A STUDENT HANDBOOK
FOR THE 2017
IOWA YOUTH INSTITUTE

THE WORLD FOOD PRIZE
IOWA YOUTH INSTITUTE AT
IOWA STATE UNIVERSITY
@THENEXTNORMIA
WHAT IS FOOD SECURITY?

Imagine you have a stool with three legs, like the one to the right. If you sat on that stool, the stool would be stable. Now imagine if you lost one of the legs or maybe two of the legs. Would the stool still be stable? Probably not! This stool is a lot like food security. There are three legs or components of food security: **quality**, **quantity**, and **availability**.

- **Quality**: Safe and healthy food for the appropriate age group
- **Quantity**: Required amount of good quality, nutritious food from local, regional and international sources
- **Availability**: Physical and economic access to enough food for an active, healthy life

6 FACTS ABOUT FOOD SECURITY & GLOBAL ISSUES

- Today, 1 in 9 people do not consume enough food to lead a healthy and active lifestyle.
- By 2050, there will be at least 9 billion people on the planet in need of food and water.
- In the next 40 years, humans will need to produce more food than they did in the previous 10,000 put together.
- 1/8 of girls and 1/9 of boys do not pursue or unable to pursue secondary education.
- Globally, 1 out of 3 schools lack access to safe water and adequate sanitation.
- Only your generation can take on these challenges.

WHAT IS THE IOWA YOUTH INSTITUTE?

The Iowa Youth Institute (IYI) is a daylong event held at Iowa State University where you have the chance to focus on food security issues. Students in grades 8th to 12th grade* are eligible to attend. The Iowa Youth Institute is on April 24, 2017.

5 REASONS WHY YOU SHOULD PARTICIPATE IN THE IYI

1. **Scholarship** – students that complete the paper and attend the day long event receive a $500 scholarship to Iowa State University in any of the career paths to the right.
2. **Networking** – engage with research and industry experts, state and community leaders, members of the NGO community, and your peers to discuss solutions to global hunger and poverty.
3. **Hands on Experience** – Participate, with your teachers, in interactive activities on Iowa State University’s campus to explore research and work currently taking place in Iowa to address global challenges.
4. **Global Youth Institute** – If you are one of the top students, you can advance to the Global Youth Institute. This once in a lifetime experience allows you interact with peers, like you, from across the nation.*
5. **Paid Fellowships with USDA**– Students that complete the program are eligible to apply for a USDA Wallace Carver Fellowship through the USDA working in research facilities across the United States.

HOW DO YOU GET TO DO ALL THIS?

It’s simple, write a 3 to 5 page paper about an area of the world, what’s happening in the area of the world, and a solution to that problem. Turn the page and find out more!

*12th grade students are ineligible to advance to the Global Youth Institute, but can still receive the scholarship, experience the IYI, and apply for the USDA Wallace Carver Fellowship.

#DYK: In 2016, 281 students from 126 high schools attended the IYI?

Eligible Career Paths at Iowa State

- Global Resource Systems
- Food Science
- Diet & Exercise
- Biology
- Microbiology
- Agricultural & Life Sciences Education
- Dietetics
- Agricultural Biochemistry
- Environmental Science
- Agricultural Business
- Environmental Studies
- Agricultural Studies
- Agricultural Systems Technology
- Forestry
- Agriculture & Society
- Genetics
- Agronomy
- Horticulture
- Animal Ecology
- Industrial Technology
- Animal Science
- International Agriculture
- Culinary Science
- Nutritional Science
- Dairy Science
- Seed Science

QUESTIONS?

Contact: Kelsey Tyrrell
Email: ktyrrell@worldfoodprize.org
Phone: 515-245-3702
Twitter: @thenextnormia
## 6 STEPS TO WRITING THE IYI PAPER

