

ENGL 120 Portfolio

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Cover Letter

This portfolio is all of my writing work during the spring 26 semester and shows my development as a writer. It reflects the progression of my assignments and my growth as a writer. The purpose of this portfolio is to demonstrate how I have met the course learning outcomes and show the strategies, challenges, and growth that created this work. The intended audience is my instructor and anyone evaluating my work. The evaluation of my work is what influenced me to present my work clearly and thoughtfully in this portfolio.

Throughout the semester, I completed four major assignments and one smaller one: Literacy Narrative, Rhetorical Analysis, Annotated Bibliography, Synthesis, and a Remix respectively. All of the assignments except for the Literacy Narrative built on the previous assignment, increasing in depth and complexity.

My literacy narrative, Mechanical Literacy, focused on my personal experiences developing skills and interest in mechanical systems and the physical world. Writing this assignment taught me how to connect my personal experiences with broader concepts, such as sponsorship, as well as teaching me how to convey things efficiently and effectively. My rhetorical analysis, Comparing Use of Rhetoric in Two Sustainable Agriculture Websites, was much less of a learning curve, as I had already written some in previous years, but still taught me more about rhetorical devices such as logos, pathos, and ethos as well as introducing me to kairos. Writing the rhetorical analysis strengthened my ability to analyze and argument effectiveness and its use of rhetorical devices based on its audience, purpose, and wording. My annotated bibliography required me to gather, evaluate, and summarize sources related to my research question: How do the Financial Risks of Transitioning to Sustainable Agriculture for Farmers Align With or Contradict the Food Affordability and Security Concerns of Non-Farming Consumers? Finally, my synthesis brought the rhetorical analysis and annotated bibliography together. It required me to integrate multiple sources not only into an evaluation on the arguments of those sources, but also using those sources to form an argument of my own using those sources as evidence.

One of my biggest successes this semester was improving my ability to write analytically rather than writing to be descriptive. In my literacy narrative, I focused on telling a story, whereas the synthesis is analyzing many different sources, creating an argument with those sources, and weaving in a counterargument to strengthen my argument, using the sources as evidence. The biggest challenge was with writing my annotated bibliography, as my research question was very specific, making it difficult to find sources. Eventually, though, I was able to find the exact sources I was looking for. Another challenge I faced was integrating those sources smoothly. It was hard to balance summarizing the source to a degree where I could convey exactly what the source was about, and analyzing that source's relevance to my research question. Integrating those sources into my synthesis was much easier as I could connect it back to my thesis that I was developing while writing my synthesis. The final challenge I faced was keeping my writing clear and organized in the longer essays. I overcame this by outlining my ideas before writing and revising instead of developing ideas as I wrote.

My understanding of genre improved significantly throughout the semester. At the beginning, I viewed genres as being much broader, but I now understand that genre is much more nuanced and complex, each with its own audience, purpose, and situation. For example, I viewed the literacy

narrative and rhetorical analysis as having the same genre, but I now know that the literacy narrative is more personal and reflective while the rhetorical analysis is more formal and analytical. This understanding of genre helped me to adapt my writing to better suit each genre's situation and form a more effective essay.

My research process improved significantly over the semester. Initially, I was more focused on sources directly related to my topic. However, through writing the annotated bibliography, I learned that it can be beneficial to find sources indirectly related to a topic or only covering part of a topic, as well as evaluating those sources' credibility and relevance. This also helped me overcome my biggest challenge while writing, which was finding sources related to my research question. Overcoming this challenge was simply finding sources that relate to one part of my research question and finding enough to cover all of the parts.

Throughout the semester, my writing process became much more structured. Early on I tended to write as quickly as possible to get it done, whereas later on, I spent more time planning and outlining to create more coherent and effective essays. Revision was also a huge part of my writing as after I would write something, I tended not to revisit, which led to long sentences and disorganized paragraphs. Feedback from my peers is what brought this to my attention and that feedback played a key role in making my writing truly efficient and effective.

Overall, this course helped me develop skills in writing and research and how to connect the two. I learned how to analyze arguments and rhetorical situations, evaluate sources, and construct arguments stemming from that analysis and evaluation. This course also helped me prepare for continuous learning by showing me how to make complex topics simpler and how to improve both as I do something and after.

In conclusion, this portfolio demonstrates my growth as a writer over the course of this semester. It highlights my ability to write in different genres, integrate research into writing, and develop clear and cohesive arguments. Overall, this course has strengthened my confidence in my writing skills and prepared me for future academic writing and assignments.

Rhetorical Analysis

Authors Note

The purpose of this author's note is to reflect on my rhetorical analysis and its effectiveness at analyzing and comparing the two websites rhetorical strategies and how well they persuade the reader to agree with their argument and the process of writing this essay.

The structure of this essay was familiar to me as I have written similar essays in the past both for assignments and exams and have spent a long time learning about rhetorical devices and analyses. The most challenging part of writing this essay was going through the websites and picking out the rhetorical devices and strategies rather than having everything written out in front of me like when analyzing a single or a few texts, as websites have many different parts that you can visit.

