

6. FOOD AND CLIMATE

KEY TERMS

desertification: the process by which fertile land becomes desert, typically as a result of drought, deforestation or inappropriate agriculture

food sovereignty: a movement that places the people, rather than markets and corporations, at the center of food systems and policies

fracking: the informal term for hydraulic fracturing, a technique designed to recover gas and oil from shale rock

Green revolution: a large increase in crop production in developing countries achieved by the use of fertilizers, pesticides, and high-yield crop varieties

monoculture: the cultivation or growth of a single crop or organism especially on agricultural or forest land

Physiocrat: a member of an 18th-century group of French economists who believed that agriculture was the source of all wealth and that agricultural products should be highly priced, stressing the necessity of free trade

sustainability: the principle that everything humans need for survival depends, directly or indirectly, on our natural environment

Washington consensus: the set of policies that the U.S. government and international financial institutions, such as the World Bank and International Monetary Fund, believed were necessary in “first stage policy reform” to increase economic growth for all countries

LESSON ONE

Student Objectives

Upon completion, students will be able to:

- Describe current status of food security as it relates to climate change
- Assess past and present policy approaches to food security across the globe

Materials

- Classroom set of Handout #6-A
- *Great Decisions* article “Food and climate”
- Computers with access to supplementary resources such as:
Food and Agriculture Organization of the United Nations
(<http://www.fao.org/home/en/>)
EPA, Agriculture and Food Supply
(<http://www.epa.gov/climatechange/impacts-adaptation/agriculture.html>)

Time

Two 45-minute class periods

Lesson Development

Session 1

1. Warm up: Begin the lesson by inviting students to talk about food. What do they eat? Where do they shop? What are their personal priorities for food choices? How connected are they to original food sources? Next, ask students to share background knowledge on climate change. What are the current indicators and risks? Finally, how might a changing climate impact their food choices in the future?
2. Assign students to read the *Great Decisions* article, “Food and climate,” and take notes on Handout #6-A. Encourage students to be aware of their own bias on climate change as well as the point of view that the author, William Sweet, presents on the different approaches that world leaders and major organizations have taken to ensure food security.

Session 2

3. Break students into small groups to discuss notes, understanding, and opinions on climate change and food security. Tell each group to assign letter grades that evaluate the distributionist vs. productionist approaches that William Sweet describes. Provide time for students to present their evaluations to the class with comments to support their opinions.
4. Close class with a return to the warm-up questions from Session 1 to assess how their thoughts on food here and other parts of the globe has changed as a result of their reading and discussion.

Additional Suggestions

1. Depending on the needs of the class or individuals, scaffold the lesson with the definition of food security as it is defined by the World Health Organization and/or other major organizations.
2. Invite students to bring in examples of op-ed pieces on climate change and food security to share in small groups. Chart opinions as they relate to the *Great Decisions* article.
3. Extend the lesson by inviting students to research the menu of today’s typical American teenager to show potential changes that will result from climate change over the next 100 years

LESSON TWO

Student Objectives

Upon completion, students will be able to:

- Identify factors of food security and climate change in one region of the globe
- Apply understanding of policy approaches to food security

Materials

- Classroom set of Handout #6-B
- *Great Decisions* article “Food and climate”
- Computers with access to supplementary resources such as:

World Bank

(<http://www.worldbank.org/en/topic/climatechange/publication/turn-down-the-heat-climate-extremes-regional-impacts-resilience>)

NCAR/UCAR: Future Global Warming Impacts, By Region

(<http://www2.ucar.edu/news/backgrounders/future-global-warming-impacts-region>)

IFPRI Food Security Case Maps (<http://www.ifpri.org/climatechange/casemaps.html>)

Time

Two 45-minute class periods

Lesson Development

1. Begin the lesson by showing students a map of the world. Point out three regions considered to be most vulnerable to climate change: Sub-Saharan Africa, Southeast Asia and South Asia.
2. Show the video “Warmer World Will Trap Millions in Poverty” by World Bank President Jim Yong Kim about food security initiatives in response to climate change. Ask students to annotate the class map with the current and future risks that he describes.
3. Divide the class into three groups and assign each to represent one of the regions. Tell students they will build a campaign to promote one new policy intervention to support their region. Provide time to research climate, agriculture, government and current initiatives in order to complete Handout #6-2. Require students to incorporate the models that the author, William Sweet, presents in the *Great Decisions* article, “Food and Climate.” Encourage the use of images and the use of persuasive appeals in their plan.
4. Hold a mock convention in which groups present their intervention plans to the class and encourage the audience to ask questions of the presenters to gain a greater understanding of each region and plan.

Additional Suggestions

1. Consider assigning roles within each regional group for multiple perspectives, such as scientist, farmer, politician, corporate sponsor, etc.
2. Invite groups to create multimedia presentations in the form of a public service announcement.
3. Extend the lesson by discussing how the affected regions will impact the United States’ economy and food sources. Ask students to incorporate a plan for U.S. involvement in each group plan.

HANDOUT #6-A

ASSESSMENT OF FOOD SECURITY ACROSS THE GLOBE

NAME: _____

Gather information about climate change and food security to show how past and current events require global leaders, experts and policymakers to respond.

Climate Change Impact on Food Security **Impacts, Events, Evidence**

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Food Security Concerns

Present	Future

Approaches to Policy

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HANDOUT #6-2

FOOD SECURITY PLAN FOR THE FUTURE

NAME: _____

Research one region of the globe to determine food security concerns as they relate to a changing climate. Plan and build a campaign around your proposal for intervention.

Region	
Population	
Agriculture/ water supply	
Current climate/ weather patterns or events	
Climate change predictions	
Systems of government	
Past or current programs for food security	
Policy	