

# STUDENT/TEACHER HANDBOOK: MISSISSIPPI YOUTH INSTITUTE

MISSISSIPPI STATE UNIVERSITY

# 2021 MSYI



**The World Food Prize**  
GLOBAL YOUTH INSTITUTE



**MISSISSIPPI STATE UNIVERSITY™**  
COLLEGE OF AGRICULTURE  
AND LIFE SCIENCES

# 6 STEPS TO WRITING THE MSYI PAPER:

- 1 Step 1: Explore the world**  
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/>
- 2 Step 2: Analyze a developing country**  
Select a developing country to focus your research on. A list of all eligible countries can be found on Pages 6 & 7. Then answer the questions about that country and a typical family on page 8.
- 3 Step 3: Investigate a factor in food security**  
Research and then select a factor from page 9 & 10. After selecting a factor, answer the questions on page 11. How does this factor affect your country?
- 4 Step 4: Provide a recommendation(s)**  
Using what you have learned, answer the provided suggestions to the country on how to improve their citizens' lives. Include specific examples of how to accomplish this goal.
- 5 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 closely on Page 13 to ensure you meet the requirements.
- 6 Step 6: Submit your paper by February 26, 2021**  
You and your teacher/mentor submit your paper by visiting:

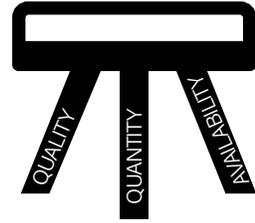
[www.cals.msstate.edu/msyouthinstitute](http://www.cals.msstate.edu/msyouthinstitute) by February 26, 2021



**CONGRATS! NOW YOU'RE DONE!**



# IT ALL STARTS HERE



## What is Food Security?

Imagine you have a stool with three legs, like the one to the right. If you sat on the 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, one in nine people do not consume enough food to lead a healthy and active lifestyle.
- By 2050, there will be at least nine 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 years combined
- One of eight girls and one of nine boys do not pursue or are unable to pursue secondary education.
- Globally, one out of three schools lack access to safe water and adequate sanitation.
- Only your generation can take on these challenges.

## What is the Mississippi Youth Institute?

The Mississippi Youth Institute (MSYI) is a day long event held at Mississippi State University where you have the chance to focus on food security issues. Students in grades 9 to 12 are eligible to attend. The Mississippi Youth Institute will be held on March 26, 2021 (tentative).

## 5 Reasons why you should participate in the MSYI

**Scholarships** - students that complete the paper and attend the day long event will compete for a \$500 scholarship to Mississippi State University in any of the career paths to the right.

**Networking** - engage with research and industry experts, state and community leaders, members of the community, and your peers to discuss solutions to global hunger and poverty.

**Hands-on Experience** - Participate, with your teachers, in interactive activities on Mississippi State University's campus to explore research and work currently taking place in Mississippi to address global challenges.

**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 to interact with peers, like you, from across the nation. \*

**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?

Write a 4 to 5 page paper about an area of the world, what's happening in that 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 MSYI, and apply for the USDA Wallace Carver Fellowship.

## QUALITY | QUANTITY | AVAILABILITY

### ELIGIBLE CAREER PATHS AT MISSISSIPPI STATE

Agribusiness  
Agricultural Engineering Technology  
and Business  
Agricultural Education, Leadership and  
Communications  
Agricultural Science  
Agronomy  
Animal and Dairy Sciences  
Biochemistry  
Culinology  
Environmental Economics and  
Management  
Environmental Science in Agricultural  
Systems  
Fashion Design and Merchandising  
Food Science  
Horticulture  
Human Development and Family  
Science  
Landscape Architecture  
Landscape Contracting and  
Management  
Nutrition  
Poultry Science

## QUESTIONS?

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**Phone:** 662-325-0233



**Step 1:** Explore the world

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/>

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



Country: \_\_\_\_\_ Region of the World: \_\_\_\_\_

What's happening in this country: \_\_\_\_\_

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Was there a lot of information about the country (circle one): Yes No

