

# HILL OF BEANS

## introduction

The average citizen in the United States is wealthier than the average person in the world, and far wealthier than people who live in the world's **least developed countries**. The **gross national income (GNI)** of a country at **Purchasing Power Parity (PPP)**, gives a fairly good idea of a country's wealth. GNI is the total domestic and foreign income claimed by residents of a nation. PPP is a method of converting international currency to show both its value in U.S. dollars and the power that currency has to purchase goods. When this number is divided by the number of people who live in a country, we can see a fairly good picture of the wealth of that country's citizens. Of course, per capita GNI PPP is just an average. Many people in a country will fall outside of the average, but it is a useful tool for comparing global wealth.

Prosperity around the globe has grown significantly in recent decades. Average **life expectancy** has grown from 52 years in 1960 to 69 years today, and GNI PPP per capita has nearly tripled in just the past 25 years. Still, progress has been much slower for the 48 countries categorized as "least developed" and there remains a great divide between the world's richest and poorest countries. The United States is one of the most developed and wealthiest countries in the world. The Central African Republic is one of the least developed countries. In fact, their GNI PPP per capita was the lowest, globally, in 2016. Life as a citizen in one of the poorest countries in the world has immense challenges – resources like food and clean water are scarce, disease spreads easily with little access to reliable health care, things that some take for granted, like education and electricity, often aren't accessible, and life expectancy is low. It is in these same least developed countries where the majority of our global population growth is expected in the coming years, making it even harder to support the needs of the world's most vulnerable people.

**Vocabulary:** gross national income (GNI), least developed countries, life expectancy, Purchasing Power Parity (PPP)

## materials

- Dry beans
- 3 opaque cups
- 3 large clear jars



Studies For Our Global Future

### concept

Americans accumulate more wealth, live longer, and consequently use more resources than people in other nations.

### objectives

Students will be able to:

- Examine how the wealth of the average U.S. citizen compares to that of an average citizen in the Central African Republic.
- Explain why people in the U.S. live longer and accumulate more wealth than people in least developed countries.
- Analyze how the quality of life differs for the average citizen in a wealthy country versus a poor country.

### subjects

AP Human Geography, Geography, Statistics, Economics

### skills

Analyzing data, observing, comparing and evaluating

### method

Students compare wealth of the average person in the world to that of a person living in the U.S. and a person living in the Central African Republic, one of the poorest nations in the world.

## procedure

1. Before class, label each cup and jar with the name of the area it represents: U.S., World, and Central African Republic. Leave the three jars empty. Place one bean in the Central African Republic cup, 33 in the World cup, and 143 in the U.S. cup. (Large beans such as kidneys or limas work best.)
2. Read or summarize the following to your students:

*“We can use a variety of economic indicators to compare the standard of living from one region to another. One commonly used indicator is the Gross National Income (GNI) at Purchasing Power Parity (PPP). GNI is a measure of a nation’s wealth, equaling the total domestic and foreign income claimed by residents of a country. PPP is a method of converting international currency to show both its value in U.S. dollars and the power that currency has to purchase goods. PPP accounts for price differences between countries, making wealth comparisons more accurate. The GNI PPP divided by the population of a country shows the average wealth of citizen in that country over a year. In the U.S., the per capita GNI PPP in 2016 was \$57,540. Remember that this is an average – some Americans are much more wealthy and some much less. We can estimate a person’s lifetime wealth by taking the average annual GNI PPP and multiplying it by the average life expectancy. The average American born today has a life expectancy of 80 years. So, assuming that wealth trends hold over time, the average American would collect \$57,540 in wealth for 80 years, or a total of \$4,603,200 over their lifetime.”*

3. How do we compare to other regions? Display the following chart:

Region	Per capita GNI PPP (2016)	Life expectancy (2016 est.)	Lifetime wealth
United States	\$57,540	80 years	\$4,603,200
World	\$15,530	69 years	\$1,071, 570
Central African Republic	\$620	52 years	\$32,240

Sources: The World Bank, CIA World Factbook

4. Of the three groups, people living in the Central African Republic have the lowest lifetime wealth, \$620 per year over their 52-year lives. Explain to students that you’ll be using beans to represent wealth and ask students the following question:

If the average person in the Central African Republic gets one bean, how many, proportionately, would the average person in the world or in the U.S. get? (Answer: 33 and 143, respectively;  $1/\$32,240 = x/\$4,603,200$  to determine beans for U.S., for example)

5. Explain to students that you’re now going to do an auditory comparison of relative wealth. Ask the students to close their eyes. Tell them to listen to the lifetime wealth of the average citizen of the Central African Republic. Drop the single bean into the jar labeled “Central African Republic.”
6. Tell students to keep their eyes closed, and now you want them to listen to the lifetime wealth of an average person alive in the world today. Slowly drop the 33 beans into the jar labeled “World.”

7. Again, ask the students to keep their eyes closed, and now you're going to represent the lifetime wealth of an average American. Slowly drop the 143 beans into the jar labeled "United States."
8. Display the jars with the beans in them so students can see the representations of the average lifetime wealth for individuals of the different regions. You may also want to display the bean numbers (1, 33, and 143) or add a column for "Number of beans" to the chart above.

## discussion questions

1. What did you observe as we compared the wealth of Americans, the average person in the world, and citizens of the Central African Republic?

