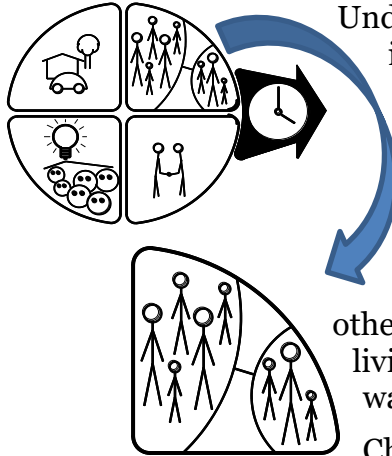


4: Demographics

A Closer Look



Understanding a particular event, situation or society, whether in the past or present, requires some knowledge of the people involved—how many, how they’re geographically distributed, the number of young and old, how the numbers are changing, and so on. Study of this kind of information is called “Demographics.”

For example, in an area where neighbors live miles apart, it probably doesn’t matter much if they throw their garbage or other waste in a stream. But if there are several thousand people living close together along that stream, all using it to dispose of waste, it matters a great deal.

Change the number of people, or how they’re distributed, and their culture almost certainly will change, sometimes in surprising ways.

Of special importance in understanding an event, situation or society:

- Total population
- Population density
- Population distribution
- Age distribution
- Ratio of males to females
- Changes in any of the above due to births, deaths, health factors, migration
- Sub-groups: ethnic, religious, occupational, social class, and so on, using the above categories

Investigation: Demographics/Population Change

Demographic changes can affect the cost of food, how hard it is to get a job or find a place to rent, who runs the country, and much, much else that's probably important to you. We'll look at some of the trends happening right now.

The table below shows estimated populations of North America and the world at several points in the past.¹

- 1: Make a line graph showing the information.**

	Year and estimated population (millions)									
	1500	1600	1700	1750	1800	1850	1900	1950	1999	2016
World:	590	660	710	790	980	1,300	1,700	2,500	6,000	7,400
North America:	6	3	2	2	7	26	82	172	312	579

- 2: Based on the graph, extrapolate (project out, based on trends) the population of North America and the world in 2030 and 2050.**
- 3: Identify and list possible problems or changes that could affect future population levels. (You may wish to add to this list based on the following investigations.)**

Investigation: Demographics/Population Pyramids

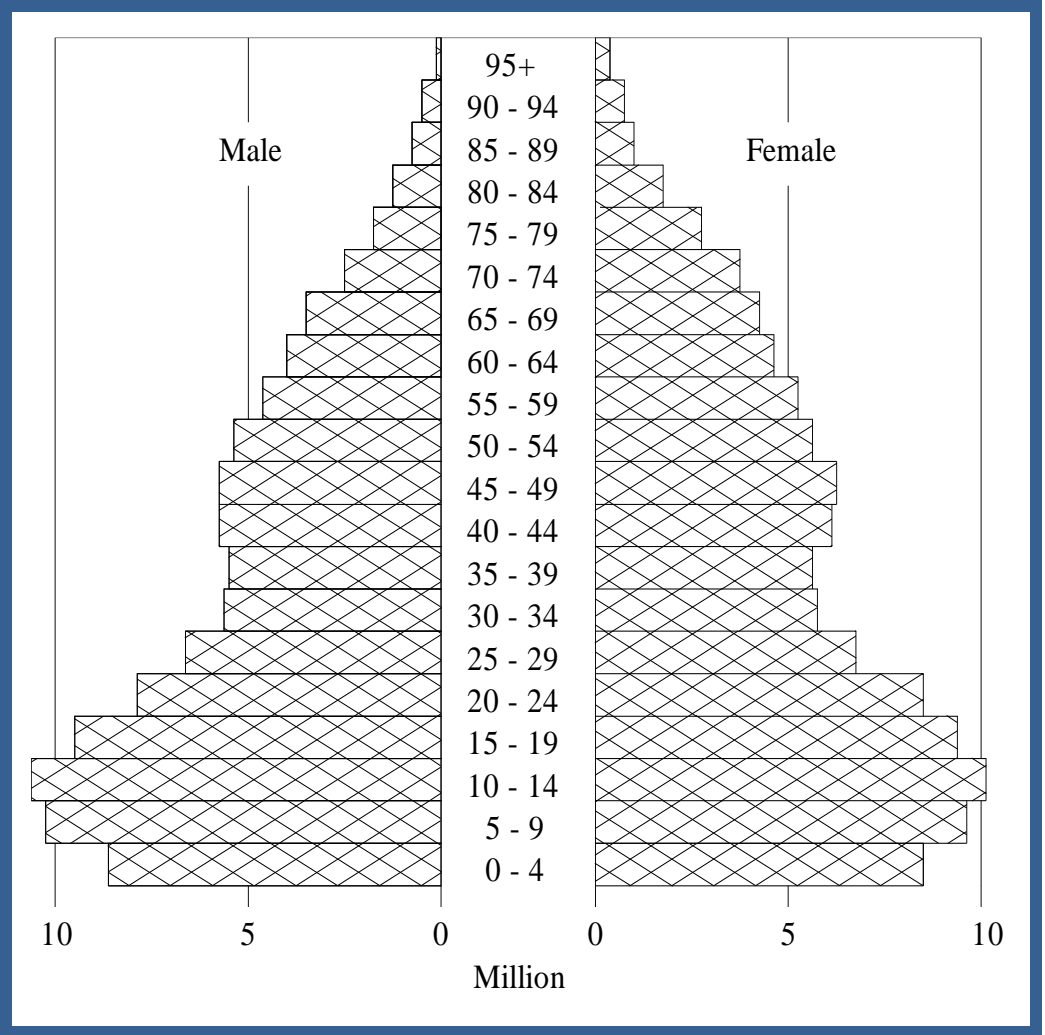
Population experts often show the ages of members of a population in a type of graph called a "population pyramid." The population pyramid on the next page shows the United States age distributions in 1970:

