

# **Sustainable Food Project**

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Thesis Summary

## **Executive Summary**

During the past decade, the debate about the sustainability of our current methods of food production has heated up. People from varying backgrounds—scholars, chefs, agricultural scientists, farmers, social scientists, activists, and the average consumer—have expressed serious concern with our ability to maintain current conventional methods for years to come. Not only is there unease about the environmental degradation that has occurred through the overuse of fertilizers and pesticides, but there are also questions about the ethics of an industrialized approach to farming and agriculture. From inquiries regarding the inhumane treatment of animals we raise for food, to the responsibility we carry to preserve our fertile lands for future generations, the sustainability movement aims to bring these crucial issues to the forefront.

The Sustainable Food Project is a website that investigates the sustainable food movement and is designed to be an informational resource for consumers to learn more about where their food comes from and what they can do to produce positive change in the food industry. Through videos, audiocasts, and well-researched text, readers can find out about the history of agriculture in the United States and how the industry has changed immensely over the past fifty years. They will also learn about the costs that come with our conventional methods of farming and agriculture and how they can help encourage changes toward more sustainable practices.

## **Introduction**

Because of poor dietary choices and the rapid increase of diet-related diseases like type II diabetes, our children may be the first generation in history not expected to live longer than their parents (Pollan). This obesity epidemic costs the United States health care system \$147 billion dollars a year (Walsh and Kaplan 2). In our land of plenty, where we eat four times the amount of dairy and meat as the rest of the world, we are also wasteful. U.S. consumers toss out 14 percent of the food they buy (Walsh and Kaplan 7), this despite World Health statistics showing that more than 3 billion people struggle to get enough food and suffer from malnourishment (Pimentel 660S). A 2005 United Nations Millennium Report suggests that the world will run out of enough resources to feed everyone by the year 2050 (Goodall 279). As these statistics indicate, we are in the midst of a food crisis; one that will be detrimental if we continue to ignore it. Our current methods of producing food not only pose challenges to consumer health, but they also threaten our environment through unsustainable factory farming, massive soil erosion, excessive use of fossil fuels, and pollution from pesticides and fertilizers. However, through thoughtful change and honest reassessment, sustainable practices can prevail and give us an opportunity to correct what has been broken.

At the heart of the sustainable food debate are current production practices and our unhealthy dietary choices. Our desire for convenient, fast, cheap food has had serious effects on

our health and on the environment. Research shows that these practices are unsustainable and that significant changes are needed to provide for current and future generations.

## **A Brief History**

Our agricultural and farming practices have radically changed over the past 50 years. In the early part of the twentieth century, most Americans obtained their food through local channels, and many grew their own crops, with one in four Americans living on farms (Pollan 34). The industrial boom after World War II brought powerful agricultural inventions, like ammonium nitrate fertilizer and advanced farm machinery, which enabled farmers to grow more crops than ever before. (Goodall 38-39). It has been estimated that these technological advancements in agriculture have saved countless lives by preventing the starvation of about 1 billion people from 1945 to 1970 (Bedford 18).

Such accomplishments were extraordinary and vital to survival, but have also come with a serious price. Our industrial way of farming and extensive supply chain makes considerable use of our natural resources, with food production alone using 17 percent of our fossil fuels, often with damaging results (Pimentel 660S). Overuse of fertilizers has created areas called dead zones in the world's oceans. In the Gulf of Mexico exists a 6,000 square mile area where sea life is unable to thrive due to the lack of oxygen caused by the seasonal runoff from the Midwest crop lands. Similar problems have occurred inland when open-air lagoons containing animal waste from factory farms housing pigs and cattle overflow and taint groundwater, streams, and rivers rendering water sources unsafe and unusable (Walsh and Kaplan 30-31).

Today, only about two percent of Americans live on farms, with only 960,000 people declaring farming as their primary occupation (USEPA). While scientific, agricultural, and business inventions have enabled us to grow more food and process it in more complex ways, they have also had the side effect of detaching us from that which provides us nourishment and sustenance on a daily basis. The true nature of our food, its components and its handling, are hidden from our view; and our desire for fast and easy food has blinded us from its origins and made us indiscriminate eaters who have removed themselves from such a vital life component. Such apathy toward food is damaging us and our environment.

## **Key Research Points**

The focus of my research falls under two main points: 1) the state of our current, unsustainable food production practices, and 2) how the American diet is affected by industrialized food processing and contributes to the problem.

