Population in Advanced Placement Human Geography

Martha B. Sharma

The Oxford Dictionary of Geography defines human geography as the study of "relationships between [human] activities and the physical environment" (Mayhew 1997, 215). Clearly, the emphasis is on people—where they are and in what numbers and densities, who they are and how they live, how they alter and divide the land, how they interact with their environment and with each other. The study of human geography logically begins with a study of population for such is the foundation of all that follows: culture, political systems, economic activities, development, and urbanization. Each of these topics unfolds in a diverse and multilayered complex of ideas as a result of different human populations—large or small, dense or dispersed, fast or slow growing, traditional or technologically advanced—responding to and acting upon perceived opportunities in the landscape.

Population and related issues are at the forefront of many concerns confronting society as we embark upon a new millennium. Demographers and sociologists, as well as geographers, study population, but what separates the geographic perspective from the focus of these other disciplines? What special questions does the geographer bring to the study of population? Geographers are interested in the spatial dimensions of population—the distribution and patterns of people on Earth's surface and the changes, consequences, and connections that result from their presence. The challenge for teachers of Advanced Placement (AP) human geography lies in merging the concepts and models of a college-level introduction to population geography with a pedagogical approach that will engage high school students.

The population section of the AP course outline identifies four important themes in the study of population: geographical analysis of population, population distribution and composition, population growth and decline over time and space, and population movement. This article addresses each of these areas of study and identifies examples of concepts, topics, and types of data that could form the basis for instructional activities. A resource list is provided for additional reading.

Key Words: population, age-sex composition, demographic transition, demographic equation, migration

Even a brief glance at a global-scale population distribution map confirms that people are spread very unevenly on Earth's surface. Approximately 75% of Earth's population occupies only about 5% of the land area, with the largest concentrations being in east and south Asia.
western Europe, and northeastern North America. Populations range from the small South Pacific island countries of Nauru and Tuvalu, each with only 11,000 people, to China, with almost 1.3 billion people. According to the United Nations 1998 revision of world population estimates and projections, the world’s population was 5.9 billion in mid-1998, and passed the 6 billion mark in mid-October 1999. These figures reflect an annual rate of growth of 1.33%, down from a high of 2.04% in the period 1965–1970, but projected to decline further to only 0.34% by 2050. Population projections are typically based on high-, medium-, and low-growth assumptions. Projections based on the medium variant call for a world population of 8.9 billion in 2050 (United Nations Population Division 1999).

In 1950, 68% of the world’s population lived in regions termed less developed by the United Nations. By 1998, 80% of the world’s population, or more than 4.7 billion people, lived in less-developed regions, with Asia, at almost 3.6 billion, accounting for about three-quarters of that amount. With almost 750 million people, Africa surpassed Europe’s estimated 729 million people. Latin America and the Caribbean were estimated to have 504 million people and North America, 305 million. According to current estimates, 23 countries have populations greater than 50 million people, and among these 10 have populations greater than 100 million (United Nations Population Division 1999) (Table 1).

Because it is relatively simple to calculate, density is widely used as a basis for comparison between countries. However, when density is represented on small-scale maps, the degree of generalization is dangerously misleading. Students need to keep in mind that density is a ratio of people to land. It suggests an abstract relationship, but it does not provide any clues to actual distribution. Egypt, with an arithmetic density of only 71 people/mi$^2$, does not have the even distribution of population implied by this ratio which fails to take into account the limitations of much of the land within the country. In the case of Egypt, where almost all of the country is desert, the majority of the population lives in the Nile river valley on only about 3% of the country’s land. An alternative measure of density is the ratio of people to cultivated land, or physiological density. Egypt’s physiological density of almost 4,800 people/mi$^2$ of cultivated land reveals the immense pressure put on limited farmland by the country’s population of almost 66 million. Nevertheless, even this expression of density should be used with caution. In a country such as Egypt, with a large rural-agrarian population, physiological density may relate fairly closely to distribution, but in an urban-industrial country such as the United States, it is again merely an abstract relationship and not a reflection of distribution. Students will benefit from frequent opportunities to use and compare densities at multiple scales and in different forms so that they will begin to appreciate both the uses and the limitations of this common measure of population.