The main materials that I used from class to help with my analysis were the slides that had the definitions and examples of rhetorical devices and strategies, which gave me a good idea of what to look for when analyzing the websites. I approached the websites I wanted to analyze by keeping in mind the argument that they were trying to make and their intended audience and looking for where they are trying to support that argument or persuade people and looking for rhetorical devices and strategies in those areas, and then analyzing them.

Overall, I feel very confident in the accuracy and effectiveness of my analysis. The website for the National Sustainable Agriculture Coalition is designed with the very purpose of persuading people whereas the website for the Minnesota Institute for Sustainable Agriculture is designed for research, education, and information sharing. That fact makes me very confident in my conclusion that the former website is more persuasive than the latter website. The only thing I have doubts about is there only being logos and ethos. There could be instances where pathos is used in the website, though I doubt it would have any effect on its persuasiveness in comparison to the other website.

Comparing Use of Rhetoric in Two Sustainable Agriculture Websites

Sustainable agriculture is a very important topic, especially when considering long term effects of unsustainable farming practices, and it is even more important when considering that large industrial agriculture and chemical corporations lobby and campaign against sustainable farming as it can be more expensive than using toxic chemicals and exploiting and overusing land and resources, since it can have a lower yield for the same amount of land. Sustainable agriculture is necessary for food security, making sure there is still land and resources to grow and produce food in the future, and providing consistent income for small farmers. Where industrial agriculture is more focused on maximizing yield and profit in the short term by getting as much out of land and resources as possible, sustainable agriculture is more focused on maximizing it in the long term, by using given resources and natural processes. The purpose of this essay is to analyze two websites on sustainable agriculture and their effectiveness when using rhetorical strategies, such as logos, pathos, ethos, and kairos. Both websites are non-profit and informative and both seek to inform about sustainable agriculture practices and about the downsides of unsustainable agriculture, and seek to persuade farmers, corporations, individuals, and lawmakers to adopt sustainable agriculture practices and policies. While the website from the Minnesota Institute for Sustainable Agriculture uses logos and ethos to persuade people to use sustainable agricultural practices, the website from the National Sustainable Agriculture Coalition uses logos, pathos, ethos, and kairos to persuade people to adopt sustainable agriculture practices and lobby for federal policy change, which makes it more persuasive overall than the website from the Minnesota Institute for Sustainable Agriculture.

The first website is from the Minnesota Institute for Sustainable Agriculture. The purpose of this website is to provide information and resources on sustainable agriculture and to persuade people to adopt and use sustainable agriculture practices, with their mission statement being “develop and promote sustainable agriculture in Minnesota and beyond.” and their goals being to work with farmers to develop sustainable agriculture practices, extend the knowledge and resources needed to develop sustainable agriculture practices, and to create an environment suitable for farmers to be sustainable. The website is responding to problems with current farming practices and researching sustainable agriculture, as gathered from its publications and about page. The intended audience is mainly farmers but is also any student or interested person in sustainable agriculture and solving problems facing current agricultural practices. The website is very ethical in its persuasion. It is very truthful and respectful, acknowledging the other side’s opinion on the argument for sustainable agriculture, and gives information on how they are working to solve the problem rather than arguing their side.

The second website is the National Sustainable Agriculture Coalition. The purpose of this website is to advocate for policy reform regarding agriculture and advance the sustainability of agriculture and farming communities by working closely with and supporting and protecting small and medium size farms and other independent farmers, and to provide information on these topics, as stated in its about page. It also serves the purpose of raising funds for these goals. The website is responding to issues regarding sustainable agriculture being threatened by large industrial farms and unfair federal policies, to increase on-farm research for sustainable practices, and increase production and accessibility of sustainably farmed or organic food, which can be found using their work and goals that they post on their website. The intended audience is everyone who cares about independent farmers and access to organic food, as well as anyone who wants to start farming. The website is pretty ethical. It is truthful and works towards fairness for independent farmers, as well as trying to solve real problems facing farmers and by extension anyone who eats food

For the website from the Minnesota Institute for Sustainable Agriculture, the rhetorical appeals used include logos, an appeal to logic and reasoning, and ethos, an appeal to authority or character. For logos, the website mainly talks about the benefits of sustainable agriculture, especially in its publications. One example of logos is in their publication on *Reintegrating Ruminant Grazing in Row Crop Country*, where they found that “making a shift on 7.5 million acres of mostly marginal land in the state from traditional row crop production or basic grazing on existing grasslands to more continuous living cover and well-managed grazing, could drive a public benefit of \$450 million over six years after an initial \$330 million in state-funded cost-sharing for farmers to shift their practices.” This is using logos because it is using evidence derived from research to support their argument that sustainable agriculture can be profitable. One example of ethos is from their people section, where they list people in the organization, which includes actual farmers, heads of university departments, and other well respected researchers. This is ethos because it is listing out people who have real authority in the field relating to their argument that sustainability is the future of agriculture. While this website has very persuasive logos and ethos, there is little to no use of pathos or kairos used to support any sort of argument. This is likely because some of their main goals are to support research, education, and information sharing on sustainable agriculture practices rather than focusing on persuading people.