### Food Production

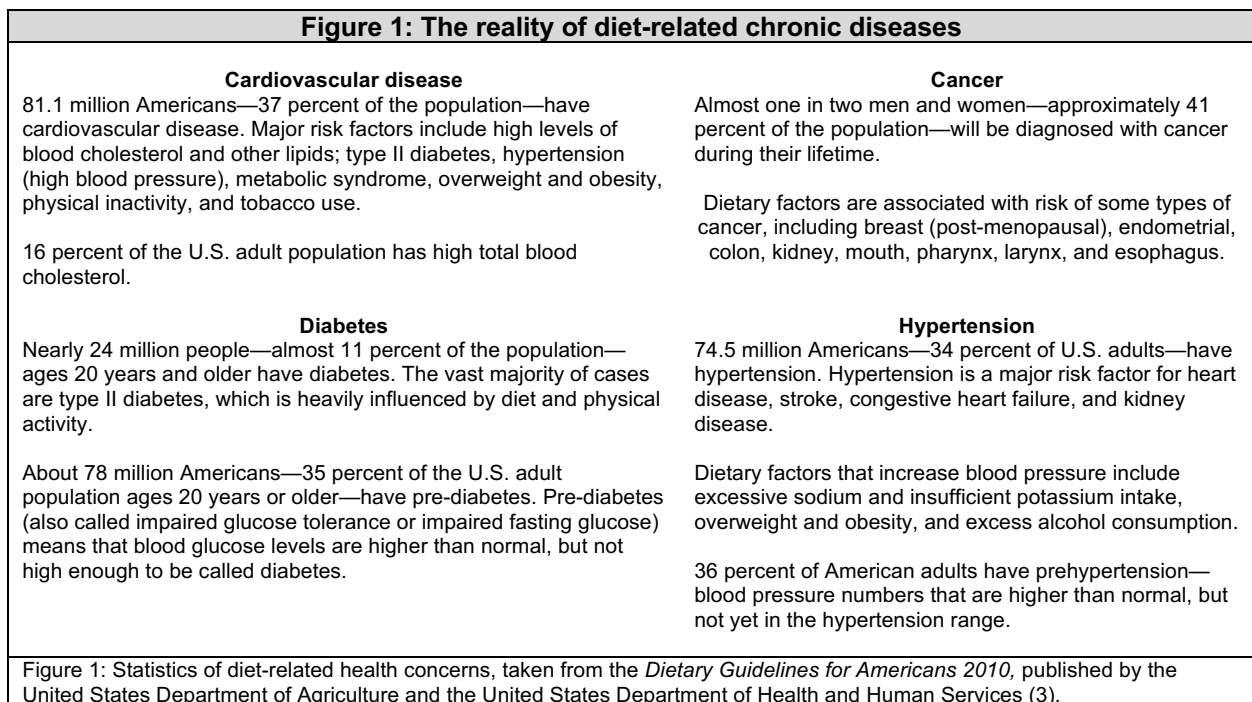
Through innovative technology and regimented business practices, the United States has created the largest and most efficient food production system in the world. Some discoveries, such as inorganic fertilizer and farm machinery, have been integral to our abundant food supply. This plethora of food has also made it more affordable. American households now spend just 10

percent of their income on food, compared to 18 percent thirty-five years ago (Walsh and Kaplan 32).

However, our industrial approach to food has also created some devastating results: environmental degradation, the inhumane treatment of animals, the erosion of the country’s most fertile land, and serious health issues from the overuse of antibiotics and hormones in confined-animal feeding operations (CAFOs). Add to this the agricultural industry’s excessive use of water resources and non-renewable fossil fuels and it is clear that our abundant food system is not sustainable. Our current method of production utilizes 17 percent of our fossil fuels, 50 percent of U.S. land area, and 80 percent of our fresh water (Pimentel 660S). In 2004, 180,000,000 pounds of pesticides were used in California’s agricultural industry alone (Ronald and Adamchak 21). As Michael Pollan, author of *The Omnivore’s Dilemma* points out, “there exists a fundamental tension between the logic of nature and the logic of human industry, at least as it is presently organized. Our ingenuity in feeding ourselves is prodigious, but at various points our technologies come into conflict with nature’s way of doing things” (9).

