



Catholic University
Department of Economics



International Economic Comparisons of Covid's Impact on small-scale and family Farming

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Introduction

Outline of Project

- Focus on Covid-19's impacts on farms
- Comparing US (North Dakota) and Ghanaian farmers
- Quantitative data
 - Crop prices & econometrics
- Qualitative Data
 - Surveys & Comparisons
- Conclusion and Solutions



Project Interest & Motivation

- > Two years in agricultural research
- > Family roots in farming
- > Qualitative vs quantitative



1948 Center Farm Fritz, Sigurd, Sam



Methodology & Comparison

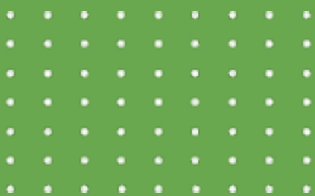
METHODOLOGY:

- Gather hard data from USDA, US Farm Bureau, & World Food Programme
- Create surveys specific to Covid & compare between focus areas

COMPARISON:

- Ghana land area: 92,098
- North Dakota Land area: 70,762
- Ghana: 57% farmland
- North Dakota: 88% farmland

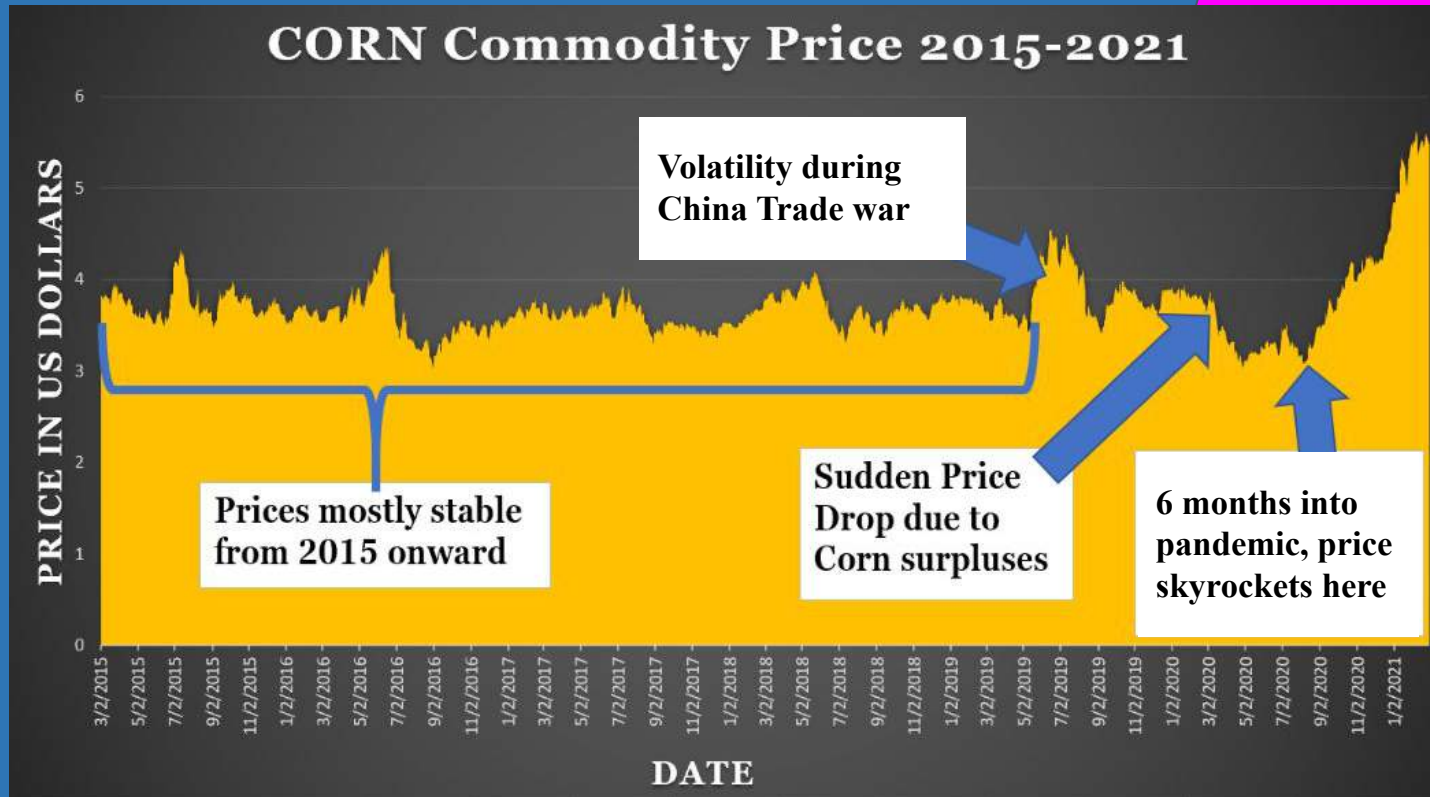
Strong proportions



Quantitative Analysis

North Dakota's Corn Price Fluctuations

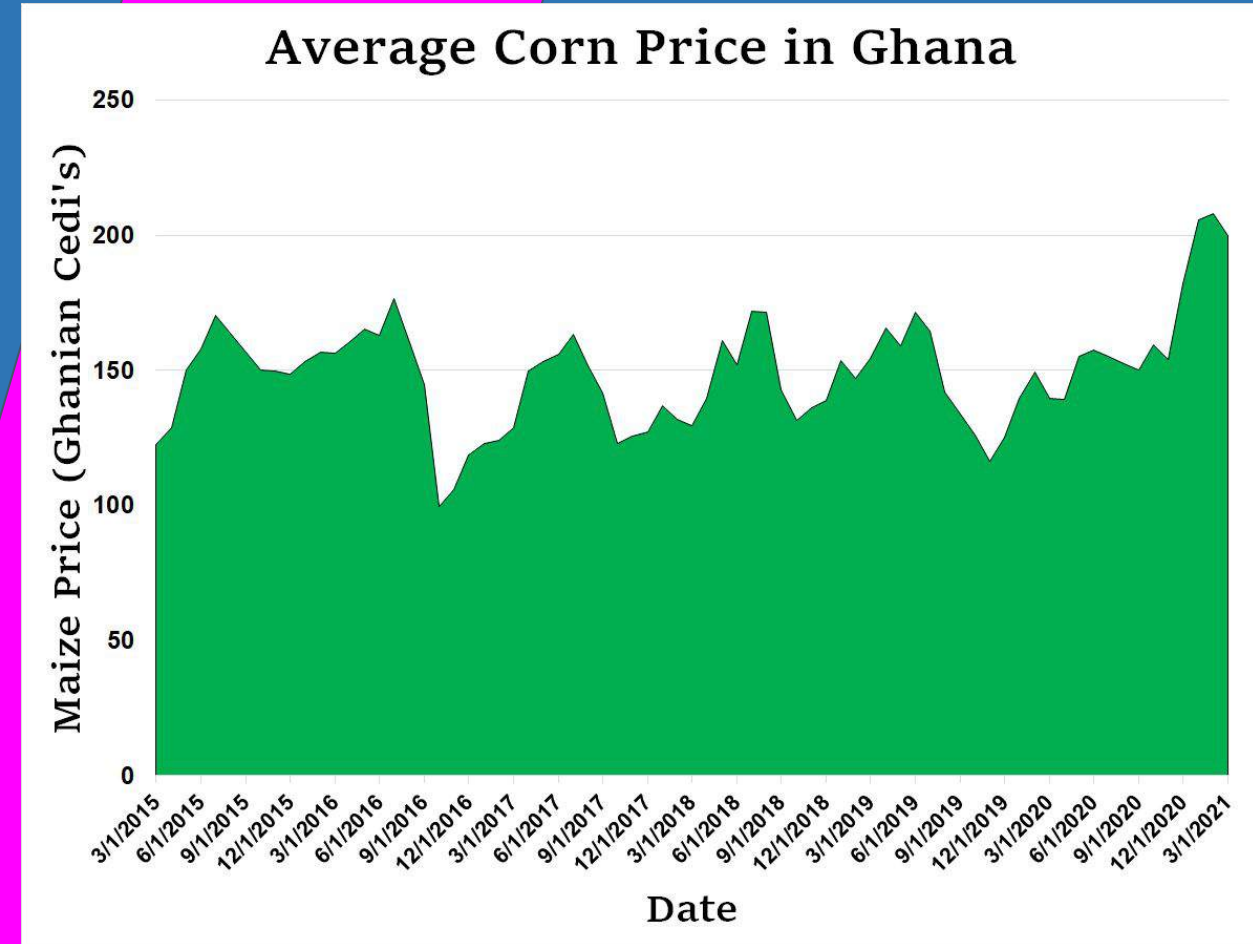
> Corn = One of most important crops to the upper midwest region of USA