For the website from the National Sustainable Agriculture Coalition, they use logos, ethos, pathos, which is an appeal to emotion, and kairos, which is an appeal to urgency. An example of logos is from their work, where from 2018, it is stated that “For increasingly more Americans, eating locally produced foods is becoming a priority. Family farmers are interested too, because local and regional marketplaces often offer better prices for farmers’ products, which helps them to sustain their businesses and put food on their families’ tables.” This is logos because it is using the reasoning that eating local supports local farmers, which helps support those farmers and has lower prices, which supports their argument farms need to be more diverse and localized. One example of ethos is under their supporters page, where they list tons of well known foundations such as the Walton Family Foundation, Platform for Agriculture and Climate Transformation, Clif Family Foundation, and many more. This is ethos because it is appealing to the

character of their supporters, creating the appeal that since these foundations and organizations support them, then they must be doing good things. One example of pathos is on their front page, where they show pictures of real farmer's stories of sustainable agriculture. They create the appeal that they are helping out small farmers and how sustainable agriculture plays into that to try to get people to care about their cause. One example of kairos is their "Donate" and "Take Action!" buttons that are almost always visible. This is an appeal to kairos because it creates a sense of urgency that something has to be done immediately to get people involved and to donate.

Comparing the two websites, the website from the Minnesota Institute of Sustainable Agriculture is more focused on research and education, and the website from the National Sustainable Agriculture Coalition is more focused on persuasion and advocating for policy change, and it is mainly for that reason that the website from the National Sustainable Agriculture Coalition tends to be more persuasive overall, since it uses more persuasive techniques. The National Sustainable Agriculture Coalition had a more in depth website and overall had more numerous and better rhetorical strategies incorporated into their website compared to the Minnesota Institute for Sustainable Agriculture website, and relied more on kairos and pathos, rather than just logos and ethos. While The website for the National Sustainable Agriculture Coalition was more persuasive overall, the website for the Minnesota Institute for Sustainable Agriculture was more ethical in its persuasion, since the main purpose of the website is to hold information about research and research publications, which may try to be persuasive in themselves, but the main purpose of the website is to inform and educate rather than to persuade, whereas the National Sustainable Agriculture Coalition is actively trying to persuade people, and presents information in a way more favorable to their argument, though most of the information is presented in an ethical way.

In conclusion, the purpose of this essay was achieved by analyzing two websites on sustainable agriculture and their effectiveness when using rhetorical strategies such as logos, pathos, ethos, and kairos and it was found that the website from the National Sustainable Agriculture Coalition is more effective at persuading its audience to adopt sustainable agriculture practices and calling for federal policy change using

logo, paths, ethos, and kairos, compared to the website from the Minnesota Institute for Sustainable Agriculture is at persuading its audience to adopt sustainable agriculture practices uses logos and ethos. This analysis is helpful because it highlights the difference between the rhetorical strategies of the two websites and shows how different core purposes for a website or organization can affect the effectiveness of the same persuasive argument of trying to get people to use sustainable agriculture practices. These same analytical techniques can also be applied to evaluate other websites on the effectiveness of their rhetorical strategies and identify pitfalls in those arguments, which can be used to build a stronger, more persuasive argument overall.

References

(n.d.). National Sustainable Agriculture Coalition - Supporting the economic and environmental sustainability of agriculture, natural resources, and rural communities. Retrieved February 23, 2026, from <https://sustainableagriculture.net/>

Minnesota Institute for Sustainable Agriculture. (n.d.). Retrieved February 23, 2026, from <https://misa.umn.edu/>

Literacy Narrative

Authors Note

The purpose of this note is to reflect on this essay, in which I wrote about mechanical literacy, which is important to me because it has been a huge part of my life.

What went well for me while writing was being able to freely write about my experiences and knowing that what I write is true as long as it's true to me. What I liked the most about writing about this genre was that there wasn't any research involved.

An insight I got from Deborah Brandt's article that I incorporated was the idea of sponsors, which helped shape my story by making some sections less about my experiences and more about how my sponsors allowed me to have those experiences and helped me grow and develop my mechanical literacy. I decided on what information I should include based on how relevant it was to mechanical literacy and how much it has influenced my life and my choices, and how much of an impact it has had on me today. A challenge I faced in fully representing the full complexity of my literary journey was taking my memories, thoughts, and events from my life and being able to put those into words that other people understand and that fully describes what happened and does those memories and events justice on paper, without losing necessary details, but also excluding unnecessary ones.

