

Profiling Food Consumption: A Comparison Between China and America

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My infinite thanks goes to my family. I would get homesick at times especially since the summer of 2012 was my first time away from family alone and first time abroad. They were always one call away. They helped me shop and pack for everything. They prepared me mentally and physically for this trip. I love you all and thank you so much.

INTRODUCTION TO THE GLOBAL YOUTH INSTITUTE

I attended the Global Youth Institute (GYI) in October of 2011. Being a participant in the GYI was an eye opening experience that I will appreciate forever. After the three-day institute, I couldn't believe how such a wonderful, enlightening program was unheard of in Tennessee and other southern states.

In August of 2011, a friend of mine asked me if I would like to attend an agricultural forum in Des Moines, Iowa. He gave me a descriptive paper about the unique opportunities afforded by The World Food Prize Foundation. Neither one of us knew exactly what we were getting ourselves into but we were informed and inspired by, Ms. Biba Kavass, who would, later that year, become our AP Macroeconomics teacher.

Through writing my research paper I learned so much about food insecurity and how to address it. I've always had a passion for making a difference and helping others but never delved for methods to eradicate global poverty and hunger. The GYI further inspired me to make a difference on a global scale.

THE BORLAUG-RUAN INTERNSHIP

From reading about the Global Youth Institute, I learned that there would be a chance to travel abroad to obtain firsthand knowledge of agriculture relating to pressing food security issues. I watched interviews online about previous interns and got in touch with a 2011 BR Intern because I was, unfortunately, unable to view the 2011 BR interns' presentations. Galvanization hit me after interacting with world leaders and laureates, viewing presentations by benevolent individuals, participating in the many GYI activities, touring research centers, and learning about Dr. Norman Borlaug and his agricultural contributions to saving lives and his goal of passing the same goals to the youth. Upon returning from the GYI I had a break from school due to Fall Break. I spent that time applying for the Borlaug-Ruan Internship especially because I was so moved from what I had experienced in Des Moines, Iowa.

I was nervous from the time that I sent my application papers off to Iowa to the time I got the embellished WFP envelope in my mailbox. During the waiting period, I hoped for the best because I knew that I wouldn't find such an opportunity elsewhere. I jumped for joy when I got the letter telling me that I had made it to the next phase of the selection process and when I got the one telling me where I would be placed! I was overwhelmingly excited for the trip and this excitement increased as time scrolled by. Weeks were dedicated to finishing my senior year and packing for China!

BEIJING

I was still new to the airport milieu. I knew that I was to look for someone with a sign that said my name. I immediately began looking as soon as I stepped foot in the doors of the airport. At the same time, I needed my luggage so I followed the passengers that I recognized from the plane, assuming they were in pursuit of the same. After taking the airport subway, I got my bags and asked where the international arrival gate was because the signs were still unclear, in my opinion. After solitarily being in such an unfamiliar place, I was so happy to have a young woman come up to me asking if I was Lauren. She greeted me with a huge hug and offered me dinner. The first restaurant I visited in Beijing was McDonald's. The sign looked familiar but I believe I got the culture shock that everyone warned me

about after I saw only the Chinese language and relatively different food choices. I saw the prices in RMB, the currency that I had not yet received. Oliver promised me that it would get taken care of the next day. We waited for my roommate Jessica's flight to arrive but Canada Air reported that it wouldn't arrive that night. Soon after that reporting, we left to get a taxi. I can hardly remember the time when I traveled to a large city in America so to come to a large city in China was absolutely different and exciting. The ride to the dorm was an adrenaline rush—cars weaving through traffic, disuse of blinkers, countless horns honking, closeness of cars on the road at high speeds. I made it to the third floor of my dorm and was given a key. I couldn't wait to decorate the white-walled, fluorescent-lit room. I was introduced to neighbors on my hall and appreciated their welcoming attitudes.

THE CHINESE ACADEMY OF AGRICULTURAL SCIENCES (CAAS)

Its strategic task: *"...serving nation-wide agricultural and rural development and empowering farmers with science and technology."*

The Chinese Academy of Agricultural Sciences (CAAS), established in 1957, is a major player in agricultural research that is directly affiliated to the Ministry of Agriculture. Through applied research in science, food consumption, nutrition, agricultural economics, etc. and with scientific and technological innovation in the field of agriculture, CAAS is making an effort to solve issues of population pressure, food security, environment and resource stresses (Aginfra).

Only about five minutes away from my dorm, was a red brick building, standing out from the others, called the "Old Main Building". This was the home of the Agricultural Information Institute (AII), a nonprofit research institute that I was assigned to. AII's mission is to undertake scientific innovation in the field of agricultural information and to provide agricultural science and technology information services. AII devotes itself into three major scientific research fields of Information and Communications Technology (ICT) applications in agriculture, agricultural information management and agricultural information analysis. AII is also the national agricultural science and technology documentation center as being the National Agricultural Library. The National Agricultural Library with AII has a collection of 2.1 million copies of books and journals, making it the largest Agricultural Library (Graduate School...).

