



global system choices

unit four

ask

What is the best method of measuring development towards a sustainable society?

acquire

- Student handout
- Articles
- PowerPoints
- Computer with projector and internet access
- Gapminder activity sheets and instruction
- Class set of atlases

explore

- What is egalitarianism?
- What value does society place on things you deem important?
- How are statistics used as development indicators?

analyze

- How does development vary with time?
- Different ways to measure development

act

- Debate:
What development indicator is best for Venezuela?

global system choices

unit four

U4L1 | Development Indicators

This lesson examines how societies measure their progress and development over time. It takes a critical look at the GDP and offers other means that are more appropriate for measuring sustainable progress. Students examine the development indicators and then have the opportunity to debate which indicator is best for the country of Venezuela to use as they expand their use of resources from oil to prop up the social system.

subjects: Economics, Politics, Geography, Science, Civics

timing: **Activity 1**

Egalitarianism | **75 minutes**

Activity 2

Statistical Analysis of Development Indicators | **75 minutes**

Activity 3

Examining Development over Time | **75 minutes**

Activity 4

Beyond GDP | **75 minutes**

Activity 5

Debate | **75 minutes**

learning goals

- To understand the social, economic, and environmental impacts of the strategies used to measure development implemented by a variety of individuals, organizations, and institutions.
- To evaluate and determine which measurement indicator is best for the development of a sustainable society.

success criteria

- Students will be able to express and support their opinion on development indicators in a formal class debate.

ask

Inquiry questions

- What do I value most and is this value equally shared by society?
- How is development measured?
- How has development changed in various regions over time?
- Which development indicator values the factors that you feel are most important in your life?
- How can various different statistical measures give insight into the overall level of development and sustainability in a society?
- What is the best indicator to measure sustainable development in Venezuela?

global system choices

unit four

U4L1 | Development Indicators

acquire

Activity 1

PowerPoint: Egalitarianism
Handout: Egalitarianism

Activity 2

Handout: Statistical analysis of development indicators
Class set of atlases (i.e., Oxford Canadian Atlas 10th ed.)

Activity 3

Computer and projector with Wi-Fi access

- Using the following websites obtain and print the resources listed below:
www.gapminder.org/downloads/card-game – to download the card game used in Activity 1
- www.gapminder.org/downloads/200-years – to download the teacher’s educational resource for Gapminder.
 1. Gapminder Instructions
 2. Gapminder Teacher’s Guide
 3. Gapminder Card game (one per group)
 4. Gapminder Map (one per group)

Activity 4

PowerPoint: Beyond GDP
Handout: Beyond GDP

Activity 5

Handout: Debate—What is the best indicator to measure sustainable development in Venezuela?

explore

Activity 1 | Egalitarianism

This lesson will help students to reconsider how society determines value and compare this with their own value system.

1. Using the PowerPoint on egalitarianism, have students examine the following scenario and discuss the enclosed questions...

Scenario: Your home town has been hit by a natural disaster. Extreme flooding has ravaged the landscape leaving it in ruins. The commercial sector is shut down. All banks and stores have been shuttered tight. You have lost everything except the clothes on your back and your backpack.

Your task:

- a Take an inventory of your items and calculate your net worth.
 - b Consider the following questions:
 - i. What necessities do you have?
 - ii. What are you missing?
 - iii. Do you have anything to sell or barter?
 - iv. What would be the new currency?
 - v. How long do you think you can survive?
 - c Share your findings in a class discussion. Then as a class decide: Overall, how did the class fare? Who would survive the longest?
2. Follow the introductory lesson on the idea of Egalitarianism using the PowerPoint

U4L1 | Development Indicators

Activity 2 | Statistical analysis of development indicators

This lesson will help you to discover how statistics can be used as development indicators to assess the well-being of a nation.

Using the handout: Statistical analysis of development indicators, students will now explore how different statistical measures vary in Canada, Norway and Venezuela.