The easiest step in the writing process for me was brainstorming, because all I had to do was think of things related to mechanical literacy that I've experienced or know about. The hardest step of the writing process was the drafting because I didn't know what direction I wanted to take the story in or even how to put things I've experienced relating to mechanical literacy onto paper.

I received helpful feedback from one of my peers on how to improve on sections of my essay, such as providing more detail, adding imagery words, and giving more examples, all of which I incorporated into my next draft. The most useful one, though, was probably to add more detail as to how mechanical literacy affects people's daily lives and how that way of thinking is relevant to everyone.

In conclusion, mechanical literacy is important to me because it has had the most impact on my life and is probably my most developed skill, which made it easy to brainstorm ideas for, but hard to take those

ideas and put them into paper effectively. Things I have learned from writing this essay are how to separate ideas into different sections, how to turn free writing into a workable draft, and how to cut down ideas to fit onto paper. I'll use these in the future to write better essays and further develop my writing skills.

Mechanical Literacy

Imagine waking up in a world where no one knows how to make anything. There would be no factories, cars, houses, or even simple tools like hammers and knives. Nothing would get fixed or maintained and tons of useful objects would become completely useless. This is what a world without mechanical literacy would look like, a world with tons of objects that people depend on, but can't create, repair, understand, or use them.

Mechanical literacy is defined as the foundational knowledge and skills required to understand, manipulate, and work with physical objects, machinery, and mechanical principles. It's not just knowing gear ratios, complex math, or even something you need to go to school for, but at a basic level, it's understanding how things interact with each other, recognizing why something works or didn't work, and imagining ways it could work better or imagining something new entirely. Mechanical literacy allows you to read the world like a book, which tells you how to understand motions, forces, materials, and so much more.

In my own life, mechanical literacy didn't start with school, textbooks, or formulas, but with curiosity, taking things apart, playing around with it and figuring out how it works, and trying to change it or put it back how it was. Mechanical literacy isn't just mechanics, but also a mindset and way of thinking and problem solving, which is something that everybody uses in their everyday life, such as preventative care for a car like checking tire pressure, or understanding the safe way to use an oven.

Mechanical literacy can be traced back to 18th and 19th century Britain, during the height of the industrial revolution, explaining physics, manufacturing, and global trade to children. Mechanical literacy was especially important at this time because it was during a huge transition period from a mainly agricultural society to an industrial one (Heckel, 2024).

I started acquiring mechanical literacy early on when I started playing with old wooden tinker toys, and eventually started making contraptions out of them. Eventually, my parents realized that I liked to make things, and they started buying me Meccano sets, allowing me to further explore my interests. Around 2nd or 3rd grade, my parents signed me up for Camp Invention, a program held during the summer to help kids

grow their creative thinking and problem solving skills. In 4th grade, my parents then signed me up for Math, Science, and Computer camp, which was a program meant to grow kids' interest in math, science, computers, and other STEM fields. Both of these camps were very fun and I am glad I got the chance to attend as they both really helped to grow my interest in mechanical engineering and grow my mechanical literacy. In 6th grade, I joined Vex Robotics, which I stayed in up until 11th grade. Vex Robotics really cemented my interest in mechanical engineering and is probably the biggest contributor to my mechanical literacy skills, as it involved designing, building, troubleshooting, and fixing a robot, especially during frustrating times when a robot would break mid match and we would lose, which would need a quick identification of the problem and fix. Throughout the years, I would also help out on my uncles' farms, part of which involved getting hands-on experience with driving and maintaining farm equipment, which furthered my interest and skills.

One of my biggest literary sponsors is my grandpa. He has a very similar interest in the mechanical world and was always working on some sort of project that he would let me help with. As I got older, I got more involved with some of his projects and even had him help me with some of my own, such as fixing the lift system of my parents' pop up camper, which involved taking apart the entire interior to get to the mechanisms and fixing the steel cables that did the lifting, fixing up an old pump, which involved new fittings, wires, and a fresh coat of paint, or installing an automatic sprinkler system that uses lake water, which involved digging a long trench for the pipe. He truly contributed greatly to my skillset in mechanical literacy and to my interest in being a mechanical engineer. My other two biggest sponsors are my parents. Without them, I would have never gotten the chance to explore my interest and gain mechanical literacy early on, and probably would never have gone for mechanical engineering if I didn't. Without them, I wouldn't even be writing this story.

My literacy journey mainly consisted of hands-on experience, especially early on in life, which is a big reason I'm pursuing a mechanical engineering degree. Mechanical literacy has been a huge part of my life for as long as I can remember and it'll never stop being a huge part of my life for decades to come. I think people can learn from my journey that interest starts early on and fostering that interest is very important, although it is never too late to pursue your interests. As explained in Debora Brandt's article *Sponsors of Literacy*, literacy does not develop in isolation, but through sponsors, people who provide resources, knowledge, opportunity, and guidance, and help shape how that literacy is used (Brandt, 1998). My mechanical literacy grew the same way. They did not just help me grow my interest, but also created the condition for me to learn and develop skills and what I want to use those skills for.