- 1: The second box provides data for population of the U.S. in 2016. Draw a population pyramid showing this data.²**
- 2: In your journal, identify and describe similarities and differences between the two population pyramids.**
- 3: World War II ended in 1945. After the war, the U.S. had what is usually called "the baby boom." Returning soldiers married and started raising families, and the population rapidly increased. What effects did the "baby boom" have on the 1970 pyramid? On the 2016 pyramid? Mark your pyramid to show the baby boom.**

(Continued)

¹ https://en.wikipedia.org/wiki/World_population

² Pyramid and table data: U.S. Bureau of the Census. Refer to www.census.gov/population



◀ U.S., 1970

U.S., 2016 ▶
(Population in thousands)

Age	Male	Female	Age	Male	Female
Under 5	10,319	9,882	45 to 49	11,209	11,500
5 to 9	10,390	9,959	50 to 54	10,933	11,364
10 to 14	10,579	10,097	55 to 59	9,524	10,141
15 to 19	10,304	10,737	60 to 64	8,078	8,740
20 to 24	11,014	10,572	65 to 69	5,053	6,583
25 to 29	10,636	10,466	70 to 74	4,244	5,034
30 to 34	9,997	9,966	75 to 79	3,182	4,135
35 to 39	10,042	10,138	80 to 84	2,294	3,449
40 to 44	10,394	10,497	85 and over	1,790	3,704

4: Identify and describe effects baby boomers had—and are having—on American life as they passed through various ages. (For example, how and when were schools affected? What were/are later effects?)

Investigation: Locating Societies

Below are two maps of northern Africa. The first shows the approximate boundaries of traditional societies; the second shows boundaries as they were in about 1900, as imposed by European colonial powers. As you can see, they don't look very much alike. The changed boundaries had, and continue to have, Demographic implications.



Some people confuse societies with nations. Occasionally, political and societal boundaries are the same, but most of the time, they're different. In this activity, we won't consider boundaries, will instead look at general locations for societies with which you may be familiar.

America has people from many societies, subcultures, and ethnic groups. For example, many larger cities have sections called "Chinatown" or "Little Italy." The Navaho Nation, in the U.S. Southwest, occupies a territory larger than any of the ten smallest states.

In your journal, sketch a simple outline map of your continent, your region, state, or local area. On this map, locate, mark and label the location of at least a few such groups.

Investigation: Societies in the Target Area

One aspect of demography is identification of sub-groups within a society. Some sub-groups may be entirely different societies, as you identified in the investigation above. If your Target Area (school, neighborhood, etc.) is typical, it includes people with a variety of family backgrounds, with parents or grandparents from different societies.



