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THE GLOBAL FOOD PREDICAMENT

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THEME BRIEF



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INTRODUCTION

Let food be thy medicine and medicine be thy food.

– Hippocrates

One of the basic necessities of human life is food— its dishes so deeply ingrained within societies that they become intertwined with cultural practices and paint intricate culinary landscapes. Across the globe, food has become much more than a requirement for survival, burrowing itself permanently into traditions and shaping meaningful practices on how we eat: to socialize, to celebrate, to mourn, to love.

As we eat, we have come to realize that our food choices have lasting impacts on our health. While the lack of food plagues countries all over the world, impacting the physical and mental development of youth and human productivity, the overabundance of food is also on the rise, adding to the burden of lifestyle diseases. Although well-meaning organizations send food to those in need, we require more sustainable and culturally aware initiatives. In the twentieth century, the phrase, “we are what we eat,” is truer than ever; and as countries develop and shift from addressing communicable diseases to fighting chronic illnesses, we begin to recognize the permanence of food’s role in health. While discussions often center around the lack of food, we realize that living a wholesome life requires the right kinds of food in the right amounts. The stakes are higher than ever, with the decisions of agricultural companies, supermarkets, and fast food and beverage companies affecting not only food access and health outcomes everywhere, but also the very culture and identity of food defined within each country.

We invite World Health Organization delegates, representatives of non-governmental organizations, and stakeholders from the food and agricultural industries to convene and work in a culturally aware manner to address the social, economic, geographical, and environmental gaps surrounding the conversation of food: globalization of food, food insecurity, food related diseases, and sustainable agriculture.



SUBTHEME 1

GLOBALIZATION

OF FOOD

In no other area have the interactions between global exchange and local practices been as discernible as in changing food cultures.

**– Alexander Nutzenadel + Frank Trentmann from
“Food and Globalization: Consumption, Markets, and Politics in the Modern World”**

As individuals migrate from one country to another, they carry their rich culinary cuisine, culture, and identity with them. As a result, cuisine that was previously confined within a country thousands of miles away is now easily accessible down the street in restaurants and markets of another country. Enclaves of foreign nationalities such as Little India or Koreatown spring up in cities large and small— and become otherworldly countries in the form of small neighborhoods— brimming with smells and sounds of the kitchen. When drafting policy and creating diet recommendations, it is important to encompass the cultures of everyone living within the country, recognizing and being respectful of diverse identities and cultural backgrounds.

With many countries, the very definition of a country and place is the identification with its cuisine and culinary practices, reflected in the idea of **culinary nationalism**.¹ Therefore, policy should reflect the tastes, values, and culinary traditions of the population at large. Often, this sort of policy is difficult to enact, as many different foods may color the culinary palette of any country. For example, as the globalization of food paves a sturdy concrete bridge for large food companies to disperse into countries across the globe, this very sense of nationalism, and cultural identity is being affected and reconstructed by waves of food from other countries. In particular, Western fast food has become ubiquitous, rewriting the narrative of each country's health, culinary presentation, and food access. Ultimately, the implementation of any world health program or initiative has to take into account the cultural tastes of the people, without forcing certain practices or guidelines.



GLOBALIZATION OF FOOD CASE STUDY

JAPAN AND THE SHOKUIKU KIHONHO CAMPAIGN

Compared to food choices in the late 20th century, Japanese food choices in the early 21st century gradually shifted away from the traditional washoku (Japanese cuisine) diet of rice, fish, local vegetables, and soup, towards less rice consumption, more meat consumption, and more oil and fat intake.² Moreover, with the incredibly fast-paced lifestyle, busy workers and students alike choose fast and convenient foods. Instead of cooking and eating at home, more people are choosing to eat at restaurants, and in particular, at ubiquitous convenience stores, choosing premade and frozen foods high in sugar, salt, and fat.³ As such, traditional washoku is declining in popularity and being forgotten by the youth.⁴ The traditional subtle tastes of umami, a meaty or savory taste, are also being left behind, as the youth prefer the strong and bold tastes of Western food.