*Americans are far wealthier than either of the other groups. Citizens of the Central African Republic have far less wealth than the average person in the world as a whole. There is enormous wealth inequality in the world today.*

2. How would your life be different if you had the wealth of a person in the Central African Republic?

*You would not be able to afford many of the luxuries that most Americans enjoy today. You may not have access to medical care or enough food to lead a healthy life. Many things would not be affordable or accessible. In the Central African Republic, only 22 percent of the population has access to improved sanitation facilities and 11 percent has access to electricity. Compare that to 100 percent for both categories in the United States. Five out of every 100 people in the Central African Republic have internet and 20 out of 100 have a cell phone subscription. In the U.S., those numbers are 75 and 118 respectively (this means that in the U.S., there are more cell phone subscriptions than there are people).*

3. Why do you think the average U.S. person accumulates so much more lifetime wealth than the average person in the world?

*The United States has a relative abundance of natural resources, a highly educated population, an industrial infrastructure, a stable political system, etc. People in the United States also live longer than the average citizen in many other countries, so the average lifetime wealth is higher.*

4. Why do Americans live longer than the average people in the other regions?

*Answers may include: better nutrition, better access to vaccinations, antibiotics, and other benefits of modern medicine, safer living and working conditions, increased access to clean water, nearly universal access to education, etc.*

5. People who live in wealthier countries tend to use more resources over the course of their lifetimes; they contribute more to climate change, use more water, and produce more waste. For example, the average person in the U.S. emits over 160 times the amount of CO<sub>2</sub> and withdraws almost 400 times as much fresh water as the average person in the Central African Republic. Why do you think this is true?

*The citizens in wealthy countries have more money to spend on goods and services. They are more likely do things like drive cars, use electricity, run the dishwasher, and buy lots of manufactured goods. Wealthy countries also have more industry, which requires the use of energy, water, and raw materials from the Earth. The fact that citizens in wealthy countries live longer increases their resource consumption even more.*

6. Could the world support more people if we all lived like citizens of the Central African Republic?

*Yes, if people used fewer resources, the world could support more people.*

7. Would we be better off if we all lived like the average person in the Central African Republic?

*No. The standard of living for the average person in the Central African Republic is very low, and there are many harmful effects of this standard of living on the health and well-being of the country's citizens. For example, people in the Central African Republic are at a very high risk of contracting major infectious diseases such as malaria, typhoid fever, and hepatitis A. One-fourth of all children under five in the Central African Republic are considered underweight.*

8. The population of the Central African Republic is growing much faster than that of the United States. The population of CAR is projected to double in just 31 years, whereas it is projected to take 175 years for the U.S. population to double. How might the Central African Republic's rapid growth impact the quality of life for people living there?

*It will become even harder to supply basic needs to the country's population. There will be more mouths to feed, more water needed, and an even greater need for healthcare and other public services.*

9. Are there any ways that we, as Americans, could reduce our impact on the planet without harming our quality of life?

*Yes, we can conserve resources like water, fossil fuels, food, and paper products. Small actions that have a big impact include driving less, eating less red meat and more local unprocessed foods, reducing the use of paper and paper products, buying fewer and less packaged material goods, etc.*

10. Are there any ways that we could increase the "hill of beans" for other countries, such as the Central African Republic?

*Central African Republic and other nations currently receive support from major international development agencies such as the World Bank and the International Monetary Fund, as well as from individual countries. The U.S. budget for economic and development assistance to other countries in 2017 was \$18 billion. This is more money than any other country, but a smaller percentage of its GDP than most other developed countries (about \$55 per U.S. resident). There are many private groups working to improve access in other countries to lower-cost health care services and help the citizens of those countries to improve their economies.*

11. How might your life in the United States be impacted by the vast income inequality in the world?

*In countries where citizens don't have access to basic necessities, education, and employment, there can be a great deal of social unrest. This can lead to conflict, war, and migration both within that country and abroad. Because we live in an interconnected global society, this type of instability often has ripple effects beyond a country's borders and even worldwide.*

## assessment

Share the following information with students:

*“An Oxfam report<sup>1</sup> released in January 2017 estimates that just eight mega-wealthy men hold the same amount of wealth as the poorest half of the world’s population, combined. Six of those eight men live in the United States.”*

Considering this information and the bean demonstration, students write a reflection on the state of wealth inequality in the world.

## follow-up activity

Have students calculate the lifetime resource use and bean quantities for additional countries. Data can be found through the World Bank (<https://data.worldbank.org>) statistics or CIA World Factbook (<https://www.cia.gov/library/publications/the-world-factbook>). Sample statistics appear below.

Country	Per capita GNI-PPP	Life expectancy	Lifetime wealth	Beans
China	\$14,390	76 years	\$1,093,640	33
Portugal	\$28,590	80 years	\$2,287,200	70
India	\$6,030	69 years	\$416,070	12
Mexico	\$17,140	76 years	\$1,302,640	40
Norway	\$65,430	82 years	\$5,365,260	166

<sup>1</sup> Oxfam America. (2017, January 15). *An economy for the 99 percent* (Brief). Washington, D.C. Retrieved from <https://www.oxfamamerica.org/explore/research-publications/an-economy-for-the-99-percent/>