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Agriculture in United States

Matthew N. O. Sadiku
Department of Electrical & Computer Engineering, Prairie View A&M University, Prairie View, TX USA

Uwakwe C. Chukwu
Department of Engineering Technology, South Carolina State University, Orangeburg, SC, USA

Janet O. Sadiku
Juliana King University, Houston, TX, USA

Abstract: *Agriculture is a major industry in the United States. It plays a central role in meeting consumer and business market demand. The US is the world acknowledged leader in the science of agriculture and plays a pivotal role in meeting global food challenges. The US is the leading exporter of food in the world. It produces most of the crops in different regions of the country. US farmers and food producers are well positioned to capture an increasing share of the growing world market for agricultural products. Americans spend less on food, as a proportion of their income, than any other nation on the planet. This paper provides an introduction to American agriculture.*

Keywords: *agriculture, farming, American agriculture.*

INTRODUCTION

Agriculture is the practice of cultivating natural resources to sustain human life and provide economic gain. It may also be regarded as a business that provides the global economy with basic commodities such as grain, livestock, dairy, and fiber. It has always been a noble profession worldwide. Agriculture uses about a third of the land on the planet and occupies the lives of about two and a half billion people. It plays an essential role in job creation throughout the world. It offers an opportunity to improve the lives of millions of food-insecure people and help countries develop economies that create jobs and raise incomes. According to the US Department of Agriculture (USDA), food and beverage manufacturing companies employ about 1.7 million people in the US.

People often think of agriculture as consisting mainly crop farming: soil and land preparation and sowing, fertilizing, irrigating, and harvesting different types of plants and vegetation. It also includes industries such as food service and food manufacturing. Because it is a cultural phenomenon, agriculture has developed independently in many regions of the world and varied considerably across time and space.

There are two types of agriculture: subsistence and commercial. Subsistence farmers are those who produce only enough crops to feed their families. Commercial agriculture is where the primary purpose is to sell one's product at market. Since agriculture is a business, selling products made from agricultural production is important. Agriculture in the United States is highly mechanized.

IMPORTANCE OF AGRICULTURE

Agriculture is important to business and society. The raw materials produced by agriculture (from lumber for construction materials and from cotton to clothes) are a core building block of the global economy. Without the raw materials, manufacturers cannot make products. Agriculture impacts global trade because it is tied to other sectors of the economy. It can have a significant effect on the US economy. It provides opportunities for economic equity and helps people prosper around the world. It also directly or indirectly impacts economic development by contributing to the overall US gross domestic product (GDP) through farm production, forestry, fishing activities, textile mills and products, apparel and food and beverage sales, and service and manufacturing. Agricultural production helps to meet the demand for agricultural products throughout the country and abroad. The importance of agriculture is portrayed in Figure 1 [1].

BRIEF HISTORY OF AMERICAN AGRICULTURE

Although agriculture has no single, simple origin, it is an integral piece of American history. Agriculture in the United States has a long history of leading the world in using innovative approaches and technologies.

Thousand years ago, people relied on hunting and gathering to obtain food supplies. Hoes or digging sticks were used to break the ground where necessary. Consequently, cultivation became extremely labor intensive, with a family living on a farmland as small as 1.25 acres. Later, humans began to domesticate plants and animals for food. The dog seems to have been the earliest domesticated animal. The development of agriculture enabled the human population to grow many times larger than could be sustained by hunting and gathering. A revolution in land utilization began in the 16th century, with the adoption of food crops from the Americas, such as corn, sweet potatoes, potatoes, and peanuts (groundnuts). In the seventeenth century, an agricultural revolution took place which increased the efficiency of production and allowed more people to move to urban areas. A large variety of improved and complicated field implements were also employed. Farming in the twentieth century has become highly technological in developed countries with geographical technologies like GIS, GPS, and remote sensing while less developed nations continue with hunting and gathering practices [2].