> Prices seems to spike 6 months into pandemic, possibly triggered by high inputs

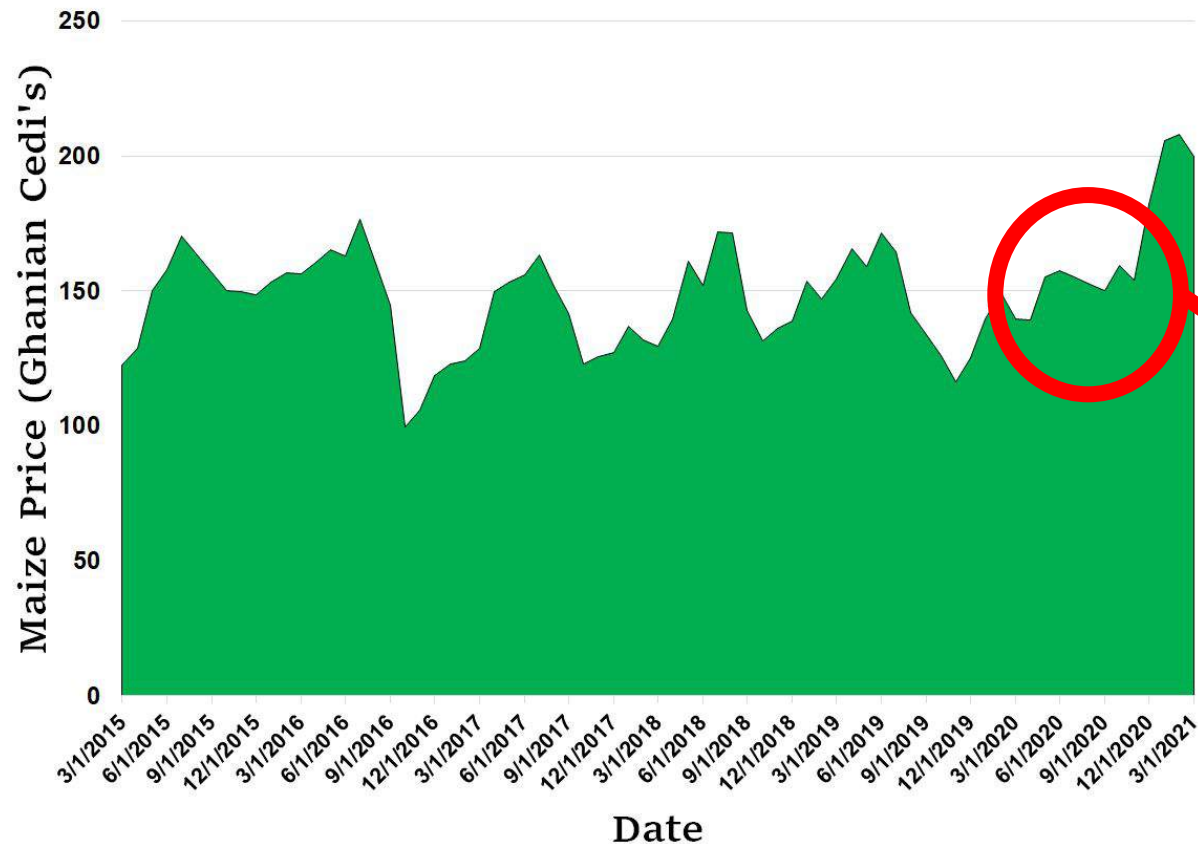
Ghana's Corn Price Fluctuations

- > Not traded like US crop commodities, and but still economically volatile
- > Harvested by hand (no machinery)
- > Saw minor changes due to seasonality and macroeconomic factors
- > Like North Dakota, saw major increase about 6 months after start of pandemic

