Activity 3.1.1 Food Insecurity Around the World

Introduction

As you have learned through the class discussion, food insecurity can take on several different forms. It is not just a matter of having enough food to supply daily energy needs. There are also matters of food safety and balanced nutrition, ensuring that every single person has access to the food and nutrition they need.

In this activity you will investigate one region of the world that is dealing with a specific food insecurity issue. In groups of two or three, you will closely examine your assigned country and investigate the effects of the food-insecurity issue on people’s lives, including the specific effects on the human body. This could include any number of disorders that become evident in the body because of homeostatic imbalances resulting from the type of food insecurity prevalent in that region. A homeostatic imbalance is a disruption in the internal balance within the body. There are many factors that contribute to the body maintaining equilibrium. Complications and disease may result when the imbalance is so severe that the body cannot restore its equilibrium.

Your mission in this activity is to present a compelling case that would motivate people to fund your initiative to help the people in your assigned country. This may include humanitarian organizations, the United Nations, leadership of countries, for-profit companies, etc. Your group must choose one of the possible presentation outputs from those listed in step 3 of the procedure.

Equipment

- Computer with Internet access
- Engineering notebook
- Activity 3.1.1.a-f Food Insecurity Summary Student Resource Sheets for specific countries around the world
Procedure

1. Read the summary of the food insecurity issues for your assigned country or region. As you are reading, identify the specific deficiencies in the diets of the people of that country. In your engineering notebook, create a chart that includes specific nutritional deficiencies along with the causes for each.

<table>
<thead>
<tr>
<th>Specific Nutritional Deficiencies</th>
<th>Causes for Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Malnutrition</td>
<td>• Inadequate care for children and women. Poor infant feeding practices.</td>
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<tr>
<td>• Inadequate Dairy Intake</td>
<td>• Inadequate access to food</td>
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<tr>
<td>• Disease: poor health practices, lack of immunization, child spacing and hygiene.</td>
<td>• Insufficient health services and unhealthy environment. Poor environmental sanitation and water</td>
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<tr>
<td>• Low food resources</td>
<td>• Lack of income generation and cash cropping. Poor environmental sanitation and water</td>
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<tr>
<td>• Low level of nutrient intake, infection, and low nutrient availability at the cellular level.</td>
<td>• Poor socio-economic status, poverty, illiteracy, big families with short birth intervals, poor food production, and storage practices</td>
</tr>
<tr>
<td></td>
<td>• Poor environmental sanitation and water</td>
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</tbody>
</table>

2. Considering the food insecurities of your assigned country, research and find answers to the following prompts and questions.

o Imagine you live in the assigned country. Create a narrative describing your life and how the food insecurities of that area affect your everyday life. Describe how food insecurities will affect your future as a member of that society.

i. Information in the narrative should include, but is not limited to:

1. What does your diet consist of?
   Food gets traditionally eaten with one’s fingers. Before eating hands are washed in a basin of warm water. People eat beans, rice, fish and other vegetables with various sauces. For breakfast we in Congo often eat bread-like donuts dipped in a sauce or sugar. French bread, tea and coffee are popular too.

2. How many calories do you typically consume in a day?
   250-300 calories/per day

3. How available and affordable is a balance of nutritious food?
Throughout Africa, the main meal of the day is lunch, which usually consists of a mixture of vegetables, legumes, and sometimes meat. However, though different meats are considered staples in many areas, many Africans are not able to eat meat often, due to economic constraints. Beef, goat, and sheep (mutton) are quite expensive in Africa, so these foods are reserved for special days. However, fish is abundant in coastal regions and in many lakes.

4. How do you feel physically and emotionally?
Physically I feel hungry because the apparent lack of food. However emotionally I would feel a bit of hope because organizations such as UNICEF exist to provide food to us.

5. What major obstacles do you face in order to obtain sufficient nutrition?
In the Congo it will be very hard to obtain sufficient nutrition because the country is very poor and is facing strong economic obstacles. Furthermore corruption and war has prevented a consistent supply of food from coming into our village.

ii. How are the food insecurity issues in your area affecting your body? Make sure to think about each specific nutrition deficiency and research the role of the nutrients or micronutrients on the body.

1. What physiological processes have been initiated in your body to compensate for your malnutrition?
The processes that have been initiated in your body, is that the fat is broken down for energy.

2. What physiological processes are disrupted or not functioning properly in your body?
Your bodily systems would most likely slow down or shut off. For example certain organs would fail to work. (ex. liver)

Use your current knowledge to determine what can be done to alleviate the food insecurity issues for your country.

iii. Use your current knowledge to come up with at least one viable, solution which could be used to improve the food security of your assigned group of people. Why is this solution suitable for their situation? What are the advantages and disadvantages of your proposed solution?
The Best Solution that would cost the least amount of money would be to inform the people of the Congo of ways to clean water. The
most intriguing solution is informing them that by boiling water, all the bacteria and parasites in it die, cleansing it.

3. Produce your narrative and research in any of the following forms with professionalism:
   - PowerPoint® or Prezi presentation
   - Brochure/pamphlet using Word® or Publisher®
   - Poster board
   - Create a video in documentary format
   - Write a story describing a day in the life of a person
   - Magazine or newspaper article

4. Your last task is to share the product you have created with the rest of the class. Your instructor will inform you how this should be done for your class.

Conclusion

1. Why is having enough food to supply the daily energy needs for people’s bodies not the only important criteria for establishing food security in a region?

It is important to have food that supplies the daily energy needs for people’s bodies because if they don’t have the food they need certain bodily functions will fail to work and will hurt one’s health.

2. Why is only one solution not going to fully solve the food insecurity problem of a region?

Because the food crisis is based not only in environmental issues, but has roots in economic, social and political disputes.

3. Thinking about the variety of solutions to food insecurity issues proposed by your classmates, identify one engineering-based solution and one non-engineering-based solution. What characterized an engineering-based solution from other types of solutions?

One engineering solution to the food crisis is the fertilize the soil for more available farmland. One non-engineering solution is to create relief funds so more people get access to food. An engineering solution is unique because it is affecting the world.