In recent decades, American agriculture changed drastically. Public and private agricultural R&D played a major role in bringing about those changes. The organization of labor was complex including free persons, slaves, and indentured servants. The availability of slaves made possible the rapid growth in cotton production. The number of farms has been slowly declining since the 1930s, though the average farm size has remained about the same. In spite of the prominence of corn in American food production, the origins of this crop are still not clearly understood. Whatever its origins, corn became a staple crop of the Americas. Corn and soybeans are now king and queen of US agricultural system.

The mechanization of farming and intensive farming have been major themes in US history Mechanization has reduced substantially the labor needed to grow crops. Heavily mechanized, US agriculture has a high yield relative to other countries. Since their appearance on American farms between 1913 and 1920, trucks have changed patterns of production and marketing of farm products. A typical mechanized farming is shown in Figure 2 [3]. Inventions and new machinery like the huge harvesters, combiners, and cotton pickers reduced the toil for farmers and in return increased the productivity of crops.

The success of the wheat program led the Rockefeller and Ford foundations in 1962 to establish the International Rice Research Institute at Los Baños in the Philippines. The impact of electric power on modern agriculture has been significant, with the electric motor gaining the interest of the

farming community and reducing labor requirements to a minimum. Electricity's ease of operation and low maintenance showed savings in time and labor. Progressive farmers were determined to exploit the possibilities of electricity on their farms. The development of a wide range of electromechanical equipment caused the transition of agriculture from a labor-intensive industry to the present capital-intensive industry. Farmers have increased productivity through adopting advanced technology. This has enabled each worker to farm larger areas and has thus reduced the number of farmers. Since the late 20th century, the world tendency increasingly has been toward larger farms [4].

AGRICULTURE IN UNITED STATES

The United States is a superpower in every sector, including the agriculture industry. It is well known for its agriculture science and provides some advanced agriculture technology in the world. It is the best country in agriculture technology. It serves a role model for many nations in the agriculture sector. Agriculture in the US has increased by 5% every year after 1990. On average, one American farmer produces enough food for 96 people. The US' expanses of arable land, well-developed infrastructure, advanced technology, and government support together form a competitive advantage.

The United States is a large and diverse country with varied climates, soil conditions, and geographical features. In the United States, there are approximately 2.2 million farms, covering an area of 922 million acres (3,730,000 km2), an average of 418 acres (169 hectares) per farm. Almost 91 percent of US farms are considered to be small (less than 1,000 acres). Although agricultural activity occurs in every US state, it is particularly concentrated in the Central Valley of California and in the Great Plains [5]. California produces the most food in the US by value, while Texas has the highest number of farms. American south is known as a large producer of rice, cotton, and tobacco.

The introduction and broad adoption of scientific agriculture since the mid-19th century contributed to economic growth in the United States. Farmers in the early United States were open to planting new crops, raising new animals, and adopting new innovations as increased agricultural productivity in turn increased the demand for shipping services, containers, credit, storage, and the like [6].

Agriculture has always been influenced by the actions of governments around the world. Like most countries, the US government heavily subsidizes farming. However, since the early 1990s, Congress has gradually reduced these subsidies. Farmers constitute a politically powerful group and they receive sizeable legislative support. The United States is the top exporter of agricultural products with $118.3 billion in exports as of 2019. Corn or maize is the most widely used crop in the Americas and is grown nearly everywhere there is agricultural production. Corn is widely cultivated across the nation and has a diverse range of uses such various human foods, animal feed, ethanol production, and industrial applications. Figure 3 shows a variety of corn in America [7]. Corn is followed by soybeans and wheat. Other major crops are sugar cane, potatoes, coffee, sugar beets, and bananas. Figure 4 shows the most lucrative food crop in each US state [8].

There have been dramatic improvements in agricultural technology in the US. These include increased use of computers, scientific soil and crop analysis, and more sophisticated machinery. To ensure that America remains the world leader in crop production, there is emphasis on agricultural research and development. A big part of the profits are dedicated to R & D. US has increased research in seed improvements such as genetic engineering and hybridization. The states with the largest increases in output were Arkansas, Washington, Delaware, Florida, and Georgia [9].