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>STEP 1: EXPLORE THE WORLD</strong></td>
<td>Use resources like the Global Food Security Index from The Economist Intelligence Unit to discover more about countries and what is happening in the world. <a href="http://foodsecurityindex.eiu.com/">http://foodsecurityindex.eiu.com/</a></td>
</tr>
<tr>
<td><strong>STEP 2: ANALYZE A DEVELOPING COUNTRY</strong></td>
<td>Select a developing country to focus your research on. A list of all eligible countries can be found on Page 7 &amp; 8. Then answer the questions about that country and a typical family on Page 9.</td>
</tr>
<tr>
<td><strong>STEP 3: INVESTIGATE A FACTOR IN FOOD SECURITY</strong></td>
<td>Research and then select a factor from Page 10 &amp; 11. After selecting a factor, answer the questions on Page 12: How does this factor affect your country?</td>
</tr>
<tr>
<td><strong>STEP 4: PROVIDE A RECOMMENDATION(S)</strong></td>
<td>Using what you have learned, answer the provide suggestions to the country on how to improve their citizen’s lives. Include specific examples of how to accomplish this goal.</td>
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<tr>
<td><strong>STEP 5: WORK WITH A MENTOR TO PROOFREAD AND CITE YOUR PAPER</strong></td>
<td>Work with your teacher-mentor, parent, or other adult to help cite your paper correctly and to proofread your content. Follow the guidelines closely on Page 14 to insure you meet the requirements.</td>
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<tr>
<td><strong>STEP 6: SUBMIT YOUR PAPER BY MARCH 27, 2017</strong></td>
<td>Your and your teacher mentor submit your paper online at <a href="http://www.worldfoodprize.org/iowayouth">www.worldfoodprize.org/iowayouth</a> by March 27, 2017.</td>
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**CONGRATS! NOW YOU’RE DONE!**
HOW DO I WRITE A PAPER FOR THE IOWA YOUTH INSTITUTE?
Use resources like the Global Food Security Index from The Economist Intelligence Unit to discover more about countries and what is happening in the world. [http://foodsecurityindex.eiu.com/](http://foodsecurityindex.eiu.com/)

Fill out the following sections while exploring the world. Check a variety of sources to discover details about the world.

<table>
<thead>
<tr>
<th>Country: ____________________________</th>
<th>Region of the World: ____________________________</th>
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<tr>
<td>What’s happening in this country: ________________________________________</td>
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<td>Was there a lot of information about the country (circle one): YES NO</td>
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STEP 2: ANALYZE A DEVELOPING COUNTRY

After exploring the world, select a developing country to focus your research on. The countries listed on this page and the following page are eligible. Then answer the questions about that country and a typical family on Page 9.

Caribbean:
- Anguilla (U.K.)
- Antigua & Barbuda
- Bahamas Barbados
- Bermuda (U.K.)
- Cayman Islands (U.K.)
- Cuba
- Dominica
- Dominican Republic
- Grenada
- Guadeloupe
- Haiti
- Jamaica
- Martinique (France)
- Montserrat (U.K.)
- Netherlands Antilles
- Puerto Rico (U.S.)
- St. Kitts & Nevis
- St. Lucia
- St. Vincent & the Grenadines
- Trinidad & Tobago
- Turks & Caicos (U.K.)
- Virgin Islands (U.K. U.S.)

Central America:
- Belize
- Costa Rica
- El Salvador
- Guatemala
- Honduras
- Mexico
- Nicaragua
- Panama

South America Tropical:
- Bolivia
- Brazil
- Colombia
- Ecuador
- French Guiana
- Guyana
- Paraguay
- Peru
- Suriname
- Venezuela

South America Temperate:
- Argentina
- Chile
- Falkland Islands (U.K.)
- Uruguay

West Africa:
- Benin
- Burkina Faso
- Cape Verde Islands
- Côte d’Ivoire
- The Gambia
- Ghana
- Guinea
- Guinea-Bissau
- Liberia
- Mali
- Mauritania
- Niger
- Nigeria
- São Tomé & Príncipe
- Senegal
- Sierra Leone
- Togo

Southern Africa:
- Botswana
- Lesotho
- Namibia
- South Africa
- St. Helena (U.K.)
- Swaziland
- Zimbabwe

Central Africa:
- Angola
- Cameroon
- Central African Republic
- Chad
- Congo
- Democratic Republic – of the Congo

Equatorial Guinea
- Gabon
- Sudan
- South Sudan
- Zambia
A. Define a typical subsistence farm family or poor urban family in your country:

- Family size and composition
- Diet
- Education
- Access to health care

B. Define a typical subsistence farm family or poor urban family in your country:

Rural Family
- Farm size
- Crops grown
- Agricultural practices

OR

Urban Family
- Employment and wage
- Where they typically purchase food
- Access to private or community gardens

C. Describe major barriers facing the typical family

- Major barriers to improving agricultural productivity
- Employment and earning a living wage
- Gaining access to food markets and adequate nutrition
## STEP 3: INVESTIGATE A FACTOR IN FOOD SECURITY

Research and then select a factor from this page or the following page. After selecting a factor, answer the questions on Page 12. It is important to select a factor that is relevant to your country.