WHO I WORKED WITH IN CAAS

Shiwei Xu (my supervisor) is Director General of Agricultural Information Institute (AII) of CAAS, Director of Key Laboratory of Digital Agricultural Early-Warning Technology, Chairperson of the Council of Science and Technology (Branch of China Association of Agricultural Science Societies (CAASS)), Deputy Director and Secretary-General of the State Food and Nutrition Consultant Committee. I learned that he was born in the same province as President Hu (the current Chinese president), which was in the Jiangshu province. Professor Xu received his PhD in Management and has conducted extensive research on agricultural information system, food safety and early-warning technology. He has lead or participated in 30 projects and published more than 10 books and 70 articles in academic journals.

Yumei Zhang (my mentor) is the Assistant Research Fellow of Agricultural Information Institute of CAAS. She received her PhD in Agricultural Economics and Management from CAAS in 2009. Her current research focuses on the application of various quantitative methods to study the agricultural and rural development issues in China. She primarily uses the methods of Computable General Equilibrium Models and Econometrics.

Ahmed Abul-Gafar Usman Danfodiyo University Sokoto (state within Nigeria). The Agricultural Research Council of Nigeria, where Ahmed currently works gave Ahmed leave to come study Agricultural Economics at CAAS. By 2014, he will have completed his Masters degree.

Wang Yu is a graduate student working on her Masters degree. She is from Inner Mongolia. Two years ago, she studied mathematics and applied mathematics at Central South University in Changsha city within the Hunan Province. Now she studies Agricultural Economic Management at CAAS.

MY RESPONSIBILITIES

Aside from the responsibility of completing my project, I had to attend two meetings with workers from my department. The first two-day meeting was titled “Strengthening of China’s Capacity in Agricultural Market Monitoring and Agricultural Outlook”. It addressed issues with short-term market assessments such as insufficient information exchange, imbalance in supply and demand market information, shortcomings in market information processing and analysis, and unsound information release system on agricultural markets with the absence of an authoritative information release body. These issues limit China’s early warning ability of potential food crises. Project aims discussed at the meeting to solve the issues included improvement of major Chinese commodity balance sheets, publication of an annual Agriculture/Food Outlook as well as improvement of China’s capacity to monitor short- term commodity markets in China and the world, to collect trade data, to analyze trade policy, and to develop long- term agricultural perspectives.

The second meeting I attended was the World Dairy Expo and Summit, which took place in Zhenzhou city in the Henan Province. The conference was not in English, but afterwards there was a large exhibition. Information was provided about dairy companies and how milk is processed, packaged, and sent to markets. Also, a major part of the exhibition was focused on cow breeding, farm machinery utilized to raise healthy cattle, cow feed, cow shelter, etc. were displayed at this event.

Additionally, I had the chance to accompany Ji Han, a graduate student at CAAS, in doing a food consumption survey in Beijing. Each interview was lengthy and not everyone wanted to participate therefore we only got two surveys completed that day. Two surveys may not be an acceptable amount of information for in-depth research but they are enough to conclude that eating habits in China are tremendously different than those of America. The results of the survey are further expressed in section 7.1.

MY RESEARCH PROJECT: FOOD CONSUMPTION COMPARISON BETWEEN CHINA AND AMERICA

1. Introduction: What is food consumption and why is it important?

According to the FAO, food consumption refers to the amount of food available for human consumption. However, the actual food consumption may be lower than the quantity shown as food availability depending on the magnitude of wastage and losses of food in the household, e.g. during storage, in preparation and cooking, as plate-waste or quantities fed to domestic animals and pets, thrown or given away.

It is a known fact that food is very important, so does that not make food consumption important as well? The amount and types of foods we consume are important for our survival, our growth, our development, and our health (mental and physical). Food consumption researchers examine food security in developed and developing countries, and help decipher how to provide enough food for everyone. The amount of food in the world is not the problem; instead, it is the distribution. Studies can be used to create effective solutions for ensuring that countries have enough food for their people. Due to current issues with food distribution, in a developed country, people are more prone to suffer from problems of overconsumption, whereas the people of a developing country are predisposed to malnutrition and hunger. Additionally, nutritional information can be gathered from food consumption research, making it easier to identify diet-related diseases and the eating habits that cause them.

Why compare China and America? China and the US are very different countries, with different economies, incomes, food consumption styles, cultures, health problems (malnutrition and over-nutrition), life expectancies, obesity rates, etc. The comparison is helpful for improving food consumption in both countries.

2. General Country Information/Background

2.1 Population and Gross Domestic Product (GDP) per Capita

| | China | | USA | |
|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | <i>Estimated-2011</i> | <i>Projected-2012</i> | <i>Estimated-2011</i> | <i>Estimated-2012</i> |
| Total Population (1,000) | 1,378,506 | 1,384,656 | 313,085 | 315,791 |
| Rural Population (%) | 51.93 | 51.1 | 17.43 | 17.15 |
| Urban Population (%) | 48.07 | 48.9 | 82.57 | 82.85 |
| GDP per capita | 5,184 | | 48,147 | |

Table 1: Total, Rural, and Urban Population (Estimated and Projected)

Source: FAO

Population should be accounted for in each country being that it will impact the total food consumption. Rural and urban areas are important to reference especially for China. For the most part, rural food consumption falls significantly behind that of the urban community. Gross domestic product (GDP), an economic factor, is also important because the state of a country's economy has much to do with their food situation. "With economic development comes increased food availability, which leads to greater food security and thus dietary variety and adequacy" (Soowoon).

