



PennState  
College of Agricultural Sciences

# GLOBAL CHALLENGE

THE PENNSYLVANIA YOUTH INSTITUTE  
JUNE 20 or JULY 11, 2024

Registration due: MAY 31, 2024

[www.worldfoodprize.org/PENNSYLVANIA](http://www.worldfoodprize.org/PENNSYLVANIA)



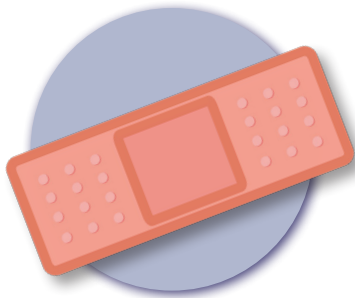
**hunger fighters**<sup>®</sup>

knowledge · innovation · action

We want *YOU* to solve the world's greatest challenge:  
**END HUNGER AND POVERTY**

No, really. We need to find sustainable solutions to feed our growing population.

**IT'S COMPLICATED, BUT WE'RE MAKING PROGRESS. WE CAN END HUNGER AND POVERTY BY FOCUSING ON:**



**IMPROVING HUMAN HEALTH**



**INCREASING ACCESS TO EDUCATION AND OPPORTUNITY**



**PROMOTING ECONOMIC GROWTH**



**PROTECTING THE ENVIRONMENT**

There have already been significant improvements but we still have a long way to go. There is no shortage of solutions. Explore what's working and what isn't, and use your unique perspective, talents and ideas to help solve the world's greatest challenge.



**CALLING ALL STUDENTS**

We're looking for high school students who:

- Care passionately about the world and want to make it a more just and equitable place for all
- Believe everyone should have access to nutritious food, clean water, education, and a fair income
- Are problem solvers who want to be part of the solution

## WHY DOES THIS MATTER?

1 IN 9 PEOPLE DON'T  
HAVE ENOUGH SAFE AND  
NUTRITIOUS FOOD



## TODAY:



**A CHILD DIES FROM  
HUNGER-RELATED CAUSES  
EVERY 10 SECONDS**



**1/3 OF ALL FOOD ON THE  
PLANET IS WASTED**



**1 OUT OF 3 SCHOOLS DO  
NOT HAVE SAFE WATER  
AND SANITATION**

## TOMORROW:

- By 2050, there will be at least 9 billion people on the planet
- In the next 40 years, humans will need to produce more food than they have in the previous 10,000 years combined



## WHAT IS FOOD SECURITY?

There are three essential components:

### QUALITY

Safe, healthy and nutritious food

### QUANTITY

Enough food to lead a healthy and active lifestyle

### AVAILABILITY

Finances to purchase food near where you live

# WHAT IS THE PENNSYLVANIA YOUTH INSTITUTE?

The Pennsylvania Youth Institute is a life-changing experience at Penn State University where high school students engage with local leaders and experts on critical global food security challenges, participate in hands-on science activities, and explore exciting ways to make a difference in Pennsylvania and around the world.

Students research issues they care about, and propose their ideas to solve these grand challenges.

## WHY PARTICIPATE?

- Become recognized as a Borlaug Scholar
- Qualify for the Global Youth Institute, paid USDA fellowships, and International Internships

## HOW DO I PARTICIPATE?

- Research a global challenge and write a paper about the problem and your proposed solution
- There is no cost, fee or membership required for the program! Your paper is your ticket to attend
- Register and submit your paper by: May 31, 2024
- Attend the Pennsylvania Youth Institute at Penn State University in State College, PA on June 20 or July 11, 2024

## QUESTIONS?

Jenneth Layaou

Pennsylvania State Coordinator

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## WE ARE THE WORLD FOOD PRIZE

Founded by Dr. Norman Borlaug, a Nobel Peace Prize winner who saved over a billion people from famine and starvation. The World Food Prize celebrates individuals who significantly improve global food security.

Like Dr. Borlaug they are game changers who come from a variety of backgrounds; scientists, policy makers, innovators and entrepreneurs. We want to connect you with these incredible leaders and inspire you to make a difference as well.



*Ready to change the world?*

# 7 SIMPLE STEPS TO WRITE YOUR PAPER.

**1**  
CHOOSE A  
COUNTRY

**2**  
RESEARCH  
A TYPICAL  
FAMILY

**3**  
SELECT A  
TOPIC

**4**  
ANALYZE  
ITS IMPACT  
ON FOOD  
SECURITY

**5**  
EXPLORE &  
PROPOSE  
SOLUTIONS

**6**  
WRITE  
YOUR  
PAPER

**7**  
REGISTER  
FOR THE  
YOUTH  
INSTITUTE!



# choose a COUNTRY

Select a country, territory or independent economy to focus your research on

Please note: Select a country other than the one that you live in.