<table>
<thead>
<tr>
<th>1. Plant Science</th>
<th>6. Sustainable Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing crop yields and improving disease/drought resistance through research and breeding of improved plant varieties.</td>
<td>Developing and implementing sustainable agricultural practices to combat erosion, desertification and soil depletion and reduce pesticide/herbicide use and minimizing environmental degradation associated with contemporary agricultural work.</td>
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<tr>
<th>2. Water Scarcity</th>
<th>7. Animal Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing water scarcity and adapting farming practices to reduced water supplies with improved irrigation technologies and conservation practices.</td>
<td>Implementing sustainable practices for raising livestock and poultry (management intensive grazing, integrated livestock/poultry grazing and poultry/vegetable production systems, fish pond farming systems, etc.)</td>
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<tbody>
<tr>
<td>Balancing the demand on global food and energy supplies and ensuring that developing nations also benefit from the use of biofuels.</td>
<td>Reducing spoilage and improving the quality and shelf life of food products with improved food preservation techniques and increased processing capacity (flash-heating, aseptic processing, freeze drying, bulk storage, etc.)</td>
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<tbody>
<tr>
<td>Preventing the transmission of disease in livestock and poultry with improved management, investments in vaccine development, and proper application of medications to avoid antibiotic-resistance.</td>
<td>Increasing access to safe, potable water supplies, toilets and pit latrines, and education on proper sanitation/hygiene and food preparation techniques to reduce the transmission of food and water-borne disease.</td>
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</tbody>
</table>

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<tr>
<th>5. Climate Volatility</th>
<th>10. Dietary Diseases</th>
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</thead>
<tbody>
<tr>
<td>Responding to climate volatility by adapting agricultural practices and policies to increase carbon sequestration and support ecological resilience to erratic weather, rising temperatures/drought, saltwater intrusion, and shifting diseases.</td>
<td>Addressing obesity, heart disease, diabetes, and other dietary diseases through nutrition education, access to nutritious foods, and healthy behavior (dietary diversification, food selection, portion-size control, exercise, etc.)</td>
</tr>
<tr>
<td>11. Malnutrition</td>
<td>16. Education</td>
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<tr>
<td>Alleviating micronutrient deficiencies (iron, vitamin A, iodine, zinc) and protein energy malnutrition through improved access to nutritious food, fortification, supplementation, school-feeding programs, nutrition education, emergency therapeutic feeding, etc.</td>
<td>Investing in education, training and extension for improved implementation of agricultural research and technology.</td>
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</tbody>
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<tr>
<th>12. Human Diseases</th>
<th>17. Good Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reducing the burden of illness and infectious diseases like HIV/AIDS, Tuberculosis (TB), Malaria, etc., to improve human health and nutrition and raise agricultural production.</td>
<td>Reducing corruption by promoting the rule of law, government accountability, democratic principles and transparency.</td>
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<tbody>
<tr>
<td>Addressing the challenges and opportunities posed by population growth and urbanization.</td>
<td>Removing discriminatory international trade policies to improve market access, promote fair trade and increase economic development.</td>
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<tbody>
<tr>
<td>Preventing and resolving political and armed conflict with diplomatic initiatives.</td>
<td>Assisting vulnerable populations and improving the effectiveness of humanitarian relief and food aid in conflict zones and disaster sites.</td>
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<tr>
<th>15. Human Rights</th>
<th>20. Farm to Market</th>
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<tbody>
<tr>
<td>Addressing gender, cultural and economic discrimination and improving access to credit and securing property rights for the poor and marginalized.</td>
<td>Improving access to markets through infrastructure development (roads and railways, internet, mobile technologies, electricity).</td>
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</tbody>
</table>
E. Answer the following questions to develop your paper and understand how your selected factor affects food security in your country:

1. How does the factor you selected affect agricultural productivity, household income or food availability and quality in your chosen country?