Country: \_\_\_\_\_ Region of the World: \_\_\_\_\_

What's happening in this country: \_\_\_\_\_

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Was there a lot of information about the country (circle one): Yes No

Country: \_\_\_\_\_ Region of the World: \_\_\_\_\_

What's happening in this country: \_\_\_\_\_

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Was there a lot of information about the country (circle one): Yes No

**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 8.

**Central America**

- Belize
- Costa Rica
- El Salvador
- Guatemala
- Honduras
- Mexico
- Nicaragua
- Panama

**Caribbean**

- Anguilla (U.K.)
- Antigua & Barbuda
- Bahamas Barbuda
- 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.)

**South America Temperate**

- Argentina
- Chile
- Falkland Islands (U.K.)
- Uruguay

**South America Tropical**

- Bolivia
- Brazil
- Colombia
- Ecuador
- French Guiana
- Guyana
- Paraguay
- Peru
- Suriname
- Venezuela

**Southern Africa**

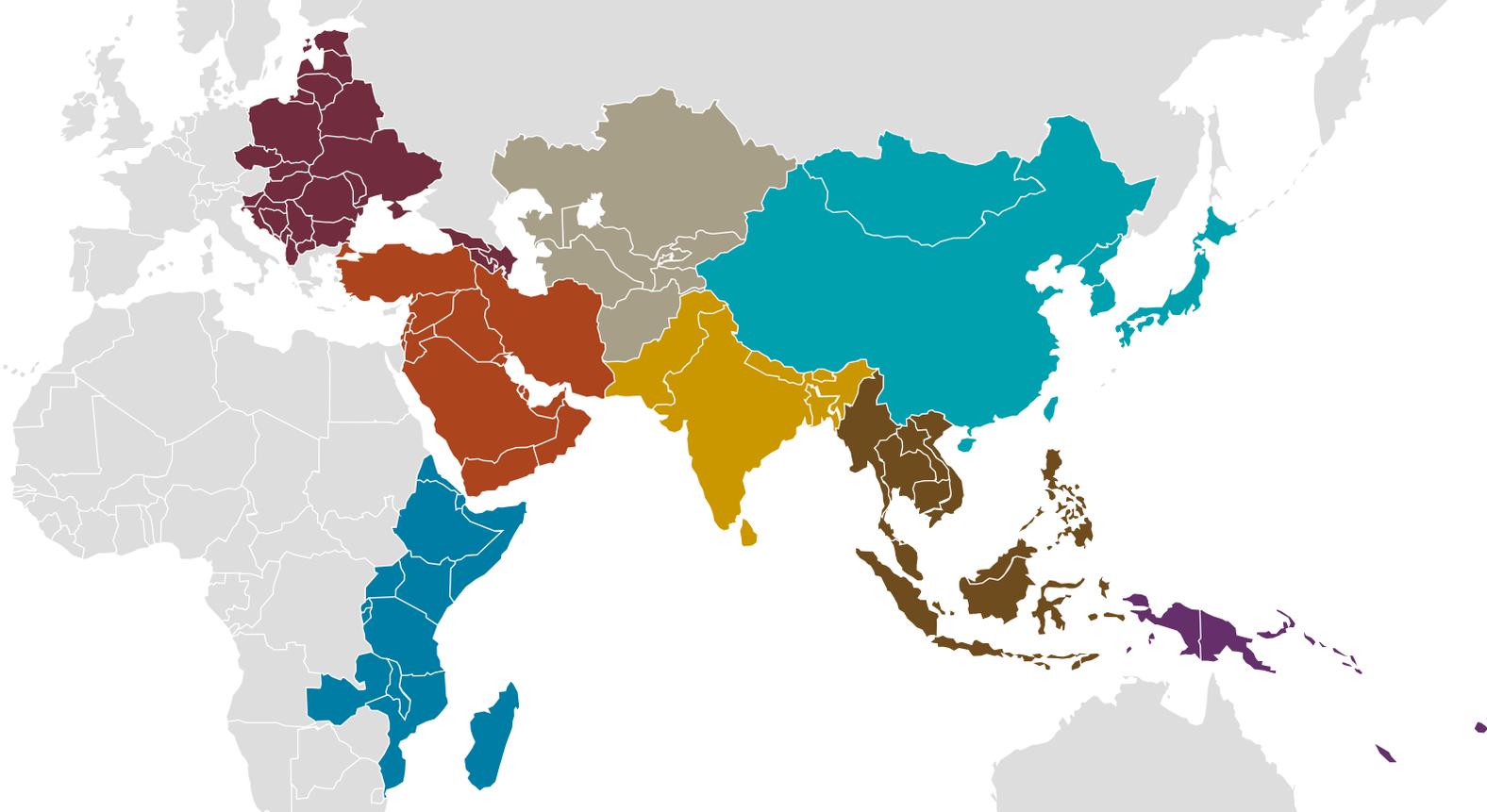
- Botswana
- Lesotho
- Namibia
- South Africa
- St. Helena (U.K.)
- Swaziland
- Zimbabwe