- a Students will need their handout, a recent copy of a world atlas with data sets at the back (i.e., Oxford or Pearson World Atlases), or access to the Internet to search for results.
- b Students will be researching:
 1. Population density
 2. Birth rate
 3. Death rate
 4. Urbanization
 5. Agricultural percentage
 6. Life expectancy
 7. Health (number of people per doctor)
 8. Education (literacy rates male and female)
 9. Economic development rate
- c Students will explain in their own words how they feel each indicator links to, or describes, development in a country.
- d They will then find the most recent statistics for Canada, Norway, Venezuela and the global average for each. This should be recorded on their handout.
- e Students will then find a group to do reflection and analysis with and answer the following questions:
 1. How could a government use these statistics to improve the well-being of a nation? Give specific examples.
 2. Is there one statistic that you feel is more relevant or effective in measuring development? Justify your choice. Discuss with your group.
 3. As a group of two–three, examine the development indicators and consider how these would appear in a developing country like Ethiopia, Mongolia or Afghanistan.
 4. In what ways could countries that are more well off use these statistics to help these regions?
 5. In what ways might these indicators change with the discovery and extraction of a large source of oil?
 6. Check your answer from #5 by researching the indicator value before Canada, Venezuela and Norway became an oil-producing country. What assumptions were correct and what assumptions were not? Why do you think this is the case?
- f Take up the findings and reflections as a class.

analyze

Activity 3 | Examining Development over Time

This lesson will help you to discover how development has changed in the different regions of the world over time. Using this historical context to development you will examine and assess different methods of measuring development globally.

1. Instructions to guide this lesson are included in the Examining development over time PowerPoint
2. Play the Gapminder Game:
 - a Divide students into small groups of three–four students.

U4L1 | Development Indicators

- b** Give each student a package of cards and instructions.
 - c** Ask the students to arrange the country cards according to the development level of the countries. You do not have to be more specific than this, let the students come up with their own ways of grouping the countries (e.g. they might sort them into two groups, several groups or arrange them into one line).
 - d** Ask them to explain how they arranged the cards. Does their way of sorting the countries reflect what they think the incomes of the countries are? Health? Development, in a more vague sense?
 - e** Distribute the “Gapminder World Map” graph to the groups. Explain the graph, i.e. that each bubble is a country, the size of the bubble is the population, the colour the continent, the Y-axis is the life expectancy (i.e. health) and the X-axis is income per person. Explain quickly what the two indicators mean.
 - f** Ask them to find and mark the countries on the graph.
 - g** Discuss whether there were any surprising results. Discuss whether the graph could be used to divide the countries of the world into different categories.
- 3.** In the same groups have students brainstorm at least 10 reasons as to why the developing world has not achieved economic parity with the developed world. In other words, why are we affluent and they are not? How does income disparity influence the ability of the globe to be sustainable? There is a take up slide included in the PowerPoint.
- 4.** As a class re-visit the gapminder world graph.
- a** Use the graph to discuss and examine how the levels of development have changed over time given various factors that the class has listed.
 - b** Select Norway, Venezuela and Canada and watch their progress over time.
 - c** Considering what you have learned about each country note any specific changes and patterns over time? (Think points of historical challenge or opportunity.)
- 5.** Final thoughts...Through the PowerPoint you were introduced to different graphics that attempted to demonstrate how the regions of the world have changed since the 1800s.
- a** How is modelling relevant when analyzing the development of a nation?
 - b** How could these tools be used to develop the world towards sustainability?
Think people, profit and planet.
- 6.** Time and computer access permitting: Allow students time to play with the program. It would be of value to have them use the site to revisit the data they gathered in the statistical lesson to be completed in Activity 3.

Activity 4 | Beyond GDP

This lesson will help you to discover the how different development indicators can be used to assess the well-being of a nation.

Give an introductory lesson on the various development indicators using the PowerPoint Beyond GDP provided. Once the discussion of various development indicators has been completed, have students revisit their list of what they value and:

- a** Consult the list you made at the start of class, how many items are valued by GDP? Does this indicator value your life?
- b** What are some of the problems with using GDP as an overall indicator of progress and development? What are some of the benefits?