2.2. China and USA People and Society Information

| People & Society Info. | China | USA |
|--|--|---|
| Birth Rate | 12.31 births/1,000 pop. (2011 est.) | 13.68births/1,000 pop. (2011 est.) |
| Death Rate | 7.17 deaths/1,000 pop. (2011 est.) | 8.39 deaths/1,000 pop. (2011 est.) |
| Net Migration Rate | -.033 migrants(s)/1,000 pop (2011 est.) | 3.62 migrant(s)/1,000 pop. (2011 est.) |
| Annual Urbanization Rate | 2.3%(2010-15 est.) | 1.2% |
| Infant Mortality Rate | 15.62 deaths/1,000 live births (2011 est.) | 5.98 deaths/1,000 live births (2011 est.) |
| Life Expectancy at Birth | 74.84 years | 78.49 years |
| Health Expenditures | 4.6% of GDP (2009) | 16.2% of GDP (2009) |
| Obesity-adult prevalence rate | 5.8%(Source: WHO 2005) | 33.9%(2006) |
| Children under 5y/0 underweight | 8.7%(2000) | 1.3%(2002) |

Table 2: People and Society Information

Source: CIA- The World Factbook

There are some eye-catching, societal differences between China and America including the net migration rate, life expectancy, health expenditures, adult obesity prevalence rate, and underweight children under five years old (y/o).

In China, there are more people leaving than coming (net migration rate -0.33%) whereas in America, there are more people coming to America than leaving (net migration rate 3.62%) There is a lower life expectancy (74.84yrs.) in China than in America (78.45yrs.), which shows about a 4 years difference. In 2009, China used 4.6% of GDP for health expenses while the U.S. quadrupled that in the same year, using 16.2% of its GDP. China's 2002 adult obesity prevalence rate of 2.9% is shockingly twelve times lower than America's 2006 adult obesity prevalence rate of 33.9%.

In China, the underweight children just under 5y/o was at 8.7% in 2000, seven times higher than America's 1.3% in 2002.