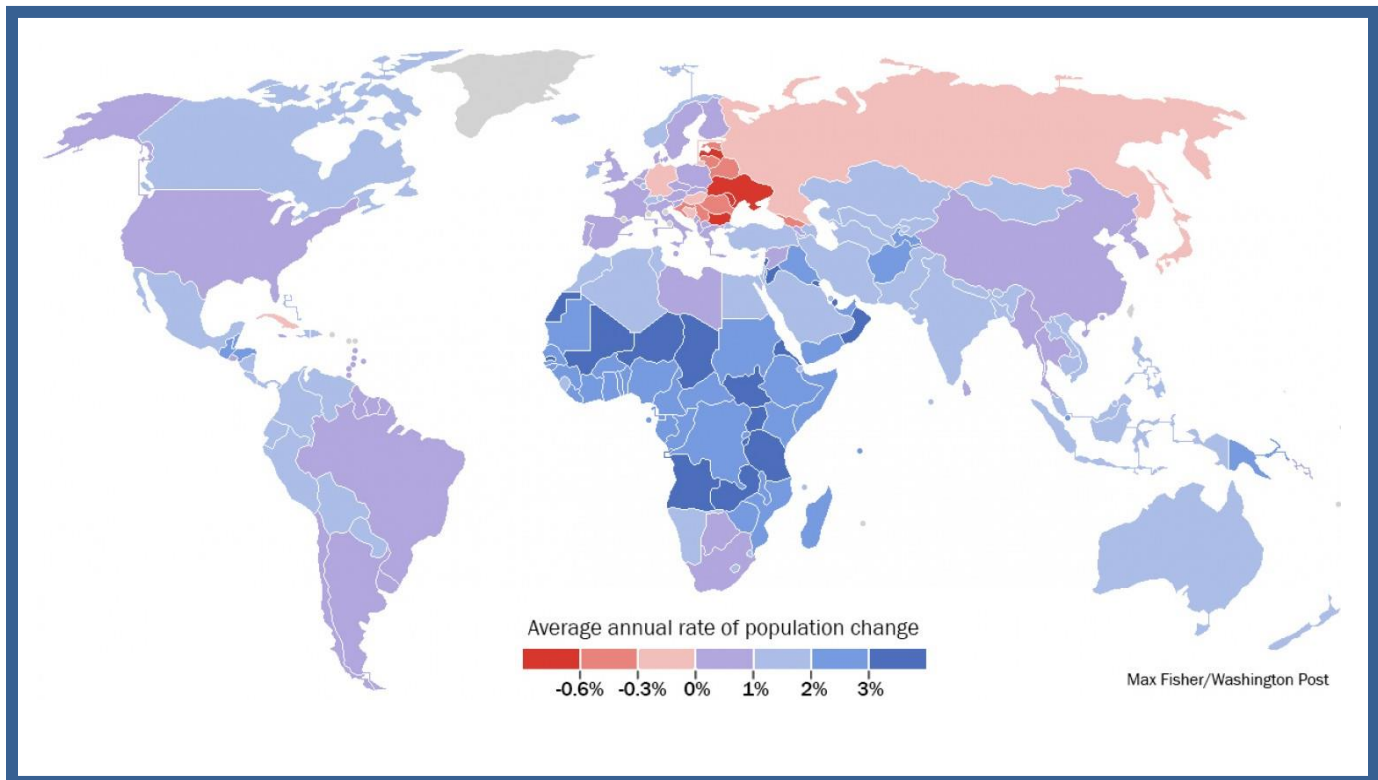
- 1: Identify as many people as possible in your Target Area whose parents or grandparents grew up in a society different from your own. List the societies which they represent.***

2: *Interview at least one person from a society unlike your own, and identify differences in their old society and the society where you both now live. Be prepared with questions such as:*

- *What did you think was strange when you came here?*
- *What beliefs or conditions do you think were better where you came from?*
- *What beliefs or conditions do you think are better here than where you came from?*

Investigation: World Demographic Trends

On the map below, blue countries have expanding populations; those in red or pink are shrinking. Purple ones are growing slowly or not at all. Data source: United Nations Population Fund.



https://www.washingtonpost.com/news/worldviews/wp/2013/10/31/how-the-worlds-populations-are-changing-in-one-map/?utm_term=.5fbc23569072

Do the differences matter? In the next section, you'll compare Demographics of two very different countries and consider the consequences of Demographic change.

Identify and list (in your journal) Model elements you identify in the following accounts.

Kenya

Kenya, in equatorial east Africa, is a land of great diversity. It has white sand beaches on the Indian Ocean coast, grassy plains, snow-capped Mt. Kenya (almost on the equator), a large area of fertile farmland, arid near-deserts in the north, forests in the west, and much spectacular scenery. Huge national parks are filled with antelope, zebras, giraffes, lions, and elephants. With all these natural benefits, tourism is the largest single part of the Kenyan economy. The country exports tea, coffee, and other agricultural products.

The population is about 52 million, about 99% of African descent, from many different tribal groups. **As with many African countries, Kenya contains many distinct societies, each with differing cultures.** The national languages are Kiswahili and English, but many Kenyans speak a local language or dialect, and rural people tend to identify themselves more with their tribe than with their nation. Most rural people live in permanent villages and engage in agricultural work, particularly in the fertile highland plain around Mt. Kenya. In the extreme north, Maasai nomadic cattle herders are a small minority. Nairobi, the capital, is a modern, developed city, but large numbers of rural people have recently moved in, creating slums and shantytowns. The city has about 4.5 million inhabitants. ►