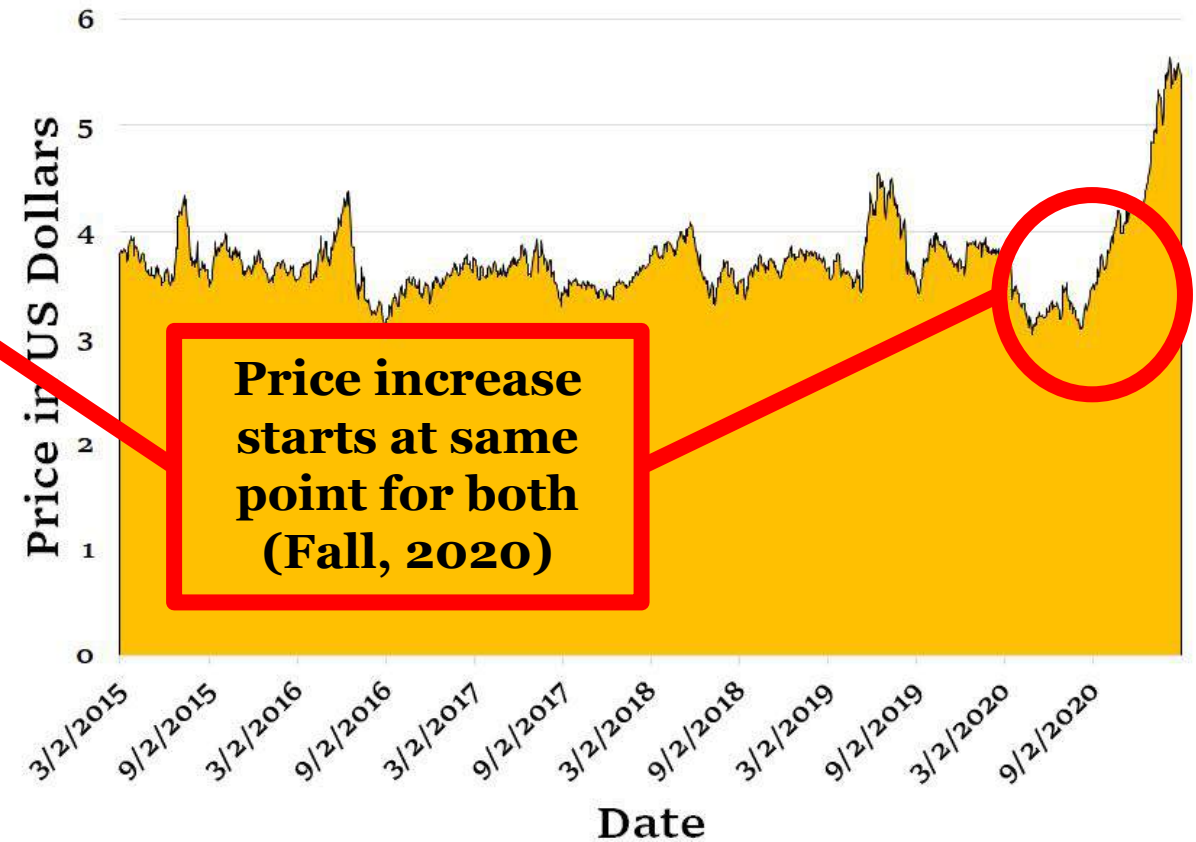


Comparing both countries side-by-side

Average Corn Price in Ghana



US Corn Commodity Price (2015 - 2021)