3. Consumption Patterns

3.1 Consumption Patterns of Major Food Groups from 1990-92, 1995-97, 2002-02, 2005-07

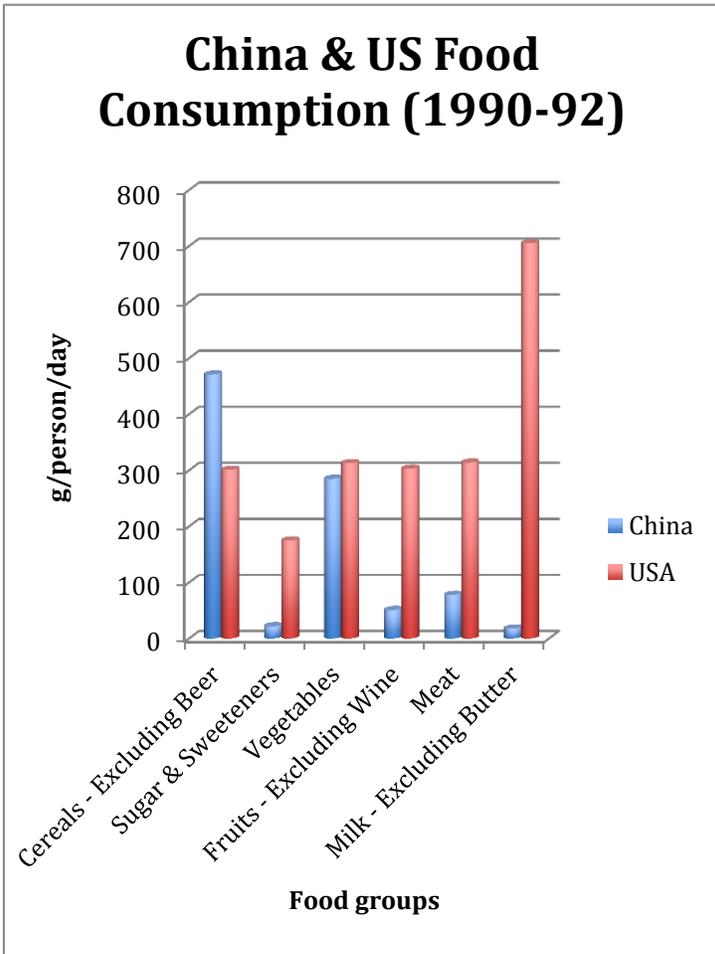


Figure 1: 1990-92 China & US Food Consumption
Data Source: FAOSTAT

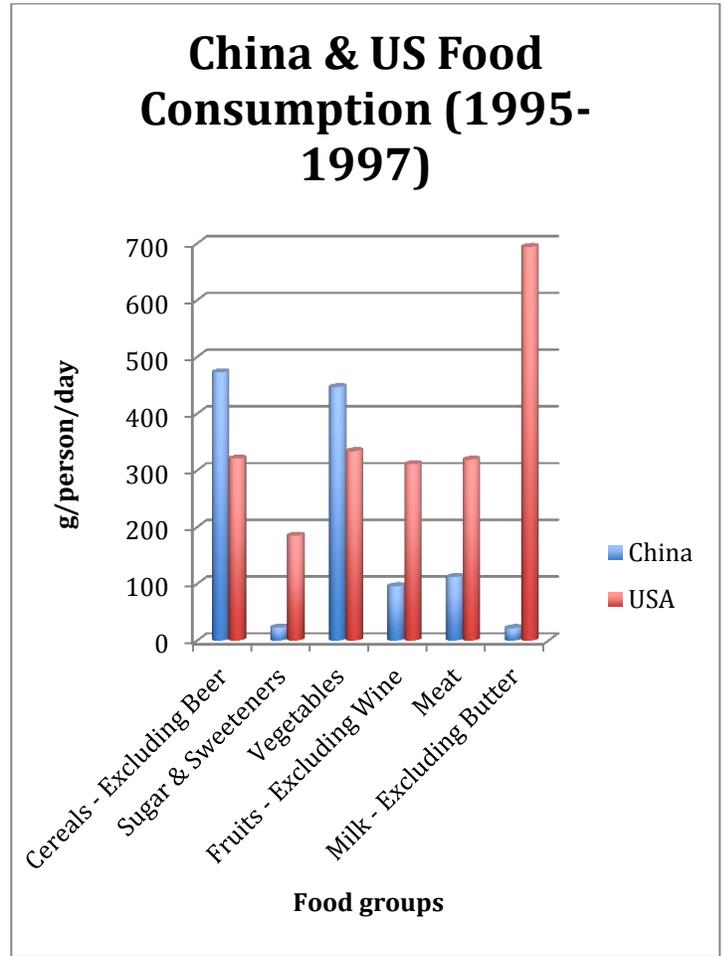


Figure 2: 1995-97 China & US Food Consumption
Data Source: FAOSTAT

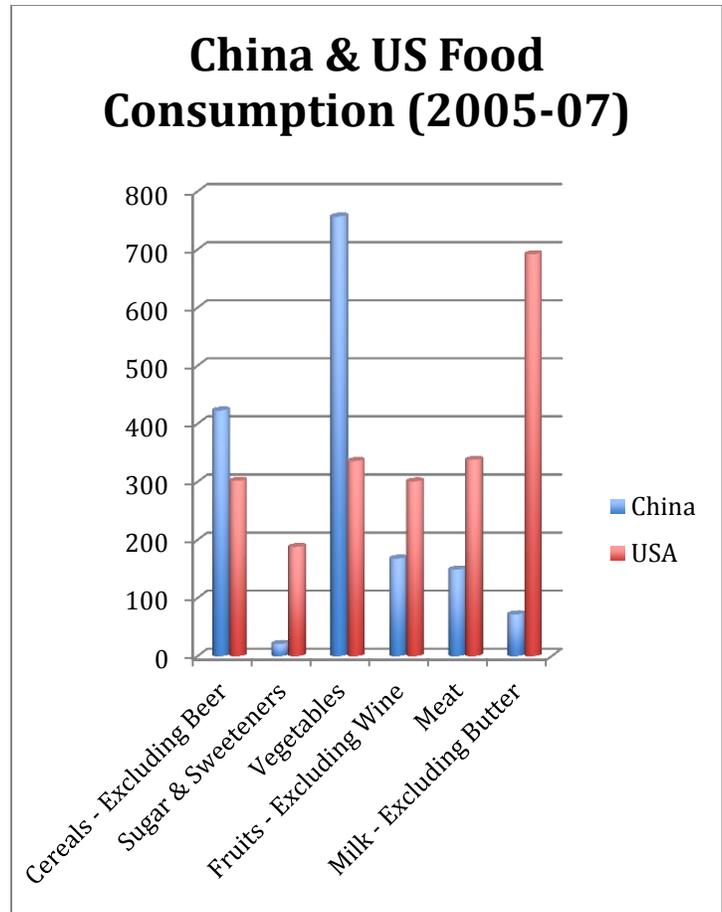
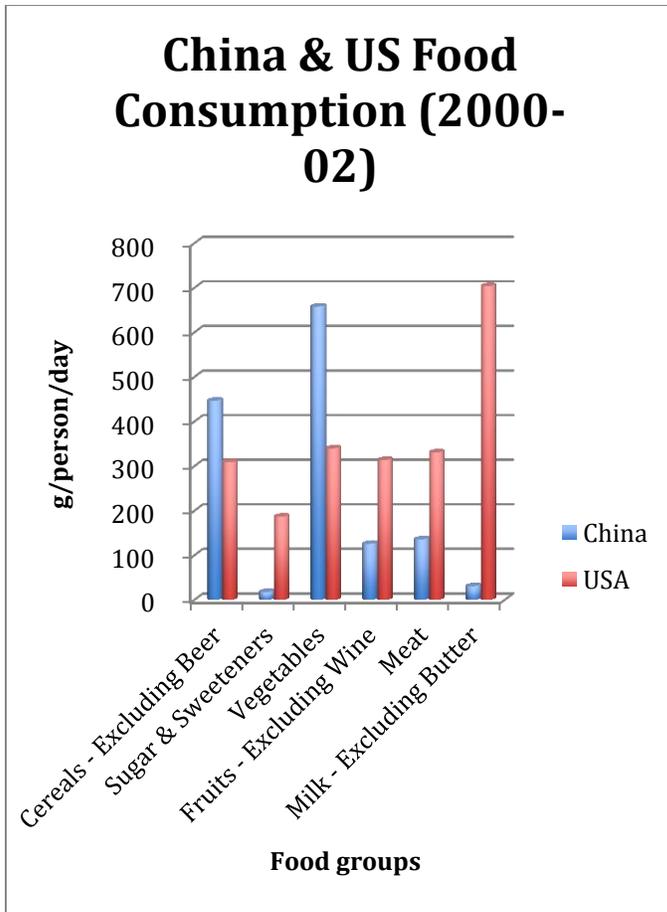