Discuss the following:

- What role does the factor presently play in causing your family to:
  - not produce enough food?
  - earn sufficient income to purchase food?
  - access adequate nutrition?

- What is the present status of this factor?
  - How severe is the situation?
  - Is the environment being degraded?
  - Are women, rural or urban poor, or developing countries particularly disadvantaged? If so, how?

- Are the trends for this factor improving, worsening, staying the same?
  - How are the trends for this factor measured?
  - Do these measurements indicate the situation is changing? If so, how?
  - Because of potential change, or no change, is the situation for your rural farm or urban family getting worse, improving or staying the same?

- How would improving or resolving this factor:
  - Increase the amount or quality of food or income available to your family?
  - Preserve the environment sustainably?
  - Lead to economic development and poverty reduction?
  - Benefit women, smallholder farmers or urban dwellers in your country of focus?

2. Describe how other major issues (climate volatility, population growth, water scarcity, energy, demand, pollution, etc.) will affect your chosen factor.

- How will other major issues (climate volatility, population growth, water scarcity, urbanization, energy demand, pollution, etc.) affect your chosen factor and the wellbeing of your family and their community in the decades ahead?
Using what you have learned, answer the provide suggestions to the country on how to improve their citizen’s lives. Include specific examples of how to accomplish this goal.

**F. Answer the following questions to develop recommendations for the country. Develop a specific solution or solutions to the issue or issues you encountered.**

1. Based on your research, give your recommendations on how to effectively address your selected factor to improve the food security of your family in the country.

   - What policies, technologies, practices or investments do you recommend to solve this situation?

   - Describe one or more local projects in your focus country that could be scaled up successfully.

   - Give suggestions for the appropriate role of communities, the national government, and organizations in implementing your recommendations:
     - United Nations
     - World Bank
     - international research agencies
     - non-governmental
     - civic organizations

   - How should rural farm and urban families be involved as key players in implementing these recommendations?
CONGRATS! NOW YOU’RE DONE!

STEP 5: WORK WITH A MENTOR TO PROOFREAD AND CITE YOUR PAPER

Work with your teacher-mentor, parent, or other adult to help cite your paper correctly and to proofread your content. Follow the guidelines below to insure you meet the requirements.

FORMAT REQUIREMENTS

1. **Identification in the upper left-hand corner** of the first page providing the name of the student author, high school name, school city, school state, selected country and factor number, and essay title (in bold)

   **EXAMPLE**

   Norman Borlaug
   Crestwood High School
   Cresco, IA
   Mexico, Factor 1: Plant Science

   Mexico: The Benefits of Semi-Dwarf Wheat

2. **Body of approximately [3-5 pages] minimum** in length including:
   - an introduction and conclusion, each of which must be at least one-half page
   - word count of approximately [1500 to 2450] words minimum, excluding bibliography

3. **Bibliography page with at least five sources** and **in-text citations** using the standards set by the Modern Language Association (MLA) or American Psychological Association (APA). Choose one style and use it consistently.
   - MLA Style Guide: [http://owl.english.purdue.edu/owl/resource/747/01/](http://owl.english.purdue.edu/owl/resource/747/01/)
   - APA Style Guide: [http://owl.english.purdue.edu/owl/resource/560/01/](http://owl.english.purdue.edu/owl/resource/560/01/)

4. **Papers must be submitted as a Word (.doc or .docx) file and meet the following page format requirements:**
   - One-inch page margins (top, bottom, left, right)
   - Eleven-point (11) font, Times New Roman
   - Single-space text, no indentation
   - Double-space between paragraphs

   **EXAMPLE**

   Contact Kelsey Tyrrell, Director of Iowa Education Programs if you have any questions:
   ktyrrell@worldfoodprize.org or by phone at 515-245-3702

   Your and your teacher mentor submit your paper online at [www.worldfoodprize.org/iowayouth](http://www.worldfoodprize.org/iowayouth) by March 27, 2017.

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