Econometrics & Hypothesis

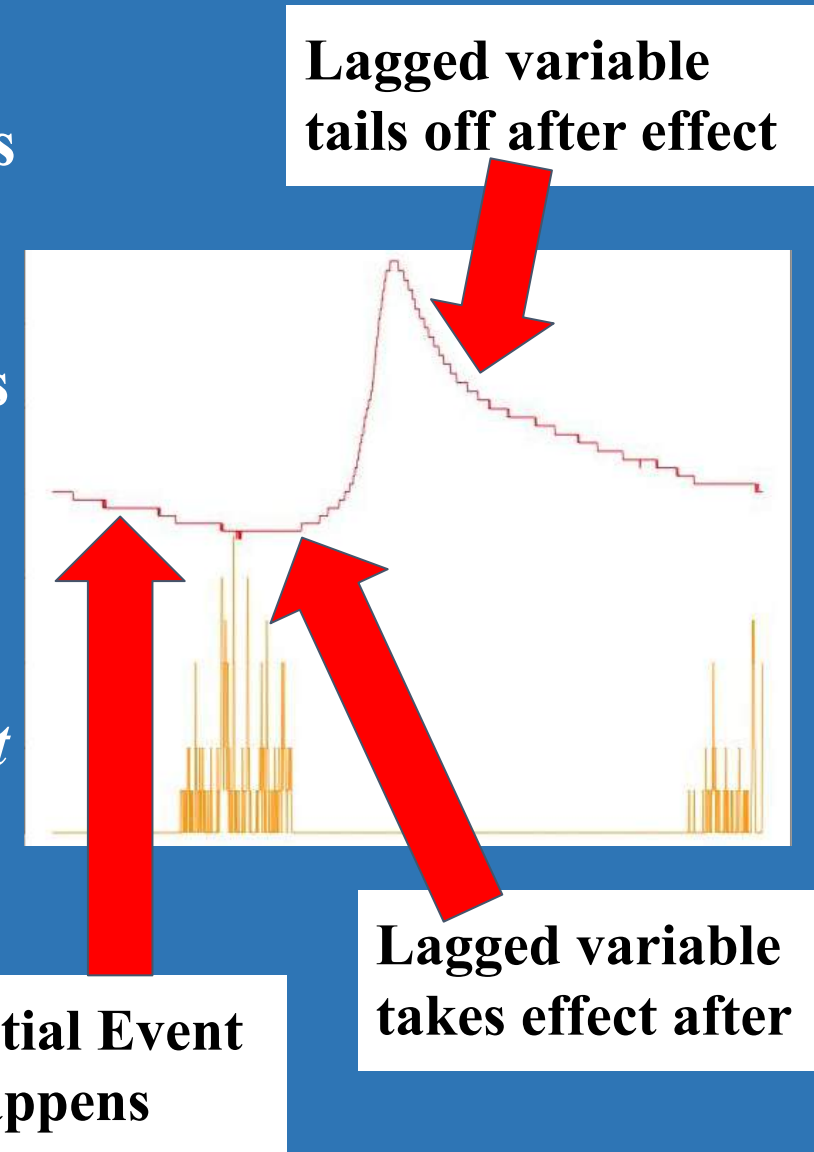
> High prices almost always means good results for farmers

> **HOWEVER**, high inputs means low ROI back to farmers

HYPOTHESIS:

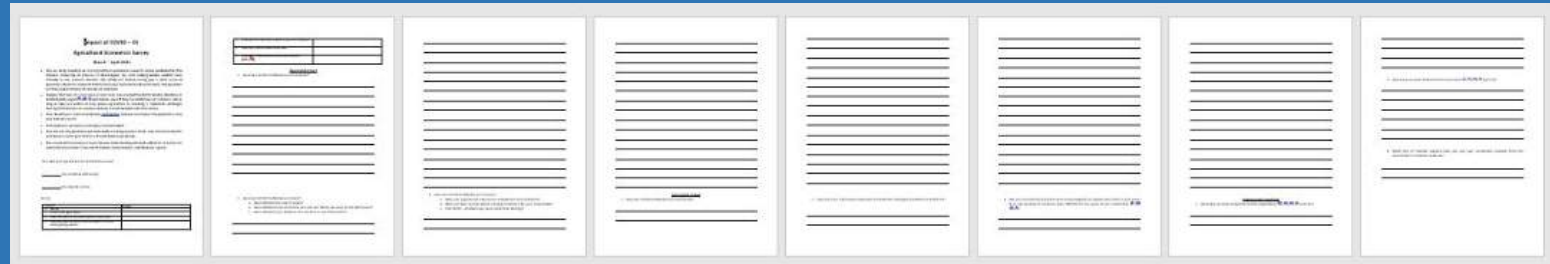
High prices during Covid are result of high inputs, but do not yield high returns for small farmers.