References

Brandt, D. (1998). *Sponsors of Literacy*.

Heckel, J. (2024, February 27). Book: Children's education included 'mechanical literacy' in the industrial age. *University of Illinois Urbana-Champaign*. <https://news.illinois.edu/book-childrens-education-included-mechanical-literacy-in-the-industrial-age/>

Annotated Bibliography

Authors Note

The research question I chose is very important to me because it combines both agricultural issues and environmental issues. Writing this was somewhat difficult for me because at first I couldn't find much information on sustainable agriculture in the way that I wanted, so I ended up searching for more general information and using the results I found to narrow down my research question. The only thing that was easy in this essay was getting the formatting correct. The steps I took were finding my original question and narrowing that down during the in class activity with AI, looking for sources through the NDSU library, changing my question when I couldn't find anything based on what information was available, and then writing the annotations. Overall, I feel like my annotated bibliography is pretty effective and accurate. I do have some doubts about some of the sources relating to their usefulness directly to my research question, but I feel like I have a very strong start for the synthesis. I feel my strength in writing so far is being able to sit down and just write stuff and being able to pick out the parts I need from my sources pretty quickly, unless the source is really interesting. I spent a lot of time for this essay writing the annotations and a lot less time compared to actually reading the sources, despite some of them being really long, which I believe some of my previous writing experience helped with. I think I could draw on this in the future by using good sources, regardless of how long the source is for my writing. The feedback that I was given by my peers and teacher was very positive and did not give me anything to add, remove, or change, so there was no feedback to implement.

Annotated Bibliography

Beasley, D. (2025). The real reason we fail to feed those in need. *Time Magazine*, 206(19/20), 26-27.

<https://research.ebsco.com/linkprocessor/plink?id=0f6224b6-19bd-363d-a37a-93df108b5de6>

In this magazine article, Beasley argues that global hunger is not primarily caused by low food production, but by systemic issues such as conflict, political instability, climate change, etc. The central claim is that the world can produce enough food to feed everyone, but can't necessarily get that food to everyone. The key points include conflict zones being the main driver of food insecurity, climate change causing lower agricultural output, wealth inequality and infrastructure preventing food access, and the need for international cooperation to end world hunger. The purpose of this article is to raise awareness on what Beasley believes to be the true cause of world hunger and advocate for action and policy reform. This purpose makes it somewhat less credible, as it aims to persuade rather than provide neutral facts. The time of the article is very current, from 2025, making it very relevant. The author himself is very credible, being the former executive director of the UN World Food Programme. The article seems to be accurate on true causes of global hunger, aligning with peer-reviewed research, simplified to fit into a magazine page. The intended audience is very wide, being published in Time Magazine. It has a very limited depth, lacking many details and data. These things make it pretty credible for surface level information. This source is useful to my research because it provides a good frame for food security in a global context, and highlights that food security isn't just about production. It does not directly address financial risks to farmers, but does provide a perspective on how sustainable agriculture alone isn't enough to ensure or jeopardize food security globally. My reaction to the source is that it is a very good surface level perspective on global hunger and its causes. Since it's only surface level, there isn't much analytical usefulness, but it does provide a good background in conjunction with another detailed source with more depth and data.

Bhagat, P. R., & Magda, R. (2021). Food Security in the Era of Sustainable Organic Farming: A Comparison Between the Visegrad Group and India. *Visegrad Journal on Bioeconomy and Sustainable Development*, 10(1), 14-18. <https://doi.org/10.2478/vjbsd-2021-0004>

In this journal article, Bhagat and Magda look into how sustainable organic farming impacts food security by comparing Visegrad countries to India. The main argument is that while sustainable farming promotes environmental sustainability, it could have an impact on food security based economic condition, yield, and policies. Key points are sustainable farming often having lower yields developed regions being able to transition more easily by absorbing transition costs, lower yields and higher labor costs can jeopardize food security, and policy support and technology play a key role in the impact of sustainable farming on food security. The purpose of the study is to provide research-based analysis of how sustainable agriculture affects food security across different economic contexts. It was concluded that sustainable agriculture must be adapted to regional conditions to not impact food security. The article is a bit old, so it isn't up to date on current policies, but the conclusion is still relevant. Both authors are academic researchers and the article is peer-reviewed. Being research-based, the accuracy of the article is likely very high. The audience of the article is other researchers and policy-makers who have a higher level of understanding of the topic than the normal person. The article goes in depth in a very specific region in the world, limiting its scope, but it is very relevant to the topic of food security and sustainable farming. This source is very useful for my research question because it directly pertains to the tradeoff between sustainability and food security, and helps explain possible financial risk to farmers and potential increase in prices. My reaction to this source is that it is almost exactly the kind of source I am looking for, objectively comparing both farmers' concerns and consumers' concerns when adopting sustainable agriculture. The only thing that could make it better would be a bigger scope, since this scope is in two small regions and not global. However, it can still be used as a key source for my research.