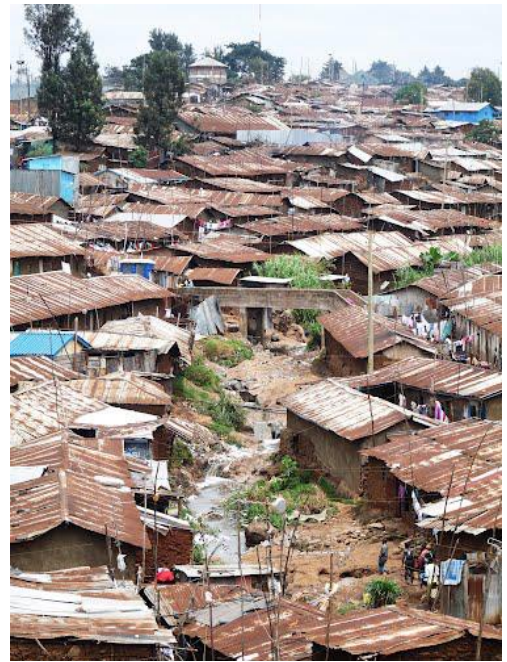
<http://www.freeworldmaps.net/africa/kenya/map.html>



<http://businessmirror.info/2016/05/nairobi-plans-expansion-of-urban-transport-network/>

The level of development in Kenya is low by American and European standards. For example, agriculture—an important part of the economy—employs 75% of the workforce, compared with about 3% in developed countries.

Clockwise below: Turkana village (far north); Nairobi shantytown; residents of a village near Isiolo; animals in national park (photos uploaded to Google Earth ®):



Germany

Germany has the largest population—about 82 million—of any nation in the European Union. Its economy is the fourth largest in the world. It's a world leader in science and technology, in the manufacturing of advanced products, and in the skill of its workforce. Germany exports large quantities of cars, appliances, machine tools, drugs, chemicals, medical equipment, and much more. The economy is healthy, unemployment is low, and those educated in Germany's schools and training programs have no trouble finding jobs.

Factories and offices offer excellent working conditions and pay high wages, typically with annual month-long vacations. Citizens enjoy many government-supplied benefits (as do those in most European countries), including:

- Free, high quality medical services and hospitalization for all
- Free education, including university, with excellent schools
- Social security benefits providing a comfortable retirement.

To pay for this, taxes are high—the average worker pays 40% or more of his/her earnings to the government—but benefits make this a good deal for German citizens. (Citizens with school-age children get liberal tax discounts that make their taxes much lower.) Their standard of living compares favorably with that of Americans.



<http://www.lonelyplanet.com/maps/europe/germany/>



<http://www.bmwcoop.com/2013/03/26/bmw-will-build-a-new-plant-in-central-or-eastern-europe/>