This may be the result of a LAGGED effect from Covid.



Qualitative Analysis

The Survey Itself



Start of Survey requires responder to be read their rights as a human subject

7 Pages, with room to write

Impact of COVID – 19 Agricultural Economics Survey March – April 2021

- You are being asked to be in an agricultural economics research survey conducted by The Catholic University of America in Washington, DC, with undergraduate student Sean O'Grady as the research director. This study will involve asking you a short series of questions about the impact of COVID-19 on your household and community. The questions will take approximately 15 minutes to complete.
- Anyone that lives in a rural area or semi-rural area around the North Dakota, Montana or South Dakota region is able to participate, even if they are not farmers or ranchers: just as long as they are within an area where agriculture or ranching is important. Although, hearing from farmers or ranchers directly is most beneficial for this survey.
- Your identity will remain completely confidential and you can answer the questions in any way that you see fit
- Participation is voluntary, but highly recommended
- You can ask any questions you have before making up your mind. You can think about it and discuss it with your family or friends before you decide.
- The results of this survey will help improve understanding of Covid's effect on rural America and on farms/ranches in the North Dakota, South Dakota, and Montana regions

Do I have your permission to conduct the survey?

____ Yes, continue with survey

____ No, stop the survey

Survey

Question	Answer
1. Gender	
2. What is your age in years?	
3. How many years of formal education do you have?	
4. How many acres of land did you cultivate in the most recent growing season?	

5. What was the total cost of inputs for your farm last year?	
6. How many head of cattle do you own?	
7. How many small livestock do you own (chickens, goats, etc)?	

Household Impact

1. How has COVID-19 affected your household?

2. How has COVID-19 affected your farm?

- Has it affected the cost of inputs?
- Has it affected how much time you and your family can work on the farm/ranch?
- Has it affected your ability to hire workers on your farm/ranch?

3. How has COVID-19 affected your income?

- Have you experienced major price volatility from the pandemic?
- Have you been worried about a change in demand for your crops/cattle?
- Did COVID – 19 affect your work other than farming?

Community Impact

1. How has COVID-19 affected your community?

2. How has your community responded to COVID-19 / managed the effects of COVID-19?

3. Has your community worked to pool money together to support each other in your area? If so, has pooling of resources been effective for the good of your community as a whole?

Supplemental Questions

1. How have you been helped by outside organizations as a result of Covid-19?

2. How have you been helped by the government as a result of Covid-19?

3. What kind of medical support have you and your community received from the government or national response?

Farm Survey Implementation

GHANA:

- Used grant funds to hire Roger Aruk (farmer in Ghana)
- Roger travelled to different farms to conduct 20 surveys
- I supervised project remotely

NORTH DAKOTA:

- Survey conducted personally via email, phone, and zoom
- Includes ranchers and farmers from mostly central/western ND
- 20 results compared to Ghana



Farm Survey Implementation

Ghana >



North
Dakota >



North Dakota Farmer Example

Question	Answer
1. Gender	Male
2. What is your age in years?	33
3. How many years of formal education do you have?	12
4. How many acres of land did you cultivate in the most recent growing season?	20
5. What was the total cost of inputs for your farm last year?	extremely high. High land costs, High rent,
6. How many heads of cattle do you own?	Myself 95
7. How many small livestock do you own (chickens, goats, etc)	None