USDA works everyday to strengthen the American agricultural economy. According to the USDA, almost 90% of farming productions in the US are based on small farms that are interested in growing valuable crops by investing minimum wages. Lavender is regarded as the most versatile crop among all the best cash crops in the US.

BENEFITS

American agriculture is environmentally sound, economically viable, and consumer focused. Its success is mainly due to the open-arms approach to innovation. Innovation has always been at the heart of American agriculture. Based in sound science, US agricultural innovation has improved both the production and the production capability of the nation to feed a growing population sustainably. These innovations have allowed producers to be more productive, more profitable, and more resilient in adapting to changing environmental and economic conditions. Research and development along with USDA Science Agencies, has always been the "edge" that keeps US agriculture a global leader [10]. USDA prohibits discrimination against its customers, employees, and applicants for employment on the basis of race, color, national origin, age, disability, sex, gender identity, and religion.

Agriculture is particularly important to the economies of small towns and rural areas, where farming supports a number of sectors. It helps create a more equitable society. Businesses have benefited in recent years as a result of the strong agricultural economy. Most US households are food secure, meaning that all people in the household have enough food to live active, healthy lives. The households with above-average food insecurity include those with an income below the poverty threshold, those headed by a single woman, and those with Black or Hispanic owners. US agriculture receives subsidies from the State to sell its products to other countries. There is a protectionist system in the US, so the entry of agricultural products from another countries is very limited. Many US agribusinesses and agricultural product exporters view developing nations as their best opportunity for market expansion.

For thousands of years, humans have used plants to help treat sicknesses and diseases. Substances derived from plants and herbs can also help in healthcare. For example, ginger, typically consumed in tea, can help aid digestion.

CHALLENGES

Despite its huge success, US agriculture faces many challenges, which could keep the nation from taking advantage of growth opportunities. US agricultural exporters often confront barriers imposed by countries that keep US products from reaching their target markets. The International Labour Organization considers agriculture "one of the most hazardous of all economic sectors." Agricultural activities contribute directly to emissions of greenhouse gases through a variety of processes. Delays in shipping crops could also be detrimental to regions expecting shipment. Agriculture is sensitive to weather and climate. Heavy rainfalls can lead to more soil erosion, which is a major environmental threat to sustainable crop production. Climate change can make conditions better or worse for growing crops in different regions. While climate change (such as in temperature, precipitation, and frost timing) could lengthen the growing season, it will also make agricultural practices more difficult. Climate change can affect crops, livestock, soil and water resources, rural communities, and agricultural workers. Agricultural workers face several climate-related health risks. Air pollution may damage crops, plants, and forests [11].

Around the world, the number of women working in agriculture has risen. Women make up a large share of the population employed in agriculture. Women in agriculture still have significantly less access than men to inputs, including improved seeds, fertilizers, and mechanized equipment [12]. Many women have reported that they are not being respected, listened to, or taken seriously due to

traditional views of women as housewives and caretakers. Women may also face resistance when attempting to advance to higher positions. Figure 5 shows some women farmers [13].

CONCLUSION

The United States has a robust farm economy. Agriculture in the US is diverse, spanning gradients in scale, climate, physiography, ecology, economics, and culture America's farmers make an important contribution to the US economy by ensuring a safe and reliable food supply. By producing a wide variety of foods inexpensively, including fruits, vegetables, grains, meat and dairy products, America's farmers ensure a safe and reliable domestic food supply [14]. New agricultural and food-system technologies developed with US assistance become global goods that raise agricultural productivity. Agriculture in the US must respond to escalating demands for productivity and efficiency, as well as pressures to improve its stewardship of natural resources. Today's agriculture impacts future generations. More information about agriculture in the United States can be found in the book in [15-25].