## Caribbean

- Anguilla (U.K.)
- Antigua and Barbuda
- Aruba (Netherlands)
- Bahamas
- Barbados
- Bermuda (U.K.)
- Cayman Islands (U.K.)
- Cuba
- Curaçao (Netherlands)
- Dominica
- Dominican Republic
- Grenada
- Guadeloupe (France)
- Haiti
- Jamaica
- Martinique (France)
- Montserrat (U.K.)
- Puerto Rico (U.S.)
- Saint-Barthélemy (France)
- Saint Kitts and Nevis
- Saint Lucia
- Saint Martin (France)
- Saint Vincent and the Grenadines
- Sint Maarten (Netherlands)
- Trinidad and Tobago
- Turks and Caicos Islands (U.K.)
- Virgin Islands (U.K., U.S.)

## North America

- Canada
- Mexico
- United States of America

## Central America

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

## South America

- Argentina
- Bolivia
- Brazil
- Chile
- Colombia
- Ecuador
- Falkland Islands (U.K.)
- French Guiana
- Guyana
- Paraguay
- Peru
- Suriname
- Uruguay
- Venezuela

## Western Europe

- Austria
- Belgium
- France
- Germany
- Liechtenstein
- Luxembourg
- Monaco
- Netherlands
- Saint Pierre and Miquelon (France)
- Switzerland
- United Kingdom

## Northern Africa

- Algeria
- Egypt
- Libya
- Morocco, including Western Sahara
- Sudan
- Tunisia

## Western Africa

- Benin
- Burkina Faso
- Cabo Verde
- Cote d'Ivoire
- Ghana
- Guinea
- Guinea-Bissau
- Liberia
- Mali
- Mauritania
- Niger
- Nigeria
- Saint Helena (U.K.)
- Senegal
- Sierra Leone
- The Gambia
- Togo

## Middle Africa

- Angola
- Cameroon
- Central African Republic
- Chad
- Democratic Republic of the Congo
- Equatorial Guinea
- Gabon
- Republic of the Congo
- São Tomé and Príncipe

**Southern Europe**

- Albania
- Andorra
- Bosnia and Herzegovina
- Croatia
- Gibraltar (U.K.)
- Greece
- Italy
- Kosovo
- Macedonia
- Malta
- Montenegro
- Portugal
- San Marino
- Serbia
- Slovenia
- Spain
- Vatican City

**Northern Europe**

- Denmark
- Estonia
- Faroe Islands (Denmark)
- Finland
- Greenland (Denmark)
- Iceland
- Ireland
- Latvia
- Lithuania
- Norway
- Sweden

**Eastern Europe**

- Belarus
- Bulgaria
- Czechia
- Hungary
- Moldova
- Poland
- Romania
- Russia
- Slovakia
- Ukraine

**Eastern Asia**

- China
- Hong Kong S.A.R. (China)
- Japan
- Macau S.A.R. (China)
- Mongolia
- North Korea
- South Korea
- Taiwan (China)

**Southeastern Asia**

- Brunei
- Cambodia
- Indonesia
- Laos
- Malaysia
- Myanmar/Burma
- Philippines
- Singapore
- Thailand
- Timor-Leste
- Vietnam

**Oceania**

- American Samoa (U.S.)
- Australia
- Cook Islands (New Zealand)
- Fiji
- French Polynesia (France)
- Guam (U.S.)
- Kiribati
- Marshall Islands
- Micronesia
- Nauru
- New Caledonia (France)
- New Zealand
- Niue (New Zealand)
- Northern Mariana Islands (U.S.)
- Palau
- Papua New Guinea
- Pitcairn Islands (U.K.)
- Samoa
- Solomon Islands
- Tokelau (New Zealand)
- Tonga
- Tuvalu
- Vanuatu
- Wallis and Futuna (France)

**Western Asia**

- Armenia
- Azerbaijan
- Bahrain
- Cyprus
- Georgia
- Iraq
- Israel, West Bank, and Gaza
- Jordan
- Kuwait
- Lebanon
- Oman
- Qatar
- Saudi Arabia
- Syria
- Turkey
- United Arab Emirates
- Yemen

**Eastern Africa**

- Burundi
- Comoros
- Djibouti
- Eritrea
- Ethiopia
- Kenya
- Madagascar
- Malawi
- Mauritius
- Mayotte (France)
- Mozambique
- Réunion (France)
- Rwanda
- Seychelles
- Somalia
- South Sudan
- Tanzania
- Uganda
- Zambia
- Zimbabwe

**Central Asia**

- Kazakhstan
- Kyrgyzstan
- Tajikistan
- Turkmenistan
- Uzbekistan

**Southern Africa**

- Botswana
- Eswatini
- Lesotho
- Namibia
- South Africa

**Southern Asia**

- Afghanistan
- Bangladesh
- Bhutan
- India
- Iran
- Maldives
- Nepal
- Pakistan
- Sri Lanka



## STEP ONE: CHOOSE A COUNTRY

Use the following pages and questions as a guide to help you write an outline as you explore your country and topic. Need ideas? Resources can be found at: [worldfoodprize.org/resources](http://worldfoodprize.org/resources)



**COUNTRY:** \_\_\_\_\_

What is the country's population? What percentage are urban and rural?