Chrisendo, D., Heikonen, S., Piipponen, J. et al. (2026). A systematic review of sustainable food systems identifies socio-economic pathways driving food systems transformations. *Nature Food*, 7(3). <https://doi.org/10.1038/s43016-026-01317-0>

In this journal article, the researchers do a meta-analysis of 349 articles to investigate “the role of socio-economic drivers in sustainable food systems transformations across different world contexts.” The main argument of the article is that there are 6 main socio-economic drivers when transforming food systems and that the feasibility/willingness to adopt sustainable agriculture relies heavily on these drivers, and that sustainable farming practices are necessary to adopt to promote a good environment. Key points are network and values, gender, age, and family, education and information, income and prices, politics, policy, and institution, and infrastructure being the main socio-economic drivers along with precision agriculture, land resources and soil health, diet change and novel foods, nutrition and health, climate change and biodiversity, food loss and waste, and freshwater and marine resources being the main food system transformations happening as a result, finances and regulations being the main barrier for farms to switch to sustainable agriculture with education being the main driver, food price and sentiments about certain food being the main barrier for consumers with education, information, and eating healthy being the main drivers, with low-income countries having the most barriers to adoption.

The article is very credible. It is very recent, only being published a few days ago, and is very accurate, being peer reviewed and using peer reviewed sources, making it very accurate. It is also very authoritative, being published in a well respected journal and has many previously published researchers, many of whom having extensive education. The audience for the article is mainly other researchers and policy makers, with the purpose of bringing together many different sources into one conclusion to inform people on socio-economic drivers when switching to sustainable food systems, and goes into great depth on the matter on a global scale.

This source will be very useful for my research. It goes over exactly what I need to answer my research question, going over the barriers to adoption for both producers and consumers. This source would be great to use as a main piece of evidence and authority, given its recency, accuracy, and depth. My first reaction to the source was that it was exactly the answer to my question. It discussed what I was looking for in an easy to understand way. The only reason I might have to limit my use of this source is because it is a summary from multiple different sources on a world issue, meaning it's taking a bunch of different, smaller instances of what they're researching, and generalizing it to a global scale.

Gibson, K. E., Lamm, A. J., & Lamm, K. W. (2020). Identifying Audience Needs to Effectively Communicate about the Cost of Implementing Sustainable Farming Practices. *Journal of Applied Communications*, 104(3). <https://doi.org/10.4148/1051-0834.2334>

In this article, the researchers looked at the difference between different areas in the U.S. and their willingness to pay for sustainable agriculture practices as a way to save their freshwater supply, so that a message about such practices can be better tailored to those groups. The main argument is that the willingness to pay is very high and that there are statistically significant differences between the willingness to pay in urban areas and rural areas, meaning that the messages should be tailored to the different groups. Key points are the importance of tailoring the message, addressing misconceptions, and presenting the benefits and challenges of adopting sustainable practices.

The source is pretty credible. It was published in 2020, making it pretty recent. It is peer reviewed and all of the authors are affiliated with universities and have experience in agricultural communication. The journal is also well respected and peer reviewed. The audience is primarily other researchers interested in agricultural communication. The purpose of the source is to inform about communication strategies and take on an academic perspective, making it pretty reliable. The article also has pretty good depth, encompassing the entire U.S. and doing a deep analysis.

This source will be pretty useful as a supporting source to be used to help understand how communication affects willingness to adopt, especially when it comes to cost. My reaction to this source is that it is very informative. One limitation is that it focuses more on communication rather than economics, though it still deals with finances, making it a good supporting source.

Khaerah, M., & Nara, N. (2025). SUSTAINABLE HOME GARDENS FOR FOOD SECURITY: AN EVALUATION OF THE PEKARANGAN PANGAN LESTARI (P2L) PROGRAM IMPLEMENTATION IN KOLAKA DISTRICT, INDONESIA. *TPM: Testing, Psychometrics, Methodology in Applied Psychology*, 32, 691-699. <https://www.tpmmap.org/article-view/?id=2705>

In this article, the authors examine the implementation of the P2L program in the Koloka District in Indonesia, which promotes sustainable home gardening as a strategy for improving food security. The main argument is that localized food production, especially in a household, can strengthen food security and lower dependence on external sources. Key points include evidence that home gardens increase food security and reduce sending, and empower communities. They conclude that sustainable practices can mitigate food insecurity, though success depends on community, education, and policy support.

The timeliness is very recent, being published in 2025, making it accurate on recent issues. The article is published in a peer reviewed journal and the authors have ties to research facilities and universities. It is also very accurate, using good research and evaluation methods. The audience is mainly people who are interested in sustainable food systems. The purpose of the study is to be analytical and not persuasive. It isn't very in depth, focusing on a pretty specific case. Overall, it is very credible.