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ABOUT THE AUTHORS

Matthew N.O. Sadiku is a professor emeritus in the Department of Electrical and Computer Engineering at Prairie View A&M University, Prairie View, Texas. He is the author of several books and papers. His areas of research interest include computational electromagnetics, computer networks, and marriage counseling. He is a life fellow of IEEE.

Uwakwe C. Chukwu is an associate professor in the Department of Industrial & Electrical Engineering Technology of South Carolina State University. He has published several books and papers. His research interests are power systems, smart grid, V2G, energy scavenging, renewable energies, and microgrids.

Janet O. Sadiku holds bachelor degree in Nursing Science in 1980 at the University of Ife, now known as Obafemi Awolowo University, Nigeria and Master's degree from Juliana King University, Houston, TX in December 2022. She has worked as a nurse, educator, and church minister in Nigeria, United Kingdom, Canada, and United States. She is a co-author of some papers and books.

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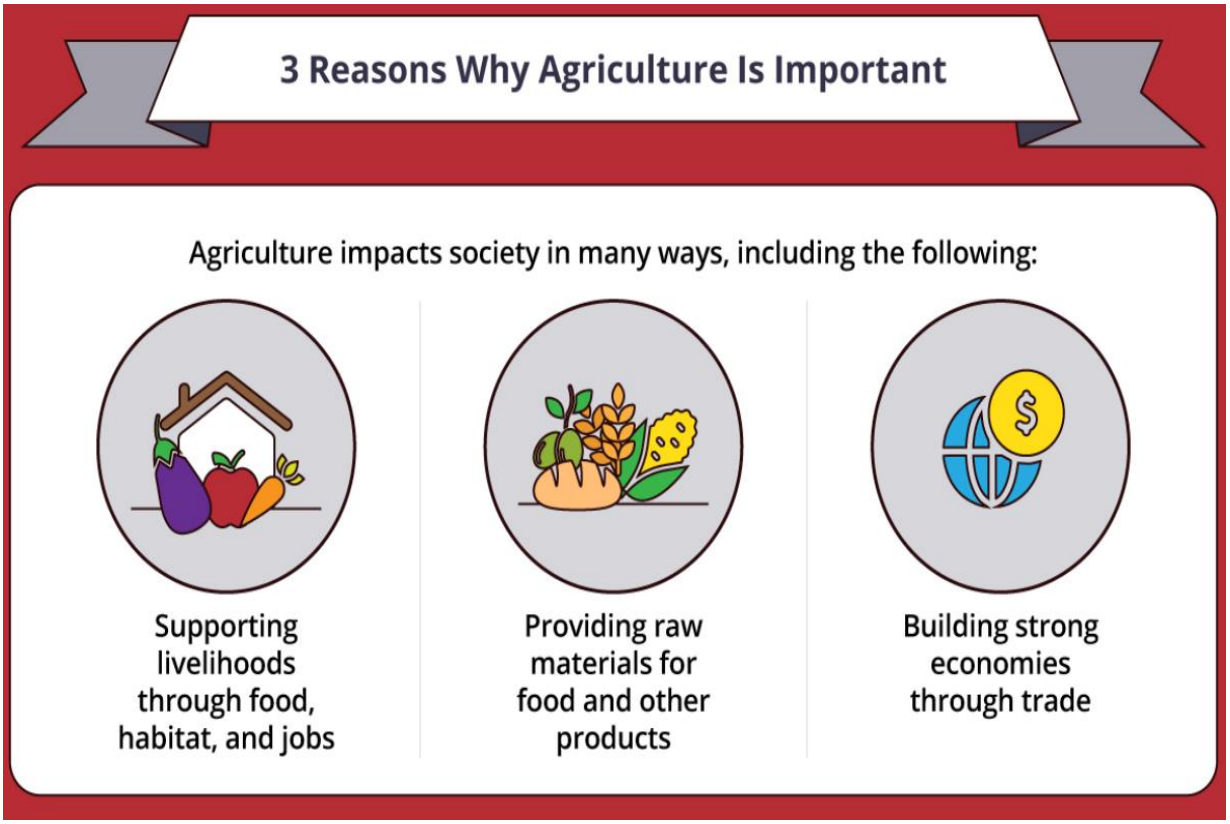

Figure 1 The importance of agriculture [1].