\_\_\_\_\_

What type of government and leadership exists?

\_\_\_\_\_

How much of the land is currently cultivated? What are the major crops and exports?

\_\_\_\_\_

What is the average farm size in your chosen country? For context, what can you compare it to?

\_\_\_\_\_

What is the climate and geography?

\_\_\_\_\_

## SOURCES

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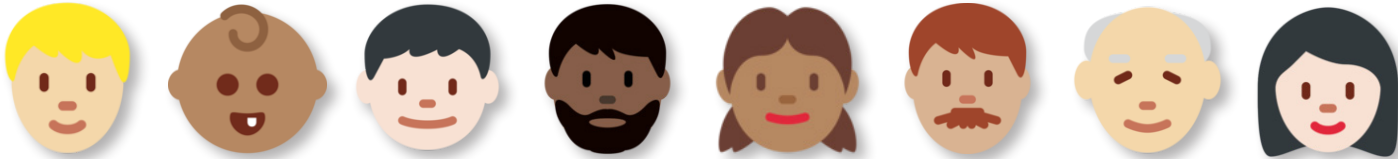
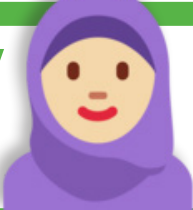
**PRO  
TIP**

Choose a country you would like to know more about or maybe one you have never heard of. Or, choose your topic first, then select a country that is relevant to the topic.



# STEP TWO: RESEARCH A TYPICAL FAMILY

Describe life for a typical family in your chosen country.



- What is a typical family size? Describe the dwelling in which they live.  
\_\_\_\_\_
- What does a typical family diet consist of?  
\_\_\_\_\_
- Where do families get food and how do they cook it?  
\_\_\_\_\_
- What types of jobs do they have and what is the average wage?  
\_\_\_\_\_
- Do families have access to education and health care? Is it affordable?  
\_\_\_\_\_
- Does the family have access to clean water, toilets, electricity, telephones, roads and local markets?  
\_\_\_\_\_
- What major barriers do typical families face including earning a living and access to nutritious food?  
\_\_\_\_\_

**SOURCES** \_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PRO TIP**

Wikipedia can be useful for initial searches, but it should never be used as a reference since it is not possible to evaluate the accuracy of the information or the credibility of the author(s) of the article.

## STEP THREE: CHOOSE A TOPIC

Select a topic (global challenge) to focus your research on. It is important to select a topic that is relevant to your country.



### PLANTS

Utilizing plants to increase and improve food, nutrition, medicine, fibers, fuels and other products



### WATER SCARCITY

The lack of available water resources to meet the demands within a region



### RENEWABLE ENERGY

Energy created from naturally occurring sources such as water, wind, solar and biofuels



### ANIMAL HEALTH

Protect and improve the health, safety, and quality of livestock, poultry and aquaculture



### CLIMATE CHANGE

Adapt agricultural practices and policies to respond to significant changes in the Earth's climate



### SUSTAINABLE AGRICULTURE

Best practices to grow food and fiber for long term environmental, economic and social success



### ANIMAL AGRICULTURE

The care and breeding of livestock, poultry and aquaculture



### SPOILAGE & WASTE

Food that is lost, spoiled or discarded in production postharvest, processing or consumption



### WATER & SANITATION

Clean drinking water and adequate sewage disposal to improve human hygiene and health



## DIETARY DISEASES



Disease caused by unhealthy diets and a lack of exercise

## MALNUTRITION

Deficiencies, excesses, or imbalances in a person's intake of energy, protein and nutrients



## INFECTIOUS DISEASES

Infections and illnesses that can be spread from one person to another, or between animals and humans



## POPULATIONS

The characteristics and movements of a population including urbanization, migration and growth



## CONFLICT

Political, economic, environmental, or social disagreements, violence or armed conflict



## HUMAN RIGHTS

Rights that all people are equally entitled to regardless of their nationality, sex, race, ethnicity, religion, language, etc



## EDUCATION

The delivery of knowledge, skills, and information



## POLICY & GOVERNANCE

The implementation of policies, processes and structures that determine how power is distributed and shared



## INTERNATIONAL TRADE

The exchange of capital, goods, and services between countries



## FOREIGN AID

Assistance given by one nation to another for humanitarian relief or development efforts



## INFRASTRUCTURE

The physical structures and facilities critical for the operation of a society such as roads, bridges, power, etc



# STEP FOUR: ANALYZE THE IMPACT

How does your topic impact food security?