Issues of representing population numbers, densities, and distributions notwithstanding, people in their increasing numbers are an important element in the intricate equation of population, resources, and environment. The human impact on environmental systems is complex, involving not only numbers but also use of technology, resource consumption, pollution, and generation of waste on the one hand, and sociopolitical forces that affect access and allocation on the other. Such concepts as carrying capacity and sustainable use invite analysis of the relationship between population and environmental concerns, including air quality, safe water, food supply, and biodiversity. As early as 1798 Thomas Malthus raised the alarm about Earth’s ability to support a growing population. In 1972 the Club of Rome’s Limits to Growth model used variables of population, food, industrialization, nonrenewable resources, and pollution to predict environmental degradation that would lead to the collapse of Earth systems. A model developed in the Netherlands in 1997 for the United Nations Environment Programme suggests that global climate change, loss of biodiversity, water scarcity, and spread of environment-related health problems are likely consequences of expanding agricultural

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**Table 1. Counties with a population of >100 million, 1998 (United Nations Population Division 1999).**

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1,256</td>
</tr>
<tr>
<td>India</td>
<td>982</td>
</tr>
<tr>
<td>United States</td>
<td>274</td>
</tr>
<tr>
<td>Indonesia</td>
<td>206</td>
</tr>
<tr>
<td>Brazil</td>
<td>166</td>
</tr>
<tr>
<td>Pakistan</td>
<td>148</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>147</td>
</tr>
<tr>
<td>Japan</td>
<td>126</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>125</td>
</tr>
<tr>
<td>Nigeria</td>
<td>106</td>
</tr>
</tbody>
</table>
and industrial activity associated with growing populations. Ecologist Paul Erlich attempted to measure the human-environment relationship using the formula I=PAT, in which I = environmental impact, P = population, A = affluence, and T = technology. No single model provides the answer to this complex question of the connection between population and the environment (Livernash and Rodenburg 1998). However, in its complexity, the question is rich in opportunities for students to explore and debate the issues raised. The often hasty assumption that the rapid population growth in some less-developed countries places the world at risk because of depletion of resources and degradation of the environment can be debated in light of high levels of consumption and waste generation in more affluent industrialized countries where population growth rates are near or at zero. Likewise, assumptions that crises such as famine are caused by too many people and too little food can be evaluated in the context of sociopolitical environments that impose barriers to free movement and distribution of resources. Such an approach to issues related to population calls upon AP students to apply higher-order critical-thinking skills and requires them to revisit assumptions about population and the environment.

**Population Distribution and Composition**

Human settlement decisions are motivated, at least in part, by the need for a resource base that is sufficient to support the population. But inasmuch as the very concept of resource is subject to cultural and economic definition, one must be cautious not to overgeneralize or oversimplify why large population concentrations occur where they do. China and India, each the center of one of the two largest concentrations, have populations that are primarily rural and agriculturally based. Therefore, the need for fertile land and ample water has contributed to densely settled river valleys and coastal plains where traditional agricultural systems persist. In contrast, the urban-industrial populations of western Europe and northeastern North America have emerged in a different resource environment, one based on minerals, energy, and accessibility. In these regions high densities coincide not with farmlands, but with urban centers where use of technology rather than reliance on human labor is more likely to account for high yields. The temptation to rationalize population densities in terms of simplistic environmental explanations is strong, but should be approached with caution. The answers are much more complex.