The American Diet

The connection between the conventional food industry and the current state of the American diet is inextricably linked. Our food supply is so abundant that, as Marion Nestle, author of *Food Politics*, notes, “it contains enough to feed everyone in the country nearly twice over” (1). However, this overproduction and excessive processing of food also comes at a cost, with 30 percent of adults in the U.S., about 60 million people, considered obese (Goodall 241). And with nearly 32 percent of our children (ages 2 to 19) considered overweight or obese, it is clear our country is facing serious health issues (see figure 1) (USDA Dietary 2).



Globally, one billion adults are overweight, 300 million of which are obese, while in less affluent areas of the world a billion people remain malnourished (Buttriss 220). Clearly, there is a shift that needs to occur in our thinking about food: the way we produce it and the way we consume it.

One thing that all of the research indicates is the need to change our food production practices to more sustainable methods. There are differing opinions on the swiftness and intensity of the changes, but the one point that is agreed upon is that the status quo cannot continue. Without changes toward more sustainable and natural methods of agriculture, we are headed for failure and will create serious problems for future generations. Leo Horrigan, Robert Lawrence, and Polly Walker note in their essay “How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture,” that “humans have practiced agriculture for more than 10,000 years, but only in the past 50 years or so have farmers become heavily dependent on synthetic chemical fertilizers and pesticides and fossil-fuel powered farm machinery” (446). While these advancements have greatly improved the world’s supply, they have also created many problems. The research shows that the remedies to these problems are two-fold: 1) finding a balanced approach to agricultural and farming practices, and 2) consumers being responsible in their dietary choices.

## **Data Analysis**

The research for this project stems from four types of information outlets: scholarly books and journals, government websites, audio/visual media, and organizational websites. Each type of resource is important in providing an overall picture of sustainable food production.

### Scholarly Books and Journals

Much of the research for this project came from books and scholarly journals. As I sorted through the research, I was mindful to choose selections that are well-analyzed and balanced in their approach. Essentially, I took care to find the research that attempted to view the debate as a whole before dissecting a part. I wanted to be certain the author respected the controversy and chose to educate the reader instead of proselytizing.

### Government Websites

Government websites, such as the Economic Research Division of the United States Department of Agriculture (USDA) and United States Environmental Protection Agency (USEPA), provide quality information regarding demographics and agricultural statistics. Because governmental agencies rely on statistics to support their funding needs, they regularly conduct surveys and often have current data. The USDA, in particular, has current information about the state of Americans’ health and recent agricultural farming figures.

### Audio/Visual Media

My internet research has delivered some insightful video lectures and audio broadcasts discussing sustainability concerns. I was able to use compelling discussions from prominent authors, celebrated chefs, and academic experts who explore the issues of sustainability from several angles. From aquaculture to carbon emissions, I have found that the discussions bring the arguments together into a tightly interconnected loop. Each presentation completes a cog in the wheel and brings to light the bigger picture that is “sustainability.”

### Organizational Websites

Organizational sites, like Local Harvest, Slow Food International, and Sustainable Table, provide direct, straightforward information on ways to change our current practices. I appreciated these sites for their ability to state their purpose in an unaggressive manner and their focus on solutions. While their viewpoints can sometimes be one-sided, the organizations are exceptional in providing consumers with options toward a more sustainable existence.

### **Solutions**

In order for our agriculture and farming to thrive in the U.S., our country must adopt principles of sustainability. Briefly stated, they are (Buttriss 221):

- Providing safe and nutritious food that promote good health
- Enabling farmers to earn a decent living to ensure their quality of life
- Producing adequate amounts of food to meet global demand
- Being sure to not just maximize but also maintain the productivity of land and soil
- Protecting our natural resources
- Providing citizens with equal access to food resources

This means significantly reducing our reliance on fertilizers and pesticides, giving more of the market share back to the farmer, analyzing our agricultural decisions so we are producing food that will be of the most benefit to the population (not simply based on consumer demand), treating our fertile farmland with respect, treasuring the water, fossil fuel, and soil that provide us with sustenance, and ensuring all people have access to quality, healthy food. Only by making more efficient use of natural resources with minimal impact on the environment can we realistically keep up with demand while also preserving our precious farmland for future generations (Hobbs 139).