Figure 3: 2000-02 China & US Food Consumption
Data Source: FAOSTAT

Figure 4: 2005-07 China & US Food Consumption
Data Source: FAOSTAT

Throughout the 12-year period, America has no remarkable fluctuations with 27 g being the highest range. China, however, has a difference of 472 g between its maximum and minimum gram consumption of starchy roots and vegetables.

In grams per person per day (g/person/day) China consumes about 145.25 more grams of cereal, 206 more grams of vegetables, 162.75 less grams of sugar, 197 less grams of fruit, 211.75 less grams of alcoholic beverages, 206.75 less grams of meat, and 663 less grams of milk than America, validating the difference in the obesity prevalence rate (Table 2).

4. Consumption Trends

The US and China data concerning the FAO's food supply quantity have been available since 1961. Comparison of the food supply quantities will be made for the period 1980-2007. (Figures 5-8)

4.1. Trend of Vegetable Supply Quantity from 1980- 2007

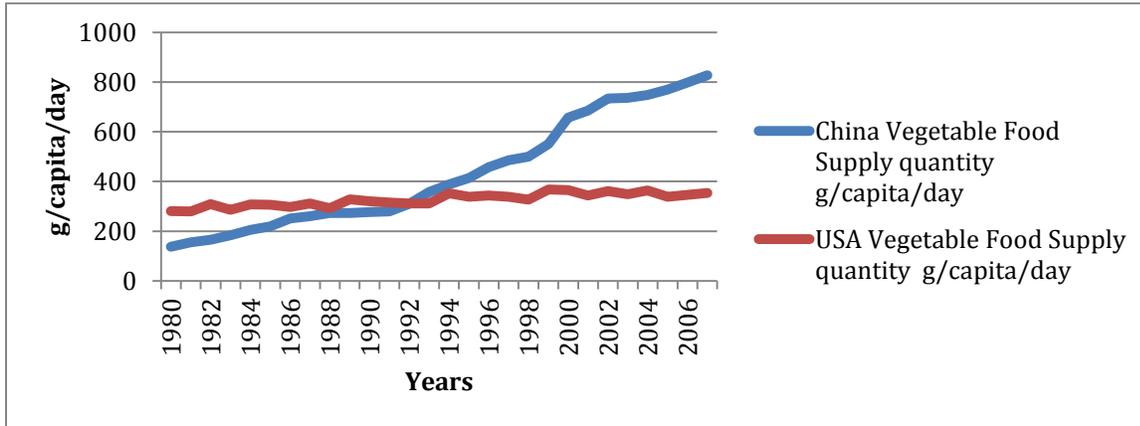


Figure 5: China & US Food Supply Quantities (g/capita/day)
Data Source: FAO

In this 27-year period, China unmistakably has the larger rise in vegetable consumption. It has a drastic percentage increase of 83% compared to America’s 20.6% increase from 1980-2007. America’s supply of vegetables was more than that of China for years until surpassed in 1993. In 1992, vegetable consumption was nearly the same with a 1-gram difference. As of 2007, China consumed 470g more of vegetables per capita/day than America.