At the global level, patterns of distribution and density seem clear, but if one adjusts the lens of scale and zooms in, one discovers that generalized global patterns disguise just as much variation as they reveal. For example, density is not uniform throughout the area of high concentration in the northeastern United States (Figure 1) or in any of the other areas of high concentration. In fact, there is great variation from Maine to Virginia. If, however, one adjusts the lens of scale yet again, this time to examine the state of New York (Figure 2) which appears to have uniformly high density at the national level, we again discover great variation. While New York state has a population density of 380 persons/mi² (as per the 1990 census), only 16 of the state's 62 counties have a density of 300 or more persons/mi². This map raises many questions: Why is population concentrated in some places and not in others? How does this pattern of population distribution reflect a state's development? How has it been influenced by changes in the economy? Has the pattern changed over time; why and with what effect? Encouraging students to exercise critical-thinking skills such as questioning, evaluating, and analyzing patterns they observe in maps or in the landscape around them is an important step toward cultivating a geographic perspective.

Such a line of questioning and analysis can be carried one step further if students examine patterns in the county in which their school is located. At the county level, students can collect data, both from historical records and in the field. Data and maps at the census tract level are available from the U.S. Census Bureau's American FactFinder and the Tiger Mapping Service Web sites. In addition, data from the Tiger Mapping Service for 1995 can be downloaded from the ESRI Web site in a format compatible with geographic information system (GIS) software such as ArcView. Student research, combined with census data, can be used to create a GIS that supports analysis of patterns of density and distribution at the local level. Not only does such an activity allow students to "do" geography, but it also leads to generalizations about density and distribution that can be tested by examining patterns in other places and at different scales. Pattern and scale are important concepts that appear not just in the population unit, but throughout the entire course in human geography.
Patterns can also be observed in characteristics that define human populations, such as age, sex, race, ethnicity, and rural/urban distribution. The composition of a population affords insight not only into present conditions within the population, but also into the potential for change in the future. Analyzing the age-sex distribution within a given population reveals a demographic story—past, present, and future—about the place in question.

The age-sex composition of a population can be represented graphically through a population pyramid, which shows the percentage of total population in each age and sex cohort. Pyramids are commonly used to illustrate populations of countries at different stages of development, both economic and demographic. The broad base of Ethiopia's pyramid (Figure 3) reflects the country's high total fertility rate of 7.0 and a young age structure that includes 46% of the population below the age of 15 years. Inferences can be made about future growth potential due to population momentum and economic conditions associated with a high dependency ratio.
resulting from the large population under the age of 15 years. In contrast, the almost column-like pyramid of Spain (Figure 4) reflects this country's more stable demographic situation. With a below-replacement total fertility rate of 1.2 and a 0% rate of natural increase, Spain faces very different issues than Ethiopia. Spain's concerns are with the needs of an aging population rather than a youthful one, and Spain is not unique. Sixty-one countries or areas of the world currently have fertility below the replacement level of 2.1 and, among these, 30 are projected to experience decreases in population by 2050 (Liverman and Rodenburg 1998).

Pyramids also reflect the demographic history of a country. A series of pyramids for the United States from the mid-1950s to the present would reveal the progress of the baby-boom generation toward middle age, as well as the "echo" generation following in their wake. A pyramid for Germany would reveal the ravages of two world wars, as well as that country's post-war baby boom. Age-sex data for most countries, as well as for all states and counties of the United States, are available from the U.S. Census Bureau Web site.4

At a different scale, comparison of pyramids for Florida (Figure 5) and Utah (Figure 6) reveals the diversity of the U.S. population. Florida's median age of 37.6 years becomes quickly apparent when the state's pyramid is compared to that of Utah, where the median age is only 26.8 years. Even at the county scale, pyramids can reveal a pattern of changing demographics within a single metropolitan area. What decision processes lie behind very different demographic profiles in different locations within the same metropolitan area?

Examination of demographic patterns at the
local level allows students to explore questions such as those raised above. Population pyramids are valuable tools for demographic analysis as long as students use them as a basis for inference and not for absolute interpretation.

**POPULATION GROWTH AND DECLINE OVER TIME AND SPACE**

For much of human history, Earth’s population was relatively small—estimated at about 10 million people. It was also relatively stable, fluctuating between periods of growth and decline, but never experiencing dramatic change until about 8000 BC when the first agricultural revolution resulted in a more reliable food supply, which in turn led to gradually declining death rates and rising rates of natural increase. At the onset of the Christian era, the world’s population is estimated to have been about 300 million people. By 1500 it had increased to about 500 million in spite of wars, famines, and plagues, and by 1800, to one billion. Then, as today, Asia dominated, with about 64% of the total population, followed by Europe with 21% and Africa with 13%.