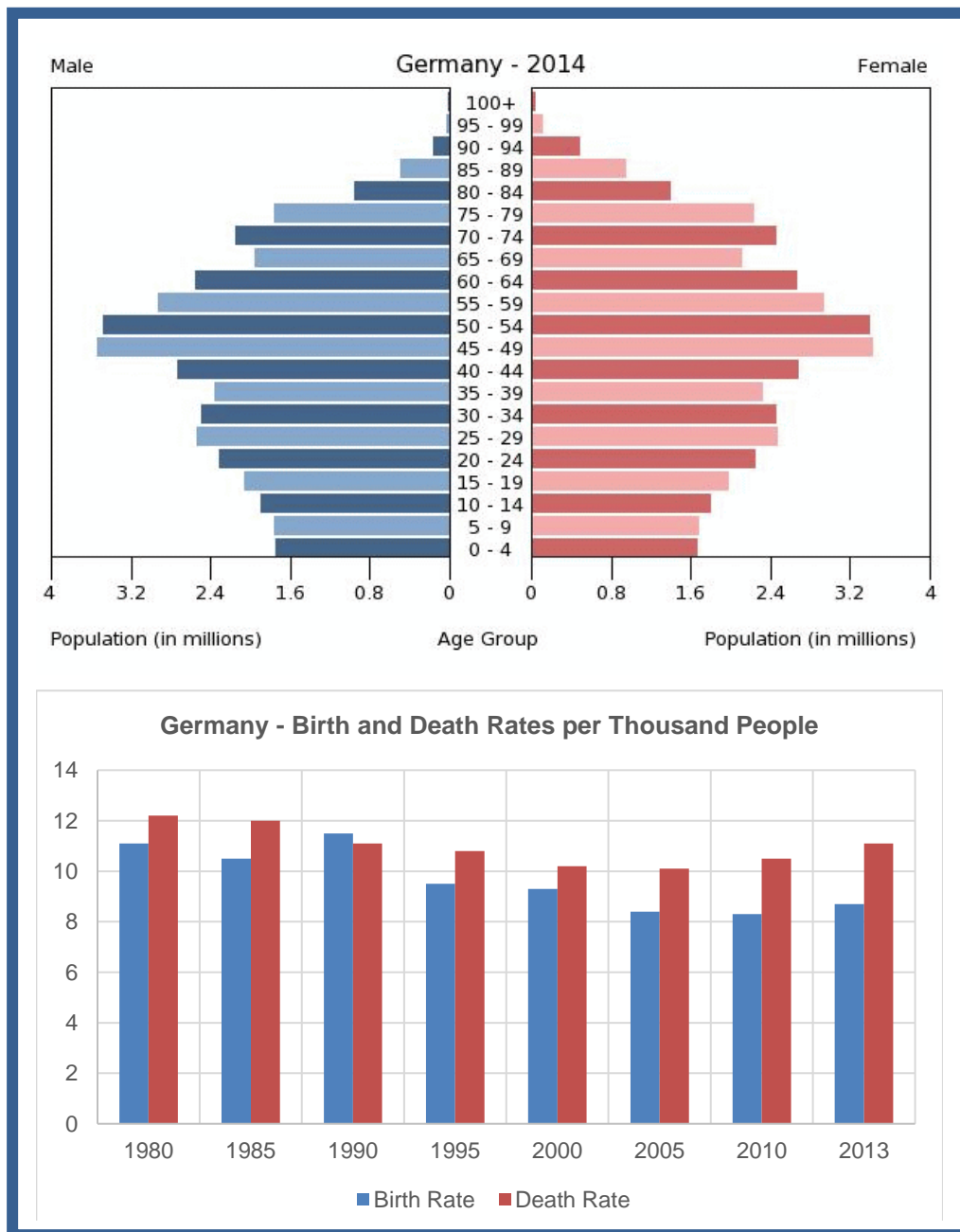


Clockwise from top: BMW assembly line, cathedral in Cologne, street in Berlin, Marksburg Castle.

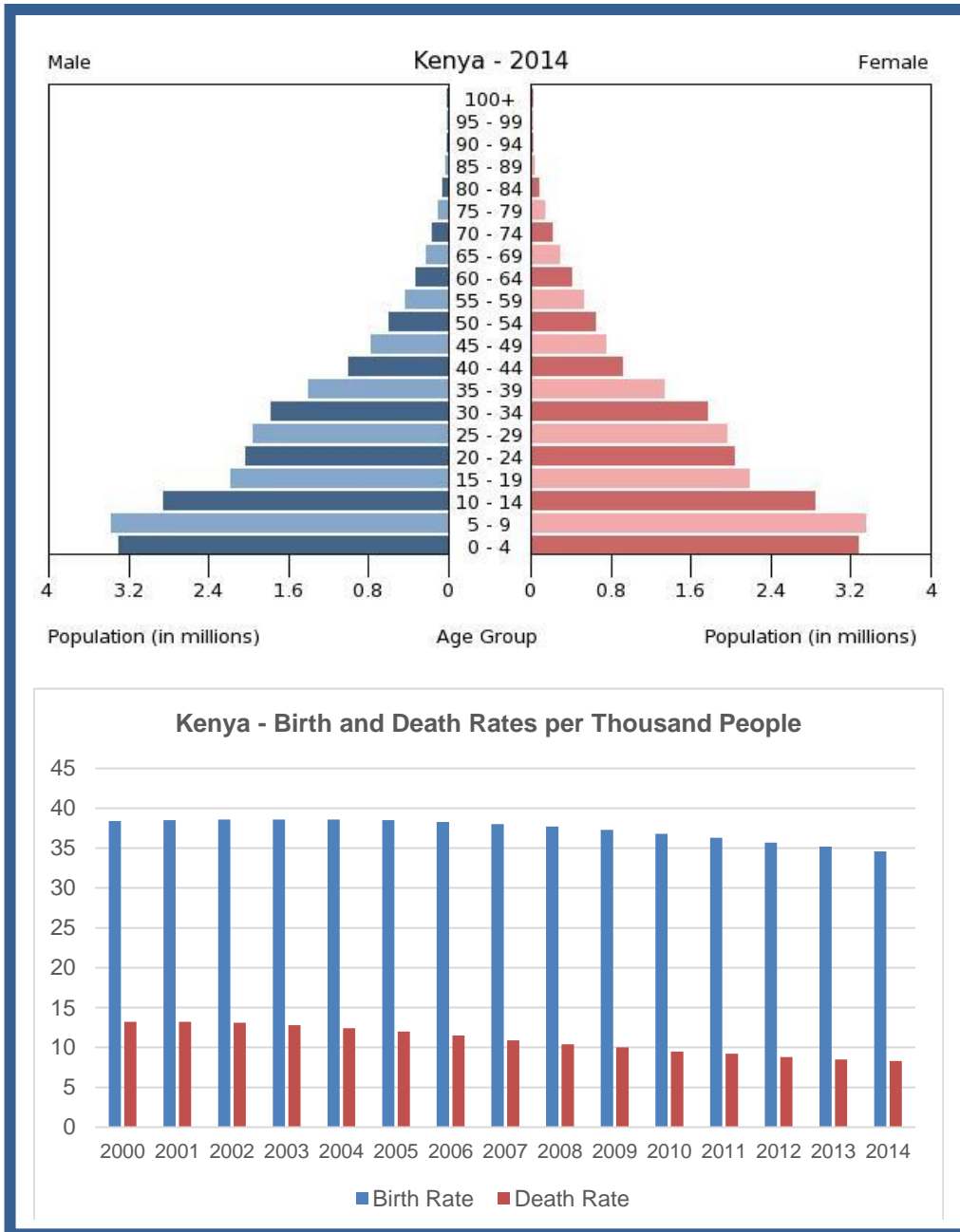
(Photos uploaded to Google Earth ®)