4.2. Trend of Fruit Supply Quantity from 1980-2007

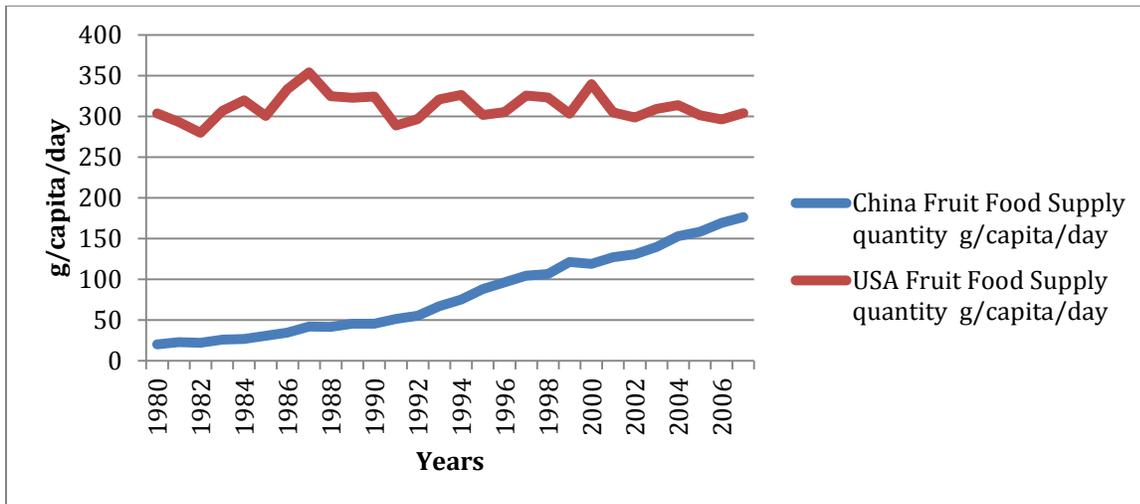


Figure 6: China & US Food Supply Quantities (g/capita/day)
Data Source: FAO

The United States has always had a dramatically higher supply of fruit. China didn’t have as many rises and falls but instead the supply slightly yet gradually increased over the years, never coming close to

America's fruit supply. China's fruit supply did not start increasing by higher margins until the 90s. In 2007, the US had a fruit supply quantity that was 127.53g more than China's.

4.3 Trend of Meat Supply Quantity from 1980-2007

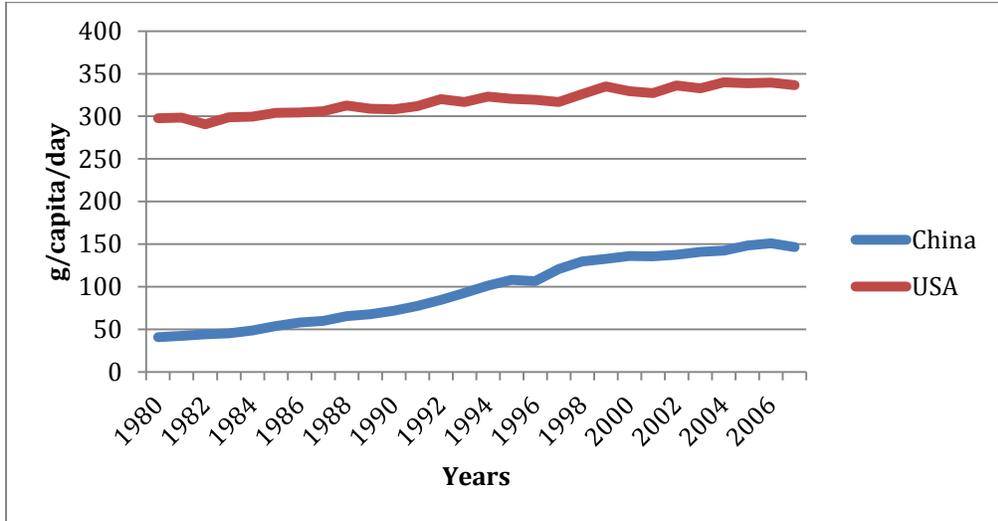


Figure 7: China & US Food Supply Quantities (g/capita/day)
Data Source: FAO

China and America's difference of meat supply quantity remained at and between 188.64g and 269.87 g. The USA's percent increase was 11.5% but it should be remembered that it was high to begin with in 1980. China's percent increase was 72.1%, which still resulted in a supply quantity fairly lower than the USA's. Just five years ago, China still had 189.98g less than America.

4.4 Trend of Animal Fats Supply Quantity from 1980-2007

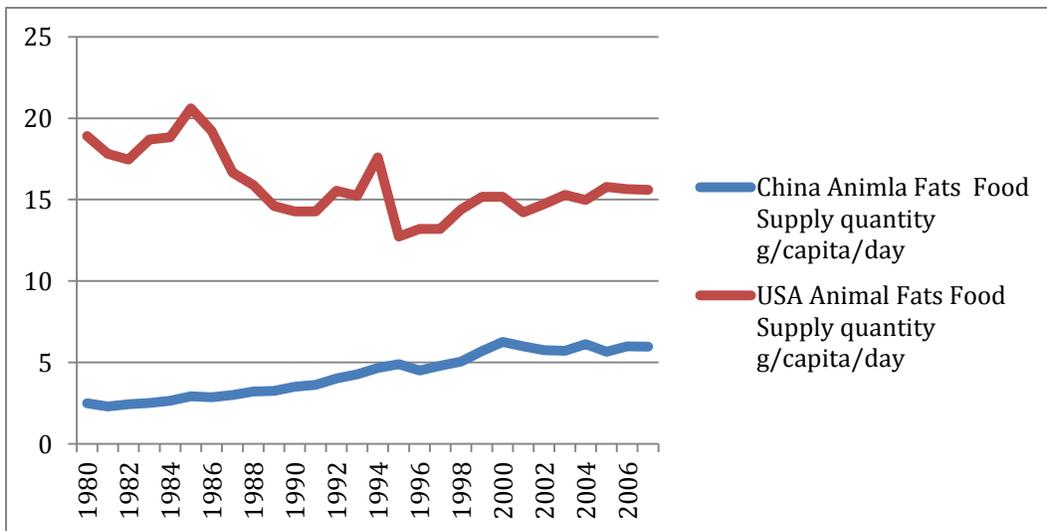


Figure 8: China & US Food Supply Quantities (g/capita/day)
Data Source: FAO

Animal fats in America have always been large compared to China's. China's animal fats food supply has grown slightly throughout the years while America's has ultimately decreased.