The mid-eighteenth century saw the beginnings of change with the arrival of the second agricultural revolution, which was spawned by the industrial revolution. New, more efficient farm tools increased productivity; better transportation systems improved distribution and availability of food; and scientific developments in medicine and sanitation resulted in better health. All of these innovations combined to send death rates spiraling downward, prompting theories of doom, such as Thomas Malthus’s prophesy that famine would be the inevitable outcome of the population exceeding increases in food production.

By 1930 the world’s population had reached the second billion, with most of the growth occurring in the more developed countries of western Europe and North America. For example, between 1800 and 1900, Europe’s population doubled, and that of the United States and Canada, fueled by the combination of natural increase and migration, increased from 7 million to over 80 million. But the most rapid period of population growth was still to come.

In the post-World War II environment of crumbling colonial empires, the medical revolution triggered population growth unlike that previously experienced. The medical knowledge and technology developed over the previous 200 years in the industrializing countries of western Europe and North America spread quickly to the newly independent countries of Asia, Africa, and Latin America. The result was a population explosion of dramatic proportions. In 1950 the world’s population was about 2.5 billion. The year 1975 saw 4 billion people, and 1987 saw 5 billion. Although the rate of natural increase leveled off at a little over 2% in the period 1965–1970 due to declining fertility rates and has since fallen to the current rate of 1.4%, the total number of people added to Earth’s population each year—almost 80 million annually—remains high because of the very large base population in the less developed regions of Asia, Africa, and Latin America where most growth is now occurring. Declining fertility rates in all regions of the world combined with the deadly impact of HIV/AIDS have slowed population increase. Nevertheless, medium-variant projections by the United Nations indicate a population of 8.9 billion people by the year 2050. Asia is expected to continue to dominate with 59% of the world’s population and, despite the epidemic proportions of AIDS, Africa is projected to have almost 20% of the world’s population, while Europe will have dropped to only 7% from a current share of about 12% (Livernash and Rodenburg 1998).

A shift from high fertility and mortality to low fertility and mortality characterized the nineteenth century demographic history of most industrialized countries. This pattern led to the formulation of the demographic transition model (Figure 7). The assumption of this model, which is based on the experience of selected western European countries at a particular point in time, is that all countries will, over time, share a common demographic experience, leading to a low-growth equilibrium. Most interpretations of the model include four stages: stage 1, high fertility-high mortality/low growth; stage 2, high fertility-declining mortality/low growth; stage 3, low fertility-low mortality/low growth; and stage 4, low fertility-declining mortality/low growth.
growth; stage 3, declining fertility-low mortality/high, but declining growth; and stage 4, low fertility-low mortality/low growth. The rate of growth is a function of the gap between fertility and mortality, especially in stages 2 and 3.

For most industrial countries, presently in late stage 3 or stage 4, the absolute increase in population has been moderate. However, in most less-developed countries, which have begun the transition at a later date, the population increase has been dramatic, if not overwhelming. First of all, less-developed countries have, in many instances, begun the transition from a much larger population base. Further, the decline in mortality has often been precipitous due to medical assistance and knowledge and technology transfer from industrial countries. In contrast, changes in fertility are closely linked to sociocultural standards that may or may not respond to demographic change in a manner similar to that experienced in European countries. Consequently, the experience of contemporary less-developed countries may be different from that of countries that made this transition in the nineteenth century. This notwithstanding, the demographic transition model remains a useful tool for evaluating a country's demographic development as long as students keep in mind that a model is only a generalization intended to facilitate analysis; it is not meant to be a literal depiction of reality.