Additionally, the American public has to wake up from their consumption stupor and reconnect with their food. We need to understand the process, look at the way we raise more than 9 billion animals to eat, and realize the true costs of cheap food. Consumers must no longer ignore how we are taking advantage of our animals, our soil, and our natural resources to commercialize, overprocess, and overconsume our food. We must give much of the agricultural process to farmers who are concerned about the quality and salubrity of their food, not just about profits. Such transformation would require changes in our dietary choices and using our consumer power to alter the practices of conventional agriculture.

The best approach for sweeping change is a multi-tiered effort—from consumers, corporations, farmers, growers, and government officials (see figure 2)—in order to promote progressive and effective improvements. Consumers must learn how to read food labels and understand the origins of their food, corporations must focus less on huge profits and more on quality than quantity, farmers and growers must have a greater appreciation for older methods of farming that utilized natural processes instead of synthetic materials, and government officials need to create laws and regulations that promote a more organic method of food production. As a country, we must review our legislative practices, many of which are outdated and in need of overhaul. It is imperative that we fully account for our conventional farming methods and make the health of our children and our citizens paramount.

**Figure 2 – Changes for a sustainable future**

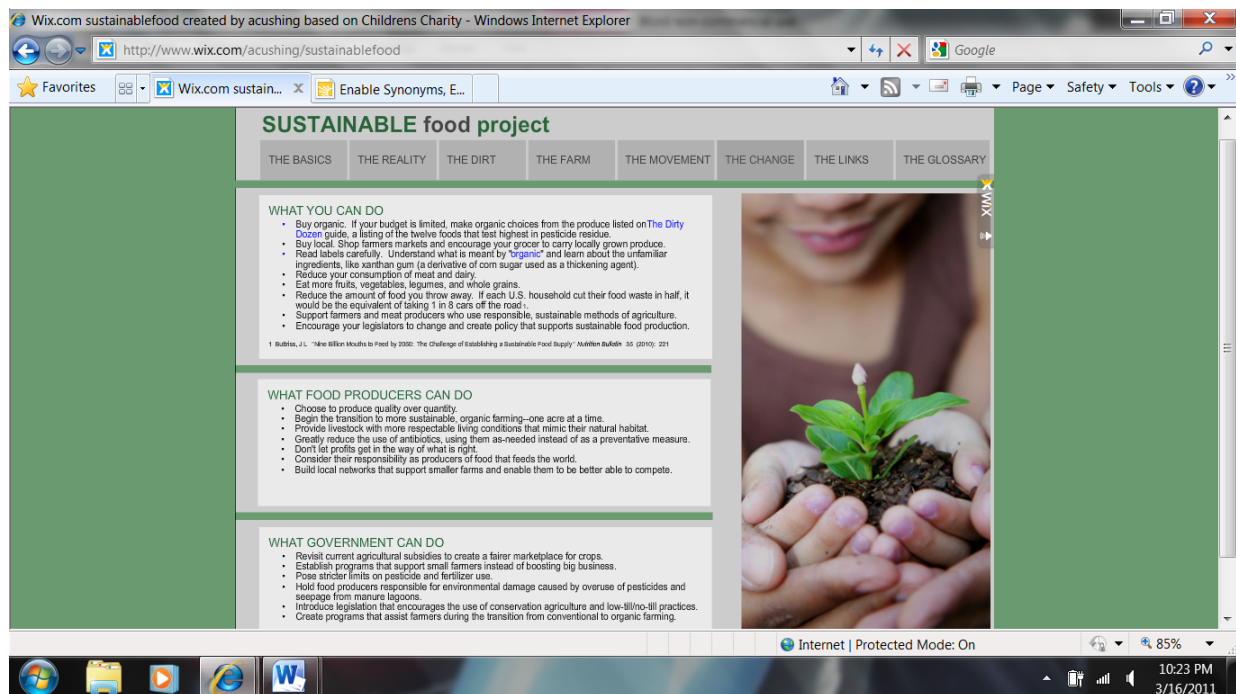


Figure 2-Screen shot of the solutions offered at the Sustainable Food Project website. [www.wix.com/acushing/sustainablefood](http://www.wix.com/acushing/sustainablefood))

In order for me to be successful in presenting these messages, the research and data had to take a central role. Most importantly, I had to display the data in a manner that compelled readers to act; to alter their daily habits and methods of production and work toward sustainable means. Without changes in our consumption practices, it is unlikely a sustainable food process can be achieved. It was important that I provide readers, particularly those who may be resistant to change, with various ways to be part of the solution; otherwise, I would fail to reach my intended purpose: to educate.