The source is useful because it highlights how sustainable practices can raise food security and reduce costs at a local level. It also supports the argument that sustainability can align with consumer needs and not just environmental, though it does nothing to address farmers' concerns. My reaction is that it is a strong source for showing the consumer side of my research question however, it is only on a very small area and scale.

Pettit, E. (2023). Who Should Shape What Colleges Teach? Not the Government, Most Americans Say. *The Chronicle of Higher Education*, 70(3), 1-8. <https://www.chronicle.com/article/who-should-shape-what-colleges-teach>

The article discusses public opinion on who should influence college curriculum, and argues that most Americans believe that the institution, not the government, should determine what they teach. The article gives survey data and brings up debates about academic freedom, political influence, and public trust in education. The purpose is to inform readers about public attitude towards education and government and concludes that there is a strong preference for autonomy in higher education.

It was published in 2023, so it is still relevant. It also is published in a reputable chronicle focused on issues of education. Although it is based on surveys, those could be biased. The audience is everyone that will listen and aims to be informative. It isn't the most credible source, but it is likely accurate.

The source is not directly useful to my research question, but does address a component identified in many other sources, that education is needed to grow public interest and support in sustainable farming, especially since it is in the government's best interest to subsidize high yielding farms rather than low yielding farms, it would be crucial to not allow government to dictate what is taught in schools. My reaction to the source is that while it's credible, it's not directly relevant to my topic. I will likely only briefly mention it in addition to a better source.

Popkova, E. G., Sergi, B. S., Bogoviz, A. V., & I. Semenova, E. (Eds.). (2023). *Digital Agriculture for Food Security and Sustainable Development of the Agro-Industrial Complex*. Springer International Publishing. <https://ebookcentral.proquest.com/lib/nds-u-ebooks/detail.action?docID=7240875>

This book explores how digital agriculture technologies, such as precision farming, data analytics, automation, etc. can support food security and sustainability in the industrial sector. The main argument is that innovation is essential for sustainable agriculture to be productive and viable. Key points include the

potential for new digital tools to reduce waste, improve yields, and lower financial risk. The book concludes that even though it requires substantial investment, adopting digital agriculture can help bring sustainability closer to normal industrial farming in terms of viability. The purpose of the book is to provide a comprehensive analysis of the intersection between technology and sustainable agriculture.

The timeliness is very recent, being published in 2023, though ag-tech is evolving rapidly, so it may not be 100% accurate anymore, though its research is still very accurate. It is also published in a respected academic journal and both written and edited by respected scholars. The audience is mainly researchers, politicians, and agriculturists, with the purpose of being informative and analytical. It is very deep on the topic and very comprehensive.

This source is very useful for analyzing how financial risks of transitioning might be eliminated by technology and innovation. It connects farmers' economic risks with consumers' concerns for affordability by weighing efficiency gains and long term costs. My reaction is that this is probably my most useful source when it comes to my research.

Synthesis

Author's Note

The research for this essay was difficult at first as I couldn't find any good sources, but eventually I did get the sources I was looking for, I even found an 8th source while writing. The writing process involved making an outline, then adding an overview of the sources, then using that along with my AB and the abstracts of the sources to create a general idea of what I was going to write down in my head, which I then used to write the actual essay. The hardest part was figuring out what to take from the sources, especially the longer ones, but the actual writing was pretty easy since I've been thinking about this topic for quite some time as I am working on a project with a similar topic. The genre of this is an argumentative synthesis essay, which is important to be able to convey both sides of the argument effectively while still arguing for a certain viewpoint and is the best way to present this evidence. The intended audience is policy makers, farmers, consumers, and anyone with an interest or questions on sustainable agriculture. The purpose of this essay is to analyze the complex issues and viewpoints surrounding sustainable agriculture, evaluate tradeoffs, and develop an argument that although there are tradeoffs, they are not permanent and resolvable. The situation and topic of my essay is sustainable agriculture, specifically the cost of transitioning and cost to consumers, as well as other benefits and drawbacks of sustainable agriculture. The digital tools I used were the NDSU Library Database and Google Scholar to look for sources. I got all but one source from the NDSU Library, which was somewhat difficult to figure out and get the right mix of key words to search for to get the sources I wanted. I also got pee feedback to make things more concise and avoid repetition, which I implemented by breaking up sentences and removing anything unnecessary or redundant.

How do the Financial Risks of Transitioning to Sustainable Agriculture for Farmers Align With or Contradict the Food Affordability and Security Concerns of Non-Farming Consumers

In today's world, modern agricultural practices have raised concerns, including soil degradation, water pollution, excessive chemical use, and excessive greenhouse gas emissions. In response, sustainable agriculture emerged as an alternative that promises to reduce or solve these issues. Sustainable agriculture is an approach to farming that aims to be more environmentally friendly by using methods such as no-till farming, crop rotations, organic farming, etc. However, sustainable agriculture is not without its own problems. It tends to have a higher upfront cost and running cost and tends to have lower yields resulting in worse efficiency and profitability. This makes it less economically viable in comparison to conventional modern methods. This creates financial risks for farmers and possibly increases food prices for consumers while bringing food security concerns.