Fertility and mortality, which are central elements of the demographic transition, exhibit a varied spatial pattern. Total fertility rate refers to the total number of children a woman can be expected to have during her childbearing years at current birth rates. In 1950 the average total fertility rate in the more developed countries was 2.8, while the average in less developed countries was 6.2, ranging from 6.6 in Africa to 5.9 in Latin America. By 1998 fertility rates had fallen dramatically in most regions, to a low of 1.4 in Europe and 2.0 in North America—both below replacement fertility of 2.1—and 2.8 in Asia and 3.0 in Latin America. Only Africa lags behind in the trend toward lower fertility, where the average rate remains 5.6, and in sub-Saharan Africa, 6.0 (Gelbard et al. 1999, 13–14). Once again, however, scale is an issue. Regional averages disguise tremendous variation among individual countries. In Asia, some countries, including China, South Korea, and Thailand, are below replacement fertility while other countries such as Pakistan, Cambodia, and Laos have fertility levels above 5.0. Likewise, in sub-Saharan Africa the average fertility rate of 6.0 includes a range that extends from a low of 3.3 in South Africa to a high of 7.5 in Niger (Haub and Cornelius 1999).

Country-level fertility rates, like regional rates, mask significant variations. In the United States, minorities account for 40% of all births, despite the fact that members of minority groups make up only 28% of the total population (Pollard and O'Hare 1999, 16). The national average fertility rate is 2.0, but the total fertility rate among Hispanics is about 3.0 and among African Americans, about 2.2. Among Asians and Pacific Islanders, however, the total fertility rate of 1.9 is slightly below the national average (Ventura et al. 1999). This generally younger age profile of minorities and their higher fertility rates will result in minorities accounting for an increasing proportion of the total population in the future, projected at 39% by 2050 (Pollard and O'Hare 1999, 19). In addition to variations according to race and ethnicity, fertility rates also vary inversely with income and women's level of education. The fertility rate among women with more than four years of college averages 1.4; among women with a high school education, 2.0; and among women who did not complete high school, 2.7. Further, fertility rates tend to be higher among rural populations than among urban dwellers, where couples and single women tend to delay fertility decisions (Mc Falls 1998). A similar correlation between income, educational attainment, and fertility rates can also be observed among women in less developed countries.

The counterbalance to fertility in the demographic equation is mortality. Like fertility, mortality varies widely. Improved health conditions have brought death rates down, first in Europe and North America, and more recently in virtually every country throughout the world. Analysis of patterns in death rates is a complex process and must be linked to such concepts as age structure and life expectancy. Libya, a country with a young median age, has a death rate of only 3/1,000, compared to Sweden, which has an older median age and a death rate of 11/1,000. Should one infer that quality of life in Libya is better than that in Sweden? To the contrary, examination of other indicators of quality of life confirms that conditions in Sweden, where 17% of the population is 65 years old and above, are better than those in Libya, where only 4% of the population is 65 years old and above. In other words, death rate is not a reliable indicator of quality of life because it is sensitive to related factors, particularly age structure.

One alternative indicator of quality of life is
infant mortality. Children under the age of one year are particularly vulnerable to poor living conditions, inadequate food supply, and lack of sanitation and clean water. Although conditions have improved in recent years, in many less-developed countries more than one child in every 10 dies before reaching one year old. As with crude death rates, infant mortality is highest in sub-Saharan Africa, where it reaches 170/1,000 in Sierra Leone. In the United States, infant mortality is 7/1,000, half what it was only 20 years ago, but still higher than in many European countries, including Germany and Iceland where rates are only 5/1,000 (World Health Organization 1999).