Investigation: Demographic Differences and Problems

Population pyramids and birth/death rate charts are on this and the next page for Germany and Kenya. Both countries face difficulties caused by their Demographic characteristics, but these difficulties are very different. (See questions page 12.)



http://www.indexmundi.com/germany/age_structure.html



http://www.indexmundi.com/kenya/age_structure.html
<http://data.worldbank.org/indicator/SP.DYN.CBRT.IN?locations=KE>

Germany's Demographic situation threatens the country's economy and stability.

Study its population pyramid and identify that threat. Work with others to think about ways that population characteristics may affect Germany's businesses and citizen's benefits. Hint: Think about the shape of the pyramid in ten or fifteen years, and the effects of that change on workers, taxes and government expenses in Germany.

Germany has recently attempted to deal with this situation by welcoming migrants from other countries. In your opinion, what effects might this have on the situation? What other solutions might be possible?

Record your ideas and conclusions in your journal.

Kenya shares a Demographic situation with several other African nations, evident in the data on page 11. (The situation is even more extreme in other African countries.)

What's that situation? Work with others to consider ways that population characteristics affect the lives of Kenyans—for example, effects of population changes on levels of poverty and unemployment, need for infrastructure (e.g. roads and utilities), services such as healthcare and education, and the ability of its citizens and government to pay for what's needed.

If you were a Kenyan, what changes and government policies would you suggest to reduce problems related to Demographics?

Some of those living traditional rural lives in Kenya have little or no money, and live and work in the nearly the same way as their ancestors. Should these people be considered as "suffering from poverty?" Why or why not?

What effects do you think city growth will have on Kenyan traditional societies?

Record your ideas and conclusions in your journal.

Investigation: Target Area Demographic Change

Identify Demographic changes within your target area over the past few years. Has the total population changed? Age distribution? Anything else? Record your findings.



For Teacher/Mentor:

It's almost impossible to discuss a society and its culture without considering the entire Model. For example, the last unit focused on the Model element "Setting," and discussed the way of life of Hong Kong shantytown residents. But one aspect of the Model element "Demographics"—population density—was an intimate part of the shantytown Setting investigation so was included in the supplied data.¹ The four main Model elements don't have sharp boundaries, so conceptual overlaps of this sort are normal.

Any part of the Model is of most significance when it's changing. As noted earlier, societies are systems, so when one thing changes, other things change—for better or worse.

Investigation: Demographics/Population Change

After Europe, Asia and North Africa recovered from the "black death" plague that decimated populations in the 14th century, world population grew steadily, as shown by the data for 1500 and beyond in this investigation.

In the western hemisphere, however, the arrival of Europeans brought along what might be called "white death"—mainly influenza, measles and smallpox—to which native populations had little resistance. These diseases apparently killed two thirds or more of the natives; hence the huge population decrease in North America over the next hundred years. Since that initial decrease in North America, the main population story almost everywhere has been growth.

Note that the numbers given for North American population in 1500 vary enormously between sources, and cannot be determined with any accuracy. Data in the learner materials is a low-end estimate. An estimate given at <http://nativeamericannetroots.net/diary/325> is 18 million natives in what is now the United States and Canada at the time of first European contact.

(If learners using these materials are not living in North America, we suggest finding alternative data to graph for whatever continent or region is of prime importance.)

Evaluation of materials produced by learners, such as the graph required by this investigation, may be done by either teacher/mentor, or by other learners, checking for two main characteristics: *accuracy* and *clarity*. Evaluation by peers will probably make a greater impression on learner than that done by a teacher. However, kids can be cruel with their criticisms, so some careful guidance of the evaluation process is needed. Keeping the sources of the graphs anonymous may be possible and helpful, along with focusing on positive attributes rather than negative. Avoid giving grades as much as possible. They rarely help.

¹ Note that useful discussions of demographic conditions do not necessarily include statistics.

Investigation: Demographics/Population Pyramids

Population pyramids are, of course, a major tool in demographic analysis, and are a main focus of this unit. This investigation introduces them by having learners create one from the numerical data provided. More accurate data comes from the decennial census, of course.

