is one of four countries that significantly exceed the population size of the other fifty-two countries on the continent.

Explore the popups in the right panel map to find out more - Population Totals

How does Ethiopia's population compare in size to that of the other three countries with large populations?

As seen in the graph below, the Population Reference Bureau estimates that Africa will add more people than any world region in the first half of the 21st century. The addition of 1.3 billion will even exceed that of population-giant Asia.

Predicted World Region Population Growth by 2050

2007 Population: 76,511,887.00

Projected Population Growth

2015 and 2025 projected population estimates
Potential Vegetation of Ethiopia

Desert and Semi-Desert Scrubland (DSS)

Highly drought tolerant shrubs, some succulents and a few grasses characterize desert and semi-desert scrubland vegetation. The flora has developed advanced xeromorphic adaptations. Shrubs and trees have developed dwarf growth and have small, sclerenchymatic or pubescent leaves. They have adapted resistance to browsing through thorns and development of alkaloid content (secondary metabolites). The vegetation is very scattered above the ground with well-developed, deep root systems.

Tertiary and quaternary volcanics cover the area. Colluviums from the plateau, aeolian and marine deposits also contribute to surface materials. In general, soil types in the area vary depending on location and altitude. Vertisols, Cambisols, Calciisols, Gypsosols, Lithosols, Regosols, Solonchaks and Fluvisols can all be found in this ecosystem. The topsoil is very often highly salty, thus prompting the development of salt tolerance in vegetation. The desert and semi-desert ecosystem is important for its wealth of endemic plant species. The flora of the Ogaden region is one of the richest compared to other dry areas of the world.

True desert occurs only in the northeast in the Danakil Depression. Semi-desert is found in the northeastern parts of the country (Afar), Lake Chew Bahir, Omo delta in the Southern Nations, Nationalities and Peoples’ Region and the southeastern and eastern parts of the country, which largely encompasses the Somali region.

Desert and semi-desert scrubland vegetation is found below 400 meters in eastern Ethiopia and characterized by the presence of small trees, shrubs and herbs. Most of the plants survive through water shortage and extremely high temperature using adaptation strategies such as being annual.

Goal: To illustrate the gradient of ecosystems from sea level to the Afro-alpine region

Data Source: Potential Vegetation of Ethiopia
Potential Vegetation of Ethiopia

**Goal:** To illustrate the gradient of ecosystems from sea level to the Afro-alpine region

**Data Source:** Potential Vegetation of Ethiopia
Geology Field Trip

Goal: To provide a field trip itinerary for geology classes at universities along Highway 1

Method: Map segments and observation points along Highway 1
Goal #3:

To demonstrate the value of storytelling maps as a method for learning, teaching and doing geography.

Helping change the culture of learning and teaching is a central aim of this project.

Although lecturing and rote memorization are the normative modes in most developing countries like Ethiopia, teaching by way of interactive story maps will help transform the relatively passive pedagogy.

Our aim is to supply both professors and students with Ethiopian spatial data, steer their interaction with that data, assist them to build web maps with storytelling templates that substantiate the geographic story associated with a given map.
“Data Poverty”

Famine = Poor production and Poor distribution
Ethiopian Geospatial Data

The Rural Economy Data Set was compiled through the 2001-02 Ethiopian Agricultural Sample Enumeration (EASE). Data were collected by the Central Statistical Agency. EASE questionnaires were administered to more than 450,000 households in Ethiopia. The entire country is covered with the exception of woredas within the extensively urbanized city of Addis Ababa as well as most of the Afar and Somali regions where nomadic pastoralism dominates given the lack of sufficient rainfall for crop agriculture.

Use the three tabs below to determine which 464 woredas are included in the Rural Economy Data Set.

Missing 17 Woredas

Pastoral woredas with limited data

EASE Woredas

Using the Rural Economy Data Set is quite simple. The primary ID code is labeled EASE_ 9105. These ID codes are listed in woreda names in 2001 when surveys were conducted for EASE. These IDs are associated with the 464 woredas included in the EASE survey. They are linked to 175 different variables, EASE2001 DB5 and DB6.
Open Data

http://data.ethiopiageo.opendata.arcgis.com/

Features:
- Download data in multiple formats
- Visualize data in browser
- Filter data for download
The goal is for professors and students to become cartographic authors.

The power of such an approach is that it moves students into active learning, critical thinking and problem-solving modes.

A cloud-accessed text allows for expansion, unlimited color graphics, portals to related sites and more.

A Contemporary Geography of Ethiopia will be the first interactive, online geography textbook for university use in an African country.
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