Life expectancy at birth ranges from a low of 36 years in Malawi to a high of 79 years in such countries as Canada, Iceland, Sweden, and Switzerland. Life expectancy in the United States is 77 years, a dramatic improvement over 47 years in 1900, and clear evidence that our population is aging. In fact, the fastest growing cohort in the United States is the group 85 years old and up, termed "oldest old" by the U.S. Census Bureau (Treas 1995, 6). Similar improvements have occurred in other countries, including India, Japan, and Russia. Rising life expectancies have been made possible by advances in medical care and disease control. This change in the patterns of mortality, referred to as the epidemiological transition, results in major changes in the age structure of the population, as the concentration of deaths shifts from younger to older cohorts. In England and Wales in 1891, one-third of all deaths occurred in the youngest cohort, age 0 to 4 years, and the median age at death fell in the 30- to 34-year cohort. By 1966 this pattern had shifted dramatically, with less than 5% of deaths occurring before the age of 5 years and more than 40% occurring after the age of 75 years. Median age at death was in the 70- to 74-year cohort. As with the demographic transition, the epidemiological transition has reached the less developed regions at a later date than was experienced in Europe. As recently as 1955 almost 50% of deaths in Latin America and the Caribbean occurred in the youngest cohort and median age at death fell in the 5- to 9-year cohort. The region is projected to make the transition to mortality patterns similar to those of England and Wales by 2030 (World Bank 1993).

While communicable diseases and preventable health conditions have been held at bay, non-communicable diseases and degenerative conditions associated with aging have gained a foothold. In the more developed countries, the leading causes of death are cancer and heart disease, accounting for almost 60% of deaths in the United States. By contrast, in less developed countries, the main causes of mortality are HIV/AIDS, tuberculosis, and pregnancy-related conditions. In Africa especially, the spread of HIV/AIDS has had a devastating impact on those countries most affected (Figure 8). In Botswana it is believed that one person in every four is infected with this deadly disease, and life expectancy is projected to fall to only 41 years by 2005, 29 years lower than that projected without the incidence of HIV/AIDS (United Nations Population Division 1999).

As with other demographic measures, mortality and life expectancy also vary according to socioeconomic status, race, and ethnicity. Death rates are higher among those with lower incomes and among those with lower levels of educational attainment. In the United States, life expectancy of African Americans and of Native Americans fall several years below that of the general population. However, life expectancy of Hispanics is the same as that of the general population, and life expectancy of Asian Americans is higher than that of the general population (McFalls 1998, 11-13).

Figure 8. Countries in Africa hardest hit by HIV/AIDS, 1997 (United Nations Population Division 1999).
POPULATION MOVEMENT

Fertility and mortality are two elements of the demographic equation. The third element is migration, the movement of people into or out of a given place. Migration may take people across national political boundaries in response to deteriorating political, economic, or environmental conditions; or it may only involve movement within the country. It may also be involuntary or voluntary. A few countries, including the United States, Canada, and Australia, have been profoundly influenced by immigrant populations whose culture, language, and religion have blended to form new national identities. The large numbers affecting selected countries notwithstanding, international migrants account for only about 2% of the world’s population—about 125 million people—and have little impact on population change in most countries.

Some international migrants are forced to leave their home countries due to war or unstable political circumstances. According to the United Nations High Commission for Refugees (1999a), almost 1.5 million refugees from Afghanistan were living in Iran in 1997 and another 1.2 million in Pakistan. In 1999 almost 11.5 million people were recognized as refugees, with most living in the Middle East, Africa, and Europe. In addition, another 6.7 million people were recognized as “internally displaced persons” (United Nations High Commission for Refugees 1999b), people forced to leave their homes but who remain within their original country of residence (Table 2).

Not all international migrants are refugees. Many move in search of employment and a better standard of living. About half of all international migrants move from one developing country to another. Large numbers of men, many of them from such countries as Egypt, South Korea, the Philippines, Thailand, and Pakistan, have moved as guest workers to the oil-rich countries of the Persian Gulf region to take advantage of a job surplus in this area. In many cases, immigrant labor makes up a large share of the labor force and skews the popula-

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**Table 2. Persons of concern to the United Nations High Commission for Refugees (1999c,d).**