For learners using these materials not in the U.S., we suggest using data and pyramids for the nation or region locally important. Comparing two pyramids for the same region with data for two periods 40-50 years apart, helps learners see how changes in population growth rate ripple through the pyramids. In the U.S., the post-WWII “baby boom” bulge has been the most significant feature of the nation’s pyramid, and that cohort is now moving into retirement, putting extra strain on Social Security and Medicare.

Additional discussion questions: ***How do pyramids for large populations differ near the top with regard to populations of men and women? Why?***

(Women tend to live longer than men in most societies. Reasons for this are complex, and not always clear. See

<http://www.newsweek.com/2014/08/08/when-it-comes-long-life-there-no-gender-equality-262578.html>.) Hypotheses by learners about this phenomenon may be interesting.

One of the fastest-growing sectors of the population in developed countries in terms of percentage is the number of individuals living past 100. Why? What may be effects? (Improved health care is almost certainly the reason for this. This group, largely dependent, also affects needs for facilities and services for the aged.)

Investigation: Locating Societies

Investigation: Societies in the Target Area

These two closely-related activities present another side of Demographics—identification and location of important sub-groups (in this case, embedded societies). We suggest combining the two activities, and having learners do them concurrently. Conceptually, the first activity should be easy, but finding data may be difficult. Focusing on local communities (within the city or region) rather than the whole nation may be helpful. Another point that may become evident is that some societies tend to assimilate, losing their distinct cultural identities to some degree—sometimes totally.

The data for Africa in the box gives background information that will be helpful in the next investigation.

Investigation: World Demographic Trends

Kenya and Germany

Background data and significant photos are given for both nations, so learners will have some idea of the overall sociocultural condition. We suggest they apply the Model to the data given here, and learners with adequate resources could do additional research to augment it. Some additional background for Kenya you may wish to pass along:

“Despite major achievements in the health sector, Kenya still faces many challenges. The life expectancy estimate has dropped to approximately 55 years in 2009—five years below 1990 levels. The infant mortality rate is high at approximately 44 deaths per 1,000 children in 2012. The WHO estimated in 2011 that only 42% of births were attended by a skilled health professional.

“Diseases of poverty directly correlate with a country's economic performance and wealth distribution: Half of Kenyans live below the poverty level. Preventable diseases like malaria, HIV/AIDS, pneumonia, diarrhea and malnutrition are the biggest burden, major child-killers, and responsible for much morbidity; weak policies, corruption, inadequate health workers, weak management and poor leadership in the public health sector are largely to blame.”¹

“Division of Labor by Gender. Among herders, men are responsible for the care of the animals. In agricultural communities, both men and women work in the fields but it is estimated that women do up to 80 percent of the work in rural areas: in addition to work in the fields, they take care of the children, cook, keep a vegetable garden, and fetch water and are also responsible for taking food to market to sell. It is common for men to leave their rural communities and move to the city in search of paying jobs. While this sometimes brings more income to the family, it also increases the women's workload. In urban areas women are more likely to take jobs outside the home; in fact, 40 percent of the urban work force is female. For the most part, women are still confined to lower-paying and lower status jobs such as food service or secretarial work, but the city of Kisumu has elected a woman mayor, and there are several women in Parliament.

“The Relative Status of Men and Women. For the most part, women are treated as second-class citizens in Kenya. Despite the disproportionate amount of work that women do, men usually control the money and property in a family. Wife beating is common, and women have little legal recourse...As women gain access to education, their status in society is increasing. Women's groups such as the National Women's Council of

¹ <https://en.wikipedia.org/wiki/Kenya>

Kenya have been instrumental in pushing for just laws and in teaching women skills that allow them to earn a living.”¹

“The population began surging, and by the mid-nineties the growth rate was among the highest in the world. Since independence [1963], Kenya’s population has quintupled, to fifty-two million, and the U.N. estimates that it will reach ninety-five million by 2050...Right next to [Nairobi’s] downtown is the packed slum of Kibera, Africa’s largest informal urban settlement, with a population some fifty times as dense as London’s.”²

Investigation: Demographic Differences and Problems

To simplify comparisons, the population pyramids and birth/death rate charts for Germany and Kenya are on adjacent pages.

One possible point of confusion for learners is the higher death rate in Germany than in Kenya. Better health care leads to longer lives of Germans compared to Kenyans, but inevitably older people die at much higher rates than the young. The overall death rate for a nation is heavily influenced by the proportion of the population that is elderly. Even though Germany provides good healthcare for all, the large population of older people, and the reduced population of the young (compared with most other nations) drives up the overall death rate per thousand people.

Germany’s big demographic problem is the aging of their workforce, with inadequate numbers of younger workers to replace those who will be retiring within the next few years. To maintain current production levels, Germany will need six million workers it doesn’t currently have. A second problem is that with fewer people working, tax revenues will decline, at the same time that the growing elderly population will increase demand for pensions and healthcare. A good summary:

<http://www.telegraph.co.uk/finance/economics/11644660/Germany-dominance-over-as-demographic-crunch-worsens.html>.