What is the present status and severity of this topic?

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Are trends improving, worsening or staying the same?

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What contributes to this trend?

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How does this topic affect rural and urban populations?

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How does this topic affect women and men differently? The elderly? Children?

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How does this topic affect marginalized populations? (minorities, refugees, indigenous, etc.)

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How does this topic affect the environment?

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## SOURCES

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## STEP FIVE: SOLUTIONS & RECOMMENDATIONS

Finding ideas for solutions can be tough. Start by researching what already exists.

What are **2-3** solutions that address the challenge

• **IN YOUR CHOSEN COUNTRY:** what is currently being done or what has been tried in the past? What worked and what could be improved upon?

• **IN ANOTHER COUNTRY:** what has been done to address similar challenges? Would they be appropriate to implement in your country?

**WHAT ARE THE STRENGTHS AND WEAKNESSES FOR EACH OF THESE SOLUTIONS? USE THIS BOX TO OUTLINE THE PROS AND CONS.**

SOLUTION	STRENGTH (PROS)	WEAKNESS (CONS)



# SOLUTIONS & RECOMMENDATIONS

Would these solutions meet all the needs of the population in your country?

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What solution would you recommend to solve this challenge? Describe the plan of action.

---

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Who would manage and lead this project? Examples: The United Nations, World Bank, non-profits, civic organizations, etc.

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How could this project be funded?

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What role do community members, the government, and other organizations play in implementing your plan?

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What policies would need to be in place for the project to be successful?

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What cultural norms or behaviors need to be considered while developing your plan?

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How can this project be sustainable?

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## SOURCES

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**PRO  
TIP**

Is the solution simple or complex?  
Is it expensive or affordable? These are important questions to ask yourself!

## STEP SIX: WRITE & FORMAT YOUR PAPER

Now that you have done your research, it's time to bring it all together.



### FORMAT REQUIREMENTS

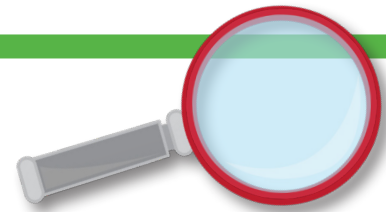
Research papers must be submitted as a Word (.doc or .docx) file and meet the following page format requirements:

- One-inch page margins (top, bottom, left, right)
- Eleven-point font, Times New Roman
- Single-space text, no indentation
- Double space between paragraphs
- Identification in the upper left-hand corner of the first page providing:
  - Student name
  - High school name
  - School city, State/ Province, Country
  - Selected country, Topic
  - Essay title (in bold)

Jackson Smith  
 Central High School  
 Dormont, PA, USA  
 India, Malnutrition

**India: A Holistic Approach for the Rural Population**

- Proofread your paper and edit for sentence structure and proper grammar
- Ask at least three other people to read your paper and give you feedback (consider teachers, mentors, club leaders, friends, and parents)



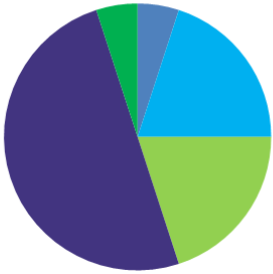
### PLEASE NOTE:

*Your paper will be checked for plagiarism.*

Make sure to take the time to analyze and interpret the articles and information you read, and explain them in your own voice. It's important to always be careful when sharing an idea or concept that is someone else's (even if you explain it in your own words), that you properly credit the original source.

For more information on citations and referencing, visit: [worldfoodprize.org/resources](http://worldfoodprize.org/resources)

# RECOMMENDED BREAKDOWN



Your paper should be 3-5 pages in length with a word count of 1500-2500 words, excluding the bibliography.

- 5% Introduction
- 20% Country & Family
- 20% Challenge & Impact
- 50% Solutions & Recommendations
- 5% Conclusion



## PRO TIP

For great information on how to write a bibliography, check out: [Easybib.com](http://Easybib.com), [Citationmachine.com](http://Citationmachine.com) or the Purdue Writing Lab at <http://owl.english.purdue.edu/owl>

### BIBLIOGRAPHY PAGE

Should include at least five sources with 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

## STEP SEVEN: REGISTER & SUBMIT YOUR PAPER

All your hard work has paid off! It's time to submit your registration and final paper at: [www.worldfoodprize.org/pennsylvania](http://www.worldfoodprize.org/pennsylvania)

If you have any questions, contact the Pennsylvania Coordinator:

Jenneth Layaou | (814) 867-0383 | [jrl1145@psu.edu](mailto:jrl1145@psu.edu)