Over the years, there was a .58 percent increase for China and a .21 percent decrease in America, a surprising trend for both with America having an overall decrease in almost three decades and China having an increase about 2.4 times greater than its original in 1980. China and America have never come close to having the same supply as can be guessed from the differing meat supplies. In 2007, America's animal fats supply was almost three times more than China's, which is also expected because of America's high supply of meats.

5. Dietary Intake

Chinese and American Dietary Intakes

| Nutrient | China | US |
|---|--------------|-----------|
| Calories (kcal/kg body wt./day) | 40.6 | 30.6 |
| Total Fat (% of calories) | 14.5 | 34- 38 |
| Dietary (g/day) | 33 | 12 |
| Total Protein (g/day) | 64 | 91 |
| Animal Protein (% of total calories) | 0.8* | 10-11 |
| Total iron (mg/day) | 34 | 18 |

*Non-fish protein

Source: The China Study p. 358

Comparison of diets in rural China with average American diets shows that Chinese diets are much lower in total fat, much higher in total iron, about 30% higher in total calorie intake, and substantially lower in foods of animal origin.

Unlike average American diets, Chinese diets contains only about 0-20% animal based foods, while the average American diet is comprised of about 60-80% animal based foods (China-Cornell-Oxford).

5.1 How Food Consumption Trends & Nutrient Intake Affect Our Health

According to the National Cancer Institute, diet-related diseases kill an estimated **three out of four (75%) Americans** each year. These diseases include heart disease, high blood pressure, stroke, some types of cancer, and diabetes. Most Americans don't eat enough fruits and vegetables to keep themselves healthy. Many try to make up for bad diets by using multivitamin pills and other supplements, which cannot capture all health-protecting nutrients found in fruits and vegetables. Lifestyle factors such as eating too many foods high in saturated fats (fried foods, full-fat dairy products, fatty cuts of meat) and not getting enough exercise contribute to such ill health in the US.

Lately, China has had a shift towards more energy-dense, nutrient-poor foods with high levels of sugar and saturated fats, combined with reduced physical activity, has led to an epidemic of overweight and obesity in China. “The major comprehensive dietary factor responsible for disease rates of pre-industrialized societies changing to those of post-industrialized societies is the decision to consume much larger quantities of animal based foods.” (China-Cornell-Oxford). The rising prevalence of overweight and obesity in China poses a high risk for serious diet-related, noncommunicable diseases (DR-NCDs), including type 2 diabetes, gallbladder disease, cardiovascular disease (hypertension, stroke, and coronary heart disease), and certain forms of cancer (Fuzhi). In China in 1995, diet-related chronic diseases accounted for 41.6 percent of all deaths. With China’s dietary shift, diet-related chronic disease is projected to increase to 52.0 percent of all deaths in China by 2025—still 23 percent less than America—(Ifpri p. 2).

6. Food Policy Intervention

In America, most people have the option of overindulgence of food, while in China, there are still vast underdeveloped areas that would struggle to find adequate food. In other words, China has an occurrence of underweight and overweight (or undernutrition and overnutrition) in close proximity at the national, community, and even household levels. The coexistence of energy deficiencies, nutrient deficiencies, and excessive energy intake in one population further complicates the issue of implementing a food policy. A policy directed at reducing overweight and obesity must take into account those who are underweight and/or micronutrient deficient.”(Fuzhi). For the malnourished Chinese, national assistance programs can be provided to help indigent families by making food more accessible and easily attained. For instance, a network of government funded establishments that provide food to those in need. This would be similar to non-profit organizations in America that provide food to those having insufficient ability to purchase food for themselves and their families called food banks.

7. Personal Account of the Food Situation in China

Vegetables and fruits are readily available in the US as well as the areas I visited in China (Beijing, Zhenzhou, Luoyang). I noticed that the decision to consume a proper amount of those food groups was more common in China.

I saw copious vegetables served in popular restaurants and sold at the stands of street vendors. At the Summer Palace, a major tourist attraction, I saw many people snack on raw veggies such as corn on the cob and cucumbers that they bought as snacks within the gates of the Summer Palace. In McDonald’s, I saw someone get a side of corn which came in a small container—something I’ve never found in America. Also, after dinners at restaurants, we would be served sliced watermelon. We were never served rich ice cream, cakes, cookies and pies that are offered in many US restaurants.

It is also important to note that Chinese cooking methods are much different. Just as the US, China has many methods of cooking; of the many types, stir-frying, braising, steaming, boiling are more popular. The Chinese do not use as much (if at all) animal fats, oils, and butter to prepare foods. Also, the Chinese are not as dependent on quick foods that require minimal preparation such as microwavable meals. In China markets I didn’t find isles with frozen, processed foods; instead, I found much more fresh foods that had less preservatives but more original nutrients. Also, while watching Chinese television, I didn’t witness an overload of food commercials and advertisements as I do in America.