<table>
<thead>
<tr>
<th>Country of Origin</th>
<th>Main Countries of Asylum</th>
<th>Number of Refugees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>Iran, Pakistan, India</td>
<td>2,648,000</td>
</tr>
<tr>
<td>Iraq</td>
<td>Iran, Syria, Saudi Arabia, Western Europe</td>
<td>631,000</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>F.R. Yugoslavia, Germany, Croatia, Sweden, Switzerland</td>
<td>597,000</td>
</tr>
<tr>
<td>Somalia</td>
<td>Ethiopia, Kenya, Yemen, Djibouti</td>
<td>525,000</td>
</tr>
<tr>
<td>Burundi</td>
<td>Tanzania, D.R. Congo, Rwanda, Zambia</td>
<td>517,000</td>
</tr>
<tr>
<td>Liberia</td>
<td>Guinea, Cote d’Ivoire, Ghana, Sierra Leone</td>
<td>487,000</td>
</tr>
<tr>
<td>Sudan</td>
<td>Uganda, D.R. Congo, Ethiopia, Kenya, Central African Republic</td>
<td>351,000</td>
</tr>
<tr>
<td>Croatia</td>
<td>F.R. Yugoslavia, Bosnia and Herzegovina</td>
<td>342,000</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>Guinea, Liberia, Gambia</td>
<td>328,000</td>
</tr>
<tr>
<td>Vietnam</td>
<td>China, France, Sweden, Switzerland</td>
<td>317,000</td>
</tr>
</tbody>
</table>

*Not included are an estimated 3.2 million Palestinian refugees who are also of concern.

**Estimates of Major Populations of Internally Displaced Persons, 1998**

<table>
<thead>
<tr>
<th>Country of Origin</th>
<th>Number of Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosnia and Herzegovina</td>
<td>836,400</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>670,000</td>
</tr>
<tr>
<td>Rwanda</td>
<td>625,000</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>603,000</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>576,300</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>315,800</td>
</tr>
<tr>
<td>Georgia</td>
<td>277,000</td>
</tr>
<tr>
<td>Cyprus</td>
<td>265,000</td>
</tr>
<tr>
<td>F.R. Yugoslavia</td>
<td>225,000</td>
</tr>
<tr>
<td>Guinea-Bissau</td>
<td>195,600</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>171,900</td>
</tr>
</tbody>
</table>
tion age structure (Gelbard et al. 1999). In the United Arab Emirates, immigrants made up 90% of the labor force in 1995 (Martin and Widgren 1996, 33). Other international migrants flock to more developed countries, filling jobs left vacant by aging and affluent populations. About one-third of the world’s migrant population lives in Germany, France, United Kingdom, United States, Italy, Japan, and Canada. Migrants from North Africa and Turkey have located in France and Germany, respectively, in the late twentieth century. Use of the gravity model aids in the analysis of contemporary migration patterns and affords students the opportunity to test such concepts as distance decay, friction of distance, and intervening opportunity as they relate to migration decisions.

The United States is also a popular destination for migrants seeking employment and education opportunities. In 1997 an estimated 25.8 million foreign-born residents were in the United States, or 9.7% of the total population (U.S. Census Bureau 1999a). Nearly half of all foreign-born residents are of Hispanic origin. The single largest group is from Mexico, accounting for almost 30% of all immigrants, followed by persons born in the Philippines, Canada, China, Cuba, Dominican Republic, El Salvador, Jamaica, South Korea, Germany, United Kingdom, and Poland (U.S. Census Bureau 1997). In addition to the introduction of greater racial and ethnic diversity into the American population, immigrants may also affect the age structure of the U.S. population. The majority of immigrants tend to be young adults and their families, which may hold down the median age of foreign-born populations somewhat; however, little if any effect is projected for the population as a whole. The Census Bureau projects that the median age in the United States will rise to 38.1 years by 2050, from the current 34.3 years (Martin and Midgley 1999, 22). Foreign-born populations, while found in every state, have gravitated toward certain gateway states, especially California with more than 7.7 million foreign-born residents and New York with 3.0 million foreign-born residents (U.S. Census Bureau 1997).