Figure 2 A typical mechanized farming [3].

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Figure 3 A variety of corn in America [7].

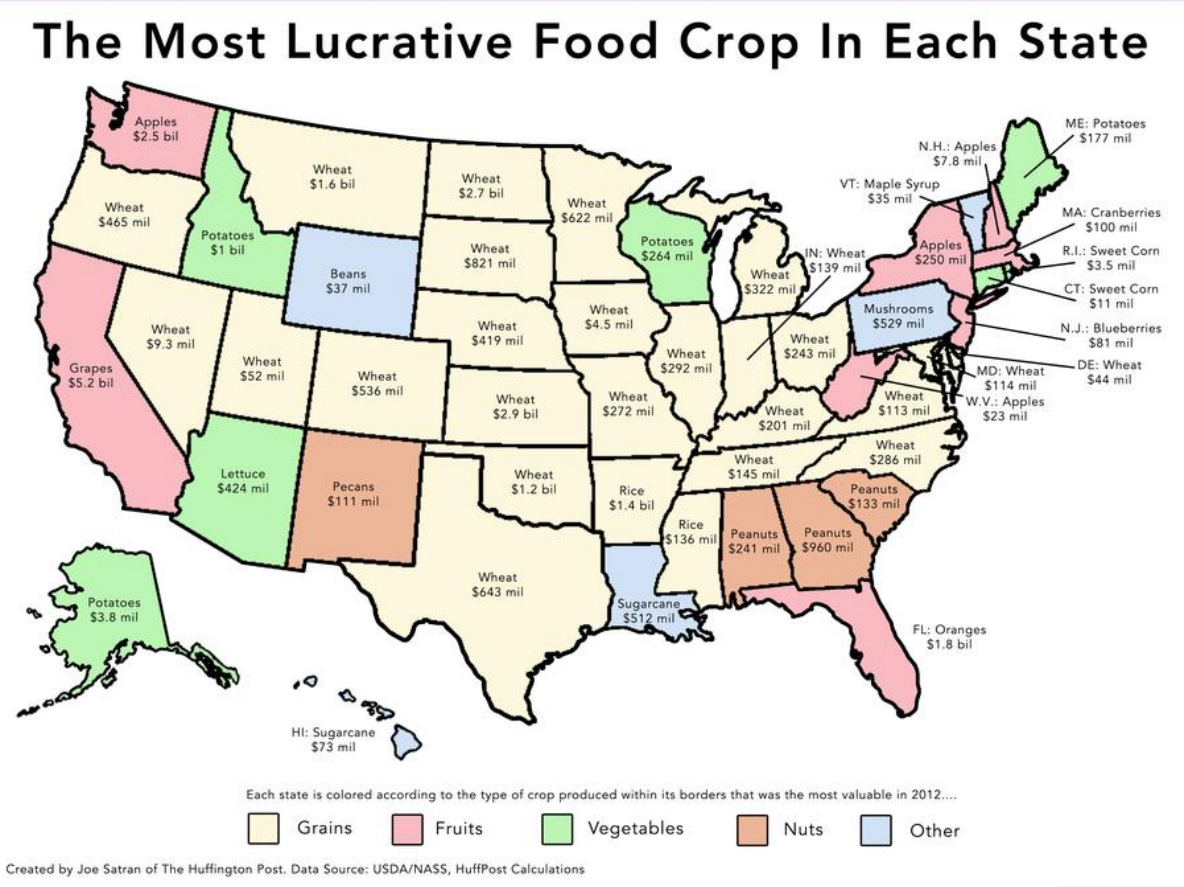

Figure 4 The most lucrative food crop in each US state [8].

Figure 5 Some women farmers [13].