7.1 Beijing Food Consumption Survey

As explained earlier, I accompanied a graduate student to conduct a food consumption survey. The survey results demonstrate the food choices of two Chinese males in a 3-day period. Following is a summary of the results:

Person 1
Male, Age 25
Net Income 44,000RMB

July 31

Breakfast: 300 g of milk & a snack

Lunch: 150g of rice, 240g of vegetables, 180g of tofu, 50g of meat, 30g of oil

Supper: 150g of rice, 150g vegetables, 180g of tofu, 50g of meat, 30g of oil

August 1

Breakfast: 300g of milk & a snack

Lunch: 180g of noodles

Supper: 150g of rice, 360g of vegetables, 30g of oil

August 2

Breakfast: 300g of milk & a snack

Lunch: 150g of rice, 50g, of vegetables, 50g of egg, 30g

Supper: 150g of rice, 180g of tofu, 30g of oil

Person 2
Male, Age 39
Net Income: 35,000RMB

July 31

Breakfast: 150g of noodles, 50g of mantou (a Chinese steamed bun), 50g of egg

Lunch: 200g of noodles, 100g of vegetables, 50g egg

Supper: 150g of rice, 125g of vegetables, 50g meat, 25g of egg, 25 of oil

*Same for August 1st and 2nd

WHAT CAN WE LEARN FROM THESE OBSERVATIONS

Holistically speaking, China (in comparison to the US) has much better eating habits and, as a result, has better health and less deaths resulting from diet-related diseases. The Chinese diet consists of more plant-based foods rather than animal-based foods. Americans can adopt the traditional eating habits in China. This may include eating adequate fruits and vegetables, eating smaller portions of meat, and reducing consumption of sugar, salt, butter, and other unhealthy additives.

An interesting statement made by Mark Pereira, an associate professor at the University of Minnesota School of Public Health, explained a beneficial approach that can apply to everyone, especially China: “Global public health efforts should focus on maintaining the positive aspects of traditional cultures, while preventing the spread of outside influences thought to be harmful based on the scientific evidence” (Forbes). In other words, China should keep its traditional cuisines rather than adopting western styles of eating which has proved to be detrimental to the health of Chinese individuals who routinely consume it.

CONCLUSION

China and America are two very different countries. Living in the developed nation of America where unhealthy foods are more readily available, one is likely to succumb to the unhealthy eating habits around him/her. Americans are predisposed to overconsumption and the subsequent health conditions that have created the current epidemic facing American society. In spite of its gap between rich and poor, America has implemented policies to assure that everyone has access to food. In contrast, China has vast, underdeveloped areas where many people fall victim to food insecurity. National assistance programs can be created to help impoverished Chinese families by making food more accessible.

In relation to the United States, China ultimately makes better food choices consisting of less sugars, dairy products, meats, and total fat. China has a fresher, more natural diet that, if adopted in America, can result in a lowered level of diet-related illnesses. In years past, China has had a rising prevalence of obesity as well as diet-related diseases and deaths due to the integration of more modern and westernized eating habits into traditional Chinese culture. Instead of conforming to unhealthy, American influences, China should preserve its traditional way of eating. Although every society has its flaws, there are various aspects pertaining to food and nutrition that we can learn from each other to eradicate undernourishment and overconsumption worldwide.

MY OVERALL EXPERIENCE

Spending my summer in China was undoubtedly an incredible, life changing experience. It's amazing to go from reading about a foreign place to actually seeing it before your eyes and making it your new home for eight weeks. I didn't know much about the Chinese culture prior to going. I learned as much of the Chinese language as I could and while in China, absorbed as much information as I could from my friends. The first few days were spent adjusting to the new environment and meeting the people who I'd be interacting with throughout my stay. Everyone at AII was so hospitable; they ensured that I was comfortable, acquainted with everyone, and knew my way around campus. I had dinners with my supervisor and graduate students. I was told many stories whether they be about family, travel, nature, and health. Not only did I learn about them, but they were also very interested to learn who I was, where I was from, and my views on certain topics. Outside of office hours, I had the liberty to go sightseeing. The places I traveled to include: The Forbidden City, Temple of Heaven, Great Wall of China, White Cloud Temple, 798 Art District, The Water-Cube, Longmen Grottoes (in Luoyang city), and the Henan Museum (in Zhengzhou city).

I cannot go without mentioning that I interacted with people besides those from China: I met people from Malawi, Nigeria, Eritrea, Egypt, Ghana, Bangladesh, Pakistan, and Myanmar. This is because I had the great privilege of living in an international dorm.

My summer internship was an amazing and unique learning experience that I couldn't have found through any other organization. Now, after having a firsthand view, I am aware of China's food situation and living conditions. This experience changed my views of food security and poverty in China, enhanced my understanding of the Asian and African culture, provided an enlightening perspective on America, and helped me become more independent.

To conclude, China became my home away from home. I was there long enough to become acclimated to its differences, to learn a great deal about the Chinese culture, to delve into my research project, to sightsee, and to establish friendships. The Borlaug~Ruan Internship is an experience that I will cherish incessantly.



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