**In line with hypothesis:
High prices are result of high inputs**



QUOTE FROM SURVEY:

“The prices of beef in the stores went up due to the pandemic but the ranchers didn’t receive any extra profits from that. The markers are majorly manipulated by the big 4 packers in the United States. We don’t need subsidy checks we just need fair prices, market prices based on supply and demand.” - Farmer outside of Mandan, ND

Ghana Farmer Example

Question	Answer
1. Gender	F
2. What is your age in years?	57
3. How many years of formal education do you have?	No
4. How many acres of land did you cultivate in the most recent growing season?	4
5. What was the total cost of inputs for your farm last year?	GHS 2,400.00
6. How many head of cattle do you own?	No
7. How many small livestock do you own (chickens, goats, etc)	12

⇒ We used to work together but because of the Covid, we don't do it and it is affected our production

⇒ We don't get money to hire them because other things we do pity to get money were locked also the the number were hire also reduce because of the Covid-19.



QUOTE FROM SURVEY:

“We used to work together, but because of Covid, we don't do it [anymore] and it has affected our production...”

“We don't get money to hire [other workers] because other [non-farm jobs] we do were locked...because of Covid-19.”

Qualitative Comparison

GHANA:

- Little to no support from government
- Many development programs have been on hold during pandemic

NORTH DAKOTA:

- Covid relief packages and subsidies
- Many still want better price controls in response to pandemic's effects

Supplemental Questions

1. How have you been helped by development organizations as a result of Covid-19?

no

2. How have you been helped by the government as a result of Covid-19?

no

~~that~~ The help we had is the safety protocols he gave and also some PPEs he share sometime back.

Supplemental Questions

1. How have you been helped by outside organizations as a result of Covid-19?

We have had some support in the Ag industry from the FSA office through their Covid relief packages. Which has been a great help but we don't need this stuff if we would be getting fair market prices for our products.

2. How have you been helped by the government as a result of Covid-19?

Yes.

Key Survey Takeaways

<u>Indicators</u>	<u>Ghana</u>	<u>North Dakota</u>
<u>Average Age</u>	38	51
<u>Female-to-Male Ratio</u>	2 : 3	1 : 4
<u>Average Land Acreage in use during season</u>	5 (mostly crop farmers)	14 (mostly ranchers)
<u>Did input costs increase? (Average)</u>	YES: Steep increases	YES: Steep increases
<u>Did government assist/help?</u>	No, except for some PPE	Yes, Covid Relief packages
<u>Main conclusions</u>	Need for financial measures	Need for price controls
<u>Similarities</u>	Pandemic brings new woes and increases poverty to both.	

Conclusion



Final Assessment



- ❖ Hypothesis has been proven to be true: Prices during Covid are higher due to high inputs, and farmers do not see major benefits
- ❖ Quantitative DATA: Crop prices are increased by Covid
- ❖ Qualitative SURVEYS: Prices are due to extremely high inputs
- ❖ Both show that Covid-19 has negatively impacted farmers both in the U.S. and abroad (heard from farmers directly themselves)

Developing a Comprehensive Solution



Economic Development

GHANA: Support from the IMF and NGO's

NORTH DAKOTA: Increase access to education and technology



Government Intervention

GHANA: Government fiscal intervention for farmers

NORTH DAKOTA: Fair price adjustments for crops/commodities

Policy Changes

BOTH: Allow farmers themselves to have a stronger voice in the way in agricultural policy

Thank You and Sources

Esoko's Ghana Price Data [Food Prices in Ghana | Esoko](#)

USDA's North Dakota Data Resources [North Dakota | Rural Development \(usda.gov\)](#)

North Dakota Dept. of Agriculture [About Us | North Dakota Department of Agriculture \(nd.gov\)](#)

Ghana Commodity Exchange [Ghana Commodity Exchange | Connecting Markets, Connecting People, Providing Opportunities \(gcx.com.gh\)](#)

World Food Programme, Ghana Market Monitor [The Market Monitor | World Food Programme \(wfp.org\)](#)



**A typical North Dakota day on
Brown's Angus Ranch, Mandan, ND**