**West Africa**

- Benin
- Burkina Faso
- Cape Verde Islands
- Cote d'Ivoire
- The Gambia
- Ghana
- Guinea
- Guinea-Bissau
- Liberia
- Mali
- Mauritania
- Niger
- Nigeria
- São Tomé & Príncipe
- Senegal
- Sierra Leone
- Togo

**Central Africa**

- Angola
- Cameroon
- Central African Republic
- Chad
- Congo
- Democratic Republic of the Congo
- Equatorial Guinea
- Gabon
- Sudan
- South Sudan
- Zambia



### Indian Subcontinent

Bangladesh  
Bhutan  
India  
Maldives  
Nepal  
Pakistan  
Sri Lanka

### Southeast Asia

|                 |                            |
|-----------------|----------------------------|
| Brunei          | Democratic Republic (Laos) |
| Darussalam      | Malaysia                   |
| Burma (Myanmar) | Philippines                |
| Cambodia        | Singapore                  |
| East Timor      | Thailand                   |
| Indonesia       | Vietnam                    |
| Lao People's    |                            |

### East Asia

China Hong Kong S.A.R. (China)  
Japan  
Democratic People's Republic of Korea (North)  
Republic of Korea (South)  
Macao S.A.R. (China)  
Mongolia  
Taiwan

### Eastern Europe

|                    |                            |
|--------------------|----------------------------|
| Albania            | Lithuania                  |
| Armenia            | Macedonia                  |
| Azerbaijan         | Moldova                    |
| Belarus            | Poland                     |
| Bosnia/Herzegovina | Romania                    |
| Bulgaria           | Russia                     |
| Croatia            | Serbia                     |
| Czech Republic     | Montenegro                 |
| Estonia            | Slovakia (Slovak Republic) |
| Georgia            | Slovenia                   |
| Hungary            | Ukraine                    |
| Latvia             |                            |

### South Pacific

Christmas Island  
Cook Island  
Federated States of Micronesia  
Fiji  
French Polynesia (Tahiti)  
Guam  
Kiribati  
Marshall Islands  
Nauru  
New Caledonia  
Niue  
Northern Mariana Islands  
Palau  
Papua New Guinea  
Pitcairn  
Samoa  
American Samoa  
Solomon Islands  
Tokelau  
Tonga  
Tuvalu  
Vanuatu  
Wake Island  
Wallis & Futuna

### East Africa

|            |            |
|------------|------------|
| Burundi    | Mayotte    |
| Comoros    | Mozambique |
| Djibouti   | Réunion    |
| Eritrea    | Rwanda     |
| Ethiopia   | Seychelles |
| Kenya      | Somalia    |
| Madagascar | Tanzania   |
| Malawi     | Uganda     |
| Mauritius  |            |

