**Solving the Food Crisis in Your Country: Building Your Case - Student**

Globally, one in nine people in the world today (795 million) are undernourished. The vast majority of the world’s hungry people live in developing countries, where 12.9% of the population is undernourished. Throughout this lesson, you will be the voice for one of these countries, where they so desperately need to find a solution to the food crisis. You will be preparing a proposal for the United Nations (UN) that clearly describes your country’s plan to eradicate food insecurity, and will present it to the UN council at the end of this unit.

You will answer the following questions after learning more information in each lesson. This will help you build your case.

Lesson 1:Introduction to Food Security

1. You and your group are representatives of the following country: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. With your smaller team of country representatives, conduct background information about your country
   * Annual rainfall \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Annual average irrigation for crops (vegetables)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Current population size \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Land area (hectares) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Land area used for production of vegetable crops (hectares)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Vegetable growing (average percent of total crops)***or Value of food imports over total merchandise exports (%) (3-year*** average)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Vegetable Imports (average )\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Vegetable growing (average percent of total crops)***or Value of food imports over total merchandise exports (%) (3-year*** average)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Population growth over next 10 years calculations(\*APES)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Water usage for agriculture (Water resources) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Fertilizer usage per year (and source)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Diet of the country (general common foods for population)
   * Population density (people per square kilometer) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Projected population growth rate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Exports (price and main materials) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Imports (price and main materials) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Per capita income \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Main transportation and any difficulties \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Land use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Current environmental issues \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Primary crop production \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Primary type of farming \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Biomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Climate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lesson 2: Critically Evaluating Food Production Techniques

1. You just investigated various strategies for growing food. Based on your country’s demographics and needs, which growing technique would you choose? Justify your answer. Questions to consider: does the system rely on resources that are limited? How does the system deliver food to people?
2. Where and how will the system be used? Are their limited resources such as water or adequate healthy soils? Explain your answer.

APPLICATION 1: Calculating and creating an efficient system

* + ***Ratio AQX + Agricultural water withdrawal (D) /   
    average Agricultural water withdrawal (A) :*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + ***Ratio AQX system water footprint/Total internal renewable water resources (IRWR m3)*** *(Calculated country Water reduction dompared to average yearly soil-based agricultural water requirements (see AQUASTATs) if crop is grown with aquaponic systems.)* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + ***Percent produced with aquaponic systems of annual total imported vegetables (****Calculated country crop import reduction (compared to average yearly crop imports) if portion of crop(s) are grown with aquaponic systems.)* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + What other advantages and disadvantages do aquaponic systems potentially hold for the country? (list 2-3 of each) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lesson 3: Who Cares? Stakeholders!

1. Which stakeholder are you representing? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. As a stakeholder, you care about the outcome of the decision to solve the food security crisis in your country as it will affect you in a number of ways. Do you believe we can simply grow more food to solve this issue in your country? Explain.
3. After meeting with the other stakeholders in your country, were you able to come up to a consensus about whether or not simply growing more food would solve the crisis in your country? If so, how did you come to that conclusion? If not, what were some of the points of disagreement?

Lesson 4: Food Security as a System

1. Draw a food security network for your country that will help the UN better understand the very complex nature of your country’s crisis.
2. Choose 2 nodes that could be changed in some way that would have an effect on the overall issue. Explain.

Lesson 5: Why Don’t We Just Grow More?

1. Choose 2 menu items from The Great Balancing Act and describe how your stakeholder would be affected by the proposed change in your country. Would you benefit or not? Explain.
2. Which 2 menu items do you believe most other stakeholders in your country would agree would most benefit your country’s crisis? Justify your choices.

Lesson 6: Where Does Our Food Come From?

1. Where does most of the food eaten in your country come from? What would happen if a drought diminished the supply of that food? How would that affect the price? Explain.
2. How could your country become more resilient to the effects of environmental catastrophes on the food they depend on to survive? Provide 2 solutions and explain why they would help.
3. Do you believe your country has a relatively small or large environmental impact due to the primary food items they eat? Justify your answer.