As the Japanese culinary scene shifts towards a Western diet, the incidence of non communicable diseases (NCDs) skyrocketed, with chronic disease such as cardiovascular disease, cancer, and diabetes causing 80% of all deaths in 2002.⁵ To improve health and nutrition while also promoting Japanese culinary culture, the government focused their nutrition campaign towards the youth-- implementing the 2005 Shokuiku Kihonho (Fundamental Law on Food Education).⁶ Starting from kindergarten, students are taught three main principles:

- 1) never skip breakfast,
- 2) avoid buying food from convenience stores, and
- 3) choose a traditional Japanese meal (washoku) over fast food.⁷

To further facilitate nutrition knowledge, the government required schools to have mandatory home economics courses from grades 5 through 12, teaching students how to prepare food with proper kitchen skills. Students also cultivate their own school gardens, growing vegetables and grains that the cafeterias uses to prepare lunch meals.⁸ In addition to learning within the school system, lectures and trips outside of school involve the larger community of fishermen and farmers, reinforcing sustainability, nutrition skills, and cultural concepts to the youth.⁹ From an early age, Japanese youth are able to consider the origins of food while learning about proper nutrition as regarded by Japanese culture. As schools cultivate a culture of healthy and nutritious eating, this understanding of nutrition also spreads to the home, influencing the health of family members and the children's future health outcomes.

In conjunction with the Shokuiku Kihonho (Fundamental Law on Food Education) the Japanese government increased the number of preventive screenings and early treatments for cardiovascular diseases, diabetes, and cancer.¹⁰ These preventive screenings allow those with NCDs to adjust their lifestyles, and begin early treatments to decrease mortality. The government's efforts to bolster the country's nutrition and health, also promoted the culture of Japanese cuisine. Since implementation of Shokuiku Kihonho, UNESCO has deemed washoku (traditional Japanese cuisine) to be an official Intangible Cultural Heritage, allowing Japanese citizens to feel pride in their culinary culture, while also paving the way for the passing down of this traditional practice.¹¹

SUBTHEME 2

FOOD SECURITY

*In a world of plenty, no one, not a single person, should go hungry.
But almost 1 billion still do not have enough to eat.
I want to see an end to hunger everywhere within my lifetime.*

– Ban Ki-moon, United Nations Secretary-General

In the recent 2018 Global Report on Food Crises, the United Nations estimated that 124 million people in 51 countries are severely food insecure.¹² Defined as “a situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences,¹³ **global food security** is impacted not only by drought, climate changes, and livestock diseases, but also military conflicts and the accessibility of supermarkets and grocery stores. Food insecurity plays a large role in health, linked not only to undernutrition, famine, and starvation, but also to the development of chronic diseases such as diabetes, obesity, cardiovascular disease, and hypertension.

The root causes of food insecurity is related to the unbalance of food access across socioeconomic tiers, geographical regions, genders, and nationalities. Geographical regions that are characterized by a lack of “affordable, healthy food options due to absence of grocery stores within convenient traveling distance”¹⁴ are known as **food deserts**. Similarly, areas with a “high-density of fast food and junk food”¹⁵ options are known as **food swamps**. As such, both food deserts and food swamps are spun from the same narrative of unequal access, and become important characteristics to address in policy surrounding food security.

Public health policies and interventions should seek to eliminate and mitigate food access disparities so that all humans have the basic right to access safe, sufficient, and nutritious foods.

In addition to during times of peace, ensuring human food security during times of conflict and emergencies is vital for the health and wellbeing of internally displaced and displaced persons. Due to recent rises in violence, conflicts¹⁶, and weather-related emergencies, more people are facing sudden food insecurity, thrown into emergencies that often culminate to country-wide food crises and large-scale famines.^{17, 18, 19} With preventative mindsets, countries should be prepared with internal and external plans to provide sufficient, healthy, and nutritious food for its citizens during times of conflict or emergency. The World Health Organization stresses the importance of designing policies that not only address food security in places of conflict, but also ones that incentivize leaders to maintain peace, as it is the primary preventative measure against food insecurity during conflict.²⁰ Peace ensures that violence and conflict do not deter a country from 1) progressing towards reducing food insecurity, and 2) hindering the ability of food production and availability for its citizens.



FOOD SECURITY CASE STUDY

CONFLICT AND FAMINE IN SOUTH SUDAN

It has been five years since the beginning of the South Sudanese Civil War. Amidst the ongoing violence, the country is facing severe food shortages and food insecurity due to man-made blockades, declining crop yields, and destroyed fertile land, ultimately culminating to a declaration of severe famine in two regions in February 2017.²¹ Furthermore, environmental conditions and El Niño have exacerbated the problem, creating drier conditions and drought, rendering agricultural outlooks meager.²²

Due to violence and environmental reasons, over 4.9 million people, or 40% of the population of South Sudan, were identified to be in need of food and nutrition aid in 2017.²³ In response to the declaration of famine, the United Nations (UN) has received \$709.2 million towards the humanitarian effort for the country, with \$304 million towards food security.²⁴ With these funds, the UN targeted efforts to distribute food and fishing kits, and provide livestock interventions.²⁵ Although famine conditions have improved since 2017, South Sudan is still not self-sufficient, facing food insecurity with threats to return to famine.²⁶ With future conditions in mind, the UN plans to continue to support food insecurity relieving efforts to the most vulnerable populations, while also encouraging people to reduce their dependence on outside assistance.²⁷ Despite these food security efforts by the UN, lack of funding²⁸ has forced the organization to focus mainly on top priority activities such as food distribution rather than sustainable practices such as distributing seeds and rebuilding agricultural infrastructure.