Migration also occurs within countries. In many less-developed countries, just as in the case of international migration, internal migrants are often fleeing civil disturbances or failing economic conditions. Rural to urban migration involves the movement of tens of thousands of people to large metropolitan areas, adding to the problems of already burgeoning cities with over-taxed utilities and services. In the more developed countries, the trend is reversed, with people often abandoning crowded, expensive central cities in favor of suburbs and the rapidly transforming rural fringe beyond. In the United States this process is evident in declining populations of central cities within growing metropolitan areas, such as Washington, D.C., where the city itself experienced a net decline of 10.6% in population between 1990 and 1996, while the metropolitan area saw a net increase of 8.1% over the same period (U.S. Census Bureau 1999b).

At a different scale, the United States has experienced an internal shift in population from states in the Northeast and Midwest to states in the South and West—the region referred to as the Sunbelt. In 1960, 54% of the U.S. population lived in the Northeast and Midwest, but by 1995 only 43% of the population lived in these two regions. Attracted by employment opportunities and a lower cost of living, people have flocked to Nevada, Arizona, Colorado, Utah, New Mexico, Idaho, and Washington in the West, and to Georgia in the South, all states which experienced annual growth of 2% or above between 1990 and 1995 (De Vita 1996). This trend in population movement is not only changing the demographic profile of the country and the states most involved; it is also changing the cultural, political, and economic fabric of regions losing population as well as those gaining population.

Regardless of where students live, migration—either international or internal—is likely to have left its mark on the local area, whether by the presence of an immigrant population or by the relocation of jobs and the associated movement of labor. Local or personal experience can be the springboard for studying migration on a larger scale. Students can trace their own immigrant roots and compare them to major national trends. Or they can look for and analyze immigrant imprints, such as architectural style, place names, churches, and restaurants, in the local cultural landscape.

While students must frequently rely on data sets collected by governments and international agencies as they examine many aspects of population, short-term mobility and activity space fall within the realm of local investigation. Short-term movement and activity space can involve daily trips to and from school or work, vacations, and temporary relocation of students attending college away from home. Activity space is directly related to age, in that as children get older they are likely to have greater independence to travel farther and farther from home, if only to attend school or to meet friends at the mall. Students can conduct interviews...
with people of different ages concerning their local mobility patterns. Results can be mapped and graphed to facilitate analysis and formulation of generalizations about mobility based on questions such as, How is activity space affected by age? How is activity space limited by perceptions of danger? How does activity space vary between weekdays and weekends? How does activity space relate to distance decay models (i.e., how is the purpose of a trip related to the distance one is willing to travel)? Generalizations formed at the local level can then be applied to the movement of people at other scales, state, national, or global.

CONCLUSION

The study of population is central to the study of geography. Our growing numbers and our ever-increasing demand for goods and services puts tremendous stress on Earth’s resources and systems. At the International Conference on Population and Development in Cairo, Egypt, in 1994, 180 countries endorsed an action plan that calls for improvement in the status of women; alleviation of poverty; provision of better health care, including family planning; and protection of the environment (Ashford 1995). Each country will draft its own national action plan to achieve these goals, consistent with it culture and value system. The extent to which individual countries respond to the Cairo mandate will affect the global population profile and the spatial dimensions of various demographic characteristics. Understanding the dynamics of population change at multiple scales is a central theme of the population unit in the AP human geography course.

NOTES

1 A global-scale population distribution map can be found at <http://www.reliefweb.int/map/world/wgppycp.html>.
2 U.S. Census Bureau’s American FactFinder can be found at <http://factfinder.census.gov>. Tiger Mapping Service can be found at <http://tiger.census.gov>.
3 Data from the Tiger Mapping Service for 1995 can be downloaded from the ESRI Web site <http://www.esri.com/industries/k-12/tiger.html>.
4 The U.S. Census Bureau Web site can be found at <http://www.census.gov>.

REFERENCES


Appendix A. Resource list. Resources listed address selected topics and are not intended as a comprehensive reference for the teaching of the population unit in an AP human geography course.


SELECTED DICTIONARIES AND RESOURCE TEXTBOOKS