This raises an important question: how do the financial risks of transitioning to sustainable agriculture for farmers align with or contradict the food affordability and security concerns of non-farming consumers? Through answering this question, I found that while sustainable agriculture presents economic challenges, especially in terms of cost and food security, these challenges can be mitigated or removed entirely through

policy support, technological innovation and adoption, and socio-economic adaptation. This synthesis will examine themes of food security, cost, and environmental and health benefits to evaluate whether sustainable agriculture can balance economic drawbacks with environmental benefits.

One of the main concerns with sustainable agriculture is its potential impact on food affordability and security. Research comparing the Visegrad Group in Europe to India found that sustainable practices does have the ability to reduce food output, especially in countries without strong policy support (Bhagat & Magda, 2021). In Visegrad countries, however, sustainable farming has been more successful due to subsidies, training, and access to resources This shows the importance of having a strong economic and institutional backbone in adopting sustainable practices. Similarly, Chrisendo et al. (2026) identified multiple socio-economic drivers, such as income level, education, and access to resources, that influence whether farmers are willing to adopt sustainable practices. They found that consumers play a role in whether farmers adopt these practices, with the older generations and men tending to be less likely to switch to a sustainable diet. They also found that perception and education plays a huge role in whether people support sustainable practices and their willingness to switch diets. Research done by Gibson et al. (2020) also found that consumer behavior plays a role. They found that while some consumers are willing to pay more for sustainable food, cost remains the biggest barrier for many. In addition, there are also programs like the Pekarangan Pangan Lestari (P2L) Program in Indonesia that show how sustainable home gardening can improve food security. However, challenges such as lacking support and long-term planning limit its effectiveness and appeal Khaerah & Nara (2025). The findings of this study are also supported by Beasley (2025), who argues that investment and support for sustainable food systems is essential to ensure food security on a global scale, especially in vulnerable regions such as impoverished and war torn countries.

Together, this evidence suggests that sustainable agriculture can both support and threaten food security, depending on economic conditions and policy support. While the higher costs and reduced yield typically associated with sustainable agriculture tend to threaten food security and affordability, these risks are not inherently caused by adopting sustainable practices, but rather the conditions under which they are

implemented. When governments and organizations back sustainable farming by providing services such as subsidies, education, infrastructure, and access to resources, sustainable practices can become more economically viable and even improve food access in the long term. This shows that the financial risks faced by farmers do not necessarily contradict consumer concerns about affordability. Instead, it shows the need for a systemic solution to bring down production costs and lower consumer prices.

In contrast to economic concerns, sustainable agriculture offers significant environmental benefits that can indirectly support farmers and consumers. Conventional farming practices have contributed to environmental degradation. This has prompted this need to shift to more sustainable practices that conserve resources such as freshwater and soil quality. Gibson et al. (2020) shows that sustainable agriculture can reduce water usage and lessen environmental impact, which is becoming increasingly important as freshwater becomes more scarce. Additionally, technological advancements are helping to address efficiency and output concerns. Popkova et al. (2023) emphasizes the importance of new technologies and innovations such as artificial intelligence, precision agriculture, and improved data collection and processing can improve productivity while still being environmentally friendly. These new technologies help to reduce costs, improve yields, and minimize environmental harm, making sustainable agriculture more feasible and attractive. However, these new technologies have a high initial cost and uncertain returns of investment, which presents an unignorable and unavoidable barrier to adoption for farmers (Hundal et al. ,2023). Additionally, broader societal and institutional influences, such as educational priorities and policy decisions, play a role in shaping agricultural practices and their adoption (Pettit, 2023).

This evidence demonstrates that the environmental benefits of sustainable agriculture can cause long-term economic advantages, helping to offset initial cost, even though there are risks for low return of investment for newer technologies. By protecting natural resources and improving efficiency, sustainable practices can create a more stable and resilient food system. This shows that the perceived contradiction between farmer cost and consumer affordability is very real, but not permanent. Instead, sustainable agriculture represents a long term investment in the environment, economic stability, and food security. As technologies advance and support grows, the gap between cost and affordability will likely narrow to serve

the interests of both farmers and consumers.

In conclusion, sustainable agriculture presents both challenges and opportunities in financial risks for farmers, food security, and food affordability for consumers. This synthesis has shown that while higher costs and reduced outputs pose short term challenges, these issues can be addressed and solved through policy support, technological innovation, and socio-economic adaptation. Evidence from these studies show that sustainable agriculture can improve food security and be more environmentally friendly when properly supported and adopted. Ultimately, it should be understood that sustainable agriculture is not inherently against economic or food concerns, but rather it requires strategic implementation and support to ensure that both farmers, consumers, and the environment benefit from the effort. As the environment worsens and pressure for green alternatives grows, investing in sustainable agriculture will be essential for global food security and a resilient, healthy food supply.

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