U4L1 | Development Indicators

- c Which indicator valued the objects you valued the most?
- d Reflect on what the world be like if we evaluated using each indicator. Evaluate the Pros and Cons of each indicator. Which do you feel is most and least effective? Explain your choices. Why do you think the world is slow to adapt these indicators when evaluating development?
- f How might a focus by a government on sustainable development change this pattern?

act

Activity 5 | Debate—What is the best indicator to measure sustainable development in Venezuela?

This lesson will help students to develop and defend a personal opinion on one of the different development indicators. This will be done during a debate.

The class is to have a debate. Students will develop an understanding of how development is measured and assess which process is best suited for sustainability.

In evaluating the overall sustainability of Norway, Canada and Venezuela it can be noted that for each the access to vast quantities of oil has given different challenges and opportunities. Use the following scenario to guide the class through the debate.

Scenario:

The country of Venezuela has made great strides in overcoming poverty and access to social services. This is helping the country to develop. The government, however, realizes that the focus on social programs has caused there to be a lapse in progress towards sustainability. The government has decided that the focus must change to one of sustainable development. Research has informed the government that the use of the GDP as a means of measuring development is outdated and inappropriate. In order to achieve sustainability, Venezuela must replace it with a form of measurement that includes a wider scope of criteria. In order to increase the overall sustainability of Venezuela the solution lies in...GPI, GNH, SSI, SPI or HPI.

Format of debate:

This debate will take the format of a triangle debate. This means the class will be divided into five teams and a group of moderators (total six teams):

1. HPI—argue in favour of Happy Planet Index
2. GPI—argue in favour of Genuine Progress Indicator
3. GNH—argue in favour of Gross National Happiness
4. SSI—argue in favour of the Sustainable Society Index
5. SPI—argue in favour of Social Progress Index
6. Moderators—develop the questions that will determine the focus of the debate and run the debate.

The debate will be ordered as follows:

1. Opening Statement—two minutes each side
2. Question period—two questions per side = eight questions total
3. Free debate (time permitting)
4. Closing statements—two minutes per side

Structure of debate:

- i. Divide the class into five teams. Each team will have a relatively equal number of members.
- ii. You may opt to give students class time to research and prepare their arguments or you may wish to have them prepare on their own at home.
- iii. The questions from the moderators will be kept secret until the debate so teams must prepare a thorough understanding of their arguments in order to be able to argue their points effectively.

U4L1 | Development Indicators

- iv. Moderators will be in charge of running the debate, creating questions to challenge each side (three per side), evaluating the debate teams and at the end determine the winner of the debate and give constructive feedback to both sides. Give the moderators an idea of your expectations of how the debate is to run. If you wish them to follow certain timing or structures, please make that explicit to them.
- v. Debating teams will be responsible for preparing opening and closing statements and developing a body on knowledge that will allow them to answer the questions proposed by the Moderators.
- vi. Inform students that team will hand in a bibliography of sources they used to develop their opinion.
- vii. Rubrics for evaluation are offered in the handouts, but are a suggestion only.
- viii. Offer students the following idea to contemplate as a source of focus as they research and prepare.

Think...what does your indicator offer that others cannot?

references

Anielski, M. (2001). MEASURING THE SUSTAINABILITY OF NATIONS: THE GENUINE PROGRESS INDICATOR SYSTEM OF SUSTAINABLE WELLBEING ACCOUNTS. The Fourth Biennial Conference of the Canadian Society for Ecological Economics: Ecological Sustainability of the Global Market Place, August 2001, Montreal, Quebec.
www.anielski.com/Documents/Sustainability%20of%20Nations.pdf

Data for the Happy Planet Index Global Findings: <http://www.happyplanetindex.org/data>

Deutsche Bank Research. (September 8,2006). Measures of well-being: There is more to it than GDP. Deutsche Bank AG, D-60262, Frankfurt am Main: Germany.
www.dbresearch.com/PROD/DBR_INTERNET_EN-PROD/PROD0000000000202587.pdf

Neumayer, E. (2004). Sustainability and well-being indicators. WIDER research papers, 2004/23. UNU-WIDER. ISBN 9789291906048 <http://eprints.lse.ac.uk/30851>

Sustainable Development Solutions Network (SDSN). (April 23, 2015). World Happiness Report 2015, worldhappiness.report