### Middle East

|         |                      |
|---------|----------------------|
| Bahrain | Qatar                |
| Cyprus  | Saudi Arabia         |
| Iran    | Syrian Arab Republic |
| Iraq    | Turkey               |
| Israel  | United Arab Emirates |
| Jordan  | Yemen                |
| Kuwait  |                      |
| Lebanon |                      |
| Oman    |                      |

### Central Asia

Afghanistan  
Kazakhstan  
Kyrgyzstan  
Tajikistan  
Turkmenistan  
Uzbekistan

## Step 2: Continued

After selecting a country, research and begin answering the following questions about that country. Keep track of your sources because the paper requires in-text citation and a bibliography.

### 1 Define a typical subsistence farm family or poor urban family in your country:

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

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### 2 Define a typical subsistence farm family or poor urban family in your country:

#### Rural Family

- Farm size
- Crops grown
- Agricultural practices

#### Urban Family

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

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### 3 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 11. It is important to select a factor that is relevant to your country.



#### 1. Plant Science

Increasing crop yields and improving disease/drought resistance through research and breeding of improved plant varieties.



#### 2. Water Scarcity

Managing water scarcity and adapting farming practices to reduce water supplies with improved irrigation technologies and conservation practices.



#### 3. Biofuels

Balancing the demand on global food and energy supplies and ensuring that developing nations also benefit from the use of biofuels.



#### 4. Animal Health

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.



#### 5. Climate Volatility

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.



#### 6. Animal Agriculture

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.).



#### 7. Spoilage & Waste

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.).



#### 8. Water & Sanitation

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.



#### 9. Dietary Diseases

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.).



#### 10. Sustainable Agriculture

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.



### 11. Malnutrition

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.



### 16. Education

Investing in education, training and extension for improved implementation of agricultural research and technology.



### 12. Human Diseases

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.



### 17. Good Governance

Reducing corruption by promoting the rule of law, government accountability, democratic principles and transparency.



### 13. Demographics

Addressing the challenges and opportunities posed by population growth and urbanization.



### 18. International Trade

Removing discriminatory international trade policies to improve market access, promote fair trade and increase economic development.



### 14. Conflict Resolution

Preventing and resolving political and armed conflict with diplomatic initiatives.



### 19. Foreign Aid

Assisting vulnerable populations and improving the effectiveness of humanitarian relief and food aid in conflict zones and disaster sites.



### 15. Human Rights

Addressing gender, cultural and economic discrimination and improving access to credit and securing property rights for the poor and marginalized.



### 20. Farm to Market

Improving access to markets through infrastructure development (roads and railways, internet, mobile technologies, electricity).



### Step 3: Investigate a factor in food security

After selecting a factor to write about, answer the questions below about the factor. Focus on how this factor affects your selected country.

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, or 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?

#### Step 4: Provide a recommendation(s)

Using what you have learned, answer the provided suggestions to the country on how to improve their citizens' lives. Include specific examples of how to accomplish this goal.

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 by 2025?

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?



**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 ensure 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).

Norman' Borlaug  
Starkville High School  
Starkville, MS  
Mexico, Factor 1: Plant Science  
Mexico, The Benefits of Semi-Dwarf Wheat

- 2** Body of approximately [4-5 pages] in length including:

An introduction and conclusion, each of which must be at word count of approximately [2200 to 3500] words minus 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/>  
APA Style Guide: <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

*\*A note on plagiarism. Plagiarism is taking someone else's work or ideas and passing them off as your own. Please do not plagiarize! Cite your sources and formulate your own original essay. Plagiarized essays cannot be accepted.*

**Step 6:** Submit your paper by February 26, 2021

Contact **Scott Willard**, Associate Dean, College of Agriculture and Life Sciences, Mississippi State University, if you have any questions  
[swillard@cals.msstate.edu](mailto:swillard@cals.msstate.edu) or by phone at 662-325-0233

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