Germany’s growing demographic problem is shared by most Eastern European nations, along with Russia, South Korea and Japan. In some countries, the problem is even greater than in Germany, and eventually may become a problem in most advanced nations.

Germany’s on-and-off policy of open doors to immigrants apparently can’t solve the problem: <http://www.dw.com/en/immigration-not-going-to-stop-germanys-demographic-problem/a-18993548>.

¹ <http://www.everyculture.com/Ja-Ma/Kenya.html>

² Jon Lee Anderson, “The Vanishing Wild,” *The New Yorker*, Feb 1, 2021, p. 32

Many of Kenya's problems are only marginally related to demographics. Economic development within Kenya has been limited by its relatively recent emergence as a nation, by its location in tropical east Africa, by internal conflicts that are sometimes violent, by corruption and bribery, and much else. Economic development is occurring at an accelerating (but so far inadequate) rate.

The rapid population growth, without corresponding growth in jobs, leads to high unemployment rates, particularly for young people:

“Mass joblessness, especially among the sprightly and innovative youth, is a drag on the economy because it forces unemployed adults to depend on the small working class, stretches family resources and consumes savings for future investments.

“The World Bank report says mass unemployment continues to deny Kenya the opportunity to put its growing labor force to productive use, thereby “denying the economy the demographic dividend from majority young population”.

“World Bank economists says the problem is mainly compounded by the fact that Kenya's ability to create new jobs has lagged behind population growth, resulting in narrow formal opportunities, especially for entry-level workers fresh from college.”¹

Obviously, a growing population needs additional housing, schools, healthcare facilities, roads and other infrastructure. For additional information about this crisis: [https://www.nytimes.com/2017/07/29/world/africa/africa-climate-change-kenya-land-disputes.html?emc=edit ta 20170729&nl=top-stories&nid=30834793&ref=cta](https://www.nytimes.com/2017/07/29/world/africa/africa-climate-change-kenya-land-disputes.html?emc=edit_ta_20170729&nl=top-stories&nid=30834793&ref=cta). The inability of the Kenyan economy to supply these adequately is another problem created by Demographic change. The usual answers are to bring in outside investment by those interested in making money (or exerting influence). China has become a major player in Kenya's development.

Oil has been discovered in Kenya's north, and this should lead to additional government revenue from its extraction—assuming careful management by officials, which may or may not occur. In similar circumstances, in other, similar countries, revenues from exploitation of natural resources has led to enrichment of a few top level officials, but no real improvement in infrastructure or in government programs to improve the lives of those needing assistance.

Those living in rural areas and following traditional ways, seem, at least on the surface, to have less of a subsistence problem than those living in poverty in cities. For example, rural housing isn't a likely problem because traditional huts can generally be erected quickly at little cost. Children can begin helping with agricultural work when they're fairly young. Food, raised locally by traditional means, may also be less of a problem for rural people than for the urban poor,

¹ <http://www.businessdailyafrica.com/Kenya-tops-East-Africa-s-list-of-youth-joblessness/539546-3108514-6cd5xgz/index.html>

although deaths from starvation (generally caused by drought) were frequent in years past among those living traditionally.

However, high rates of death from other causes—preventable diseases, for example—means that Kenyans pay a heavy price for poverty, whether they live in a traditional rural village or in a Nairobi slum.

The Kenyan government hopes for a shift to an industrial economy, to provide more jobs and raise overall economic well-being. However, they're competing for this growth with many other low-wage countries, so industrial growth may be difficult. If it occurs, the side effects, of course, will be even more urban growth, with unpredictable effects on tensions and strife.

Incidentally, our juxtaposition of Kenya and Germany, both with demographic problems, doesn't mean that we believe that their problems are not only opposite, but equal. Kenya's growing problems are occurring now, and are resulting in suffering and death both now and in the foreseeable future; Germany's problems lie only in the future, and may be mitigated by various kinds of technology.

Investigation: Target Area Demographic Change

Refer learners back to the sub-categories of Demographics on page 1, and have them work cooperatively to fill in all the Demographic blanks. Some administrative support to supply data for previous years is probably needed here.

Additional note (August 2019): The young terrorist who killed 22 people in El Paso, Texas, on August 9, 2019, cited the differential birth rate of Hispanic people as his main justification for murder. We hope nothing within this unit will trigger xenophobic hatred or be used as justification for racism. Diversity can be a source of strength in any society. Change is inevitable, and diversity provides alternative solutions for the problems brought on by change. White supremacy, in particular, cannot be justified by demographic or cultural differences.

(HLB) January 2017, minor changes July 2017, additional notes added August 2019 and January 2021.