## Presentation Elements

I felt the best way to present this information was through a web site. I know a fickle public would have little patience for sifting through pages of information, so I wanted to be sure

to provide a format that enabled them to choose where to start and where to end. I also wanted to utilize various forms of media to give readers a variety of information outlets. This affords the audience choices, such as watching a video, listening to an audiocast, or reading text. The web page format also permitted me to utilize links to other sources. Links, like those shown in figure 3, were an important design resource because of the plethora of material available about sustainable food practices.

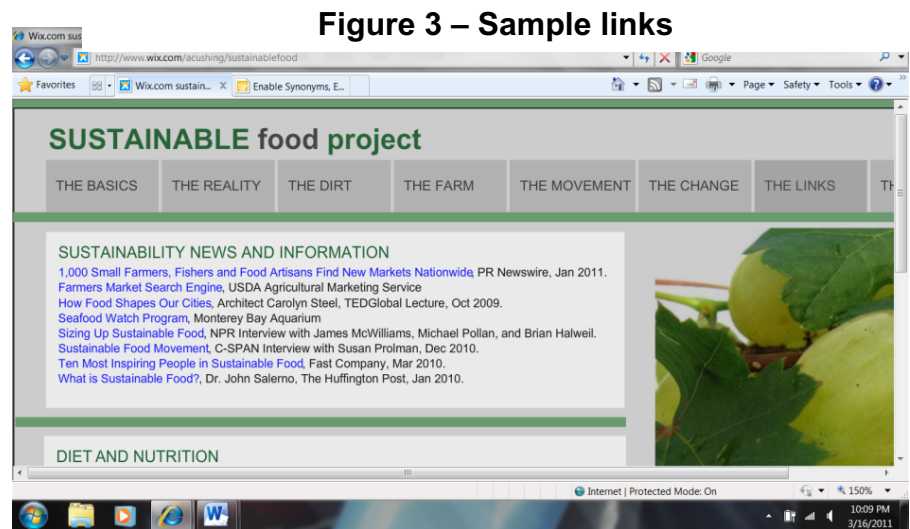


Figure 3- Screen shot showing some of the links available on the Sustainable Food Project website. (www.wix.com/acushing/sustainablefood)

It enabled me to provide additional information to the audience without including too much text and data on my site. Again, it was about presenting readers with choices. It allowed me the opportunity to supply information to readers, however slight, and also granted the audience some control over the information they receive.

Additionally, the design and layout of the site were also an integral to the success of the project. The color palate had to be pleasant and complementary, visually adding a sense of ease. I also took care to ensure the contrast was at an acceptable level to reduce glare and be easy on the eyes. Most importantly, I made certain the design elements carried throughout the site so that readers could stay oriented. Links were designed to open in a new window so visitors could peruse information from other sources while remaining connected to my site.

Finally, I took care to choose video elements that were direct and impressive in their message. It was important to select dynamic speakers and affecting documentary pieces that would keep the audience's attention while also presenting important information. Gregory Stanczak notes in his essay, "Images, Methodologies, and Generating Social Knowledge," that "images help us ask what we know about the social world and how we know it" (9). I wanted my readers to question the current state of our food system and take a look at how their own consumption practices reinforce the unsustainable cycle of food production. To borrow the words of Stanczak, I wanted the visual media to "strengthen, challenge, and contradict the way we understand the social world and others" (20).

## Summary

Our nation's success as a prolific food producer is testimony to its advances in technological innovations. However, we cannot continue to rely on these tools exclusively if we hope to sustain a vibrant agriculture. Instead, we must find ways to balance our 10,000 years of

organic and mixed-use farming knowledge with the best and safest methods technology has to offer. Otherwise, we risk losing the fertile land that has provided us with such abundant crops.

We also have to look closely at our current diet, which is making us susceptible to several serious diseases and health conditions and costly to our health care system. We must adjust our thinking and change our relationship with food. We must change our consumption practices from a nation that consumes four times the amount of meat and dairy as the rest of the world to a country that treasures its resources and values a sustainable food system to support the next generation (Walsh and Kaplan 36). Without rethinking the way we eat, we risk more than the degradation of our environment and precious crop lands, we risk creating a perpetually sick society with serious health implications for us and our children.

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