In addition to the humanitarian crisis within the country, neighboring countries also have to support displaced South Sudanese citizens. As of January 2018, about 4 million South Sudanese have been displaced, with 2 million displaced internally, and over 2 million displaced to Sudan, Uganda, Ethiopia, Kenya, and other neighboring countries.²⁹ For these bordering countries, supporting refugees requires proper infrastructure, as well as funding and assistance from external organizations. According to the UN Refugee Agency, Uganda has accepted more than 1 million South Sudanese refugees as of March 2018— this number is expected to continue to rise with South Sudanese and refugees from neighboring countries entering as well.³⁰

With the support of the UN, NGOs, and other countries, many refugees have their basic health needs met. However, with no resolution to the South Sudan conflict and the influx of more refugees from South Sudan and other neighboring countries,³¹ as well as the lack of funds raised,³² the humanitarian crisis in South Sudan and surrounding countries such as Uganda requires both immediate and sustainable international efforts.



SUBTHEME 3 SUSTAINABLE FOOD SYSTEMS

The transformational vision of the 2030 Agenda to end hunger and prevent...malnutrition...can only be fulfilled if agriculture and food systems become sustainable.

–World Health Organization

Ever since Thomas Malthus created a global mass panic regarding the inevitable shortages of food production, in the past two hundred some years, the world has come to refute his predictions with innovations that have promoted and enhanced agricultural production techniques. However, in the course of producing sufficient food via mass production and industrial-scale farms, we have used harmful pesticides and fertilizers, and caused pollution, climate damage, and loss of biodiversity and habitats.³³ As we continue to feed the growing population with growing requests due to higher standards of living, we have to maintain a sustainable stance to achieve food self-sufficiency. This approach is known as sustainable food systems: growing, harvesting, processing, packaging, transporting, marketing, and consuming food with three mindsets and goals: “a healthy environment, economic profitability, and social and economic equity.”³⁴ Achieving sustainable food systems also plays a larger role with food security and self-sufficiency, ensuring that nations can take pride in safely cultivating their own foods.



SUSTAINABLE FOOD SYSTEMS **CASE STUDY**

e-AGRICULTURE IN THE NETHERLANDS

As the world's leading exporter of agricultural products after the USA,³⁵ the Netherlands is both a leader in food production and agricultural technology. In conjunction with the country's impressive crop outputs, the country is home to the so-called "Silicon Valley of Food," known as the Wageningen University & Research Center.³⁶ Here at the center of the Food Valley, scientists work alongside academia and farmers from all over the world to disseminate both techniques and technology stemming from research done to increase crop output and efficiency.³⁷

As a result of research and dissemination of information, technology has become ubiquitous in the farming culture of the Netherlands. Drones notify farmers how much water and nutrients each potato plant needs.³⁸ Hovering cameras alert farmers when tomatoes require pesticides.³⁹ In under ten minutes, cell phone apps can analyze soil samples, instructing farmers on the fertilizer and nutrients needs of each plant.⁴⁰ Ultimately, in using this technology, resources and environmental impact are kept to a minimum, while crop production is at its peak.

In addition to technology, farming techniques have also shifted. With acres and acres of greenhouses dotting its landscape, the Dutch take control of the power of climate and light, ultimately becoming creators of their own microcosms of food production. While the sun is utilized as the major source of light during the day, LED lights continue to shine on the crops overnight.⁴¹ Moreover, the greenhouses themselves are powered by generators that convert natural gas into heat and carbon dioxide, or solar panels that create energy, thereby eliminating excess energy use.⁴² In a world of science and technology, e-agriculture is at the forefront of ensuring global food security.

While the plethora of technology and innovation improves agricultural yield and efficiency, criticism of such controlled production exists, often culminating to tense debates similar to the genetically-modified-organism debate. However, the efficiency and productivity of the agricultural industry in the Netherlands is capable of changing the fundamental ways in which humans produce food.



SUSTAINABLE FOOD SYSTEMS **CASE STUDY**

AGRICULTURE IN THE WEST AFRICAN REGION

In addition to environmental concerns, unsustainable forms of agricultural production impact human health in both short-term and long-term ways. In particular, the use of pesticides in food production has been a controversial topic for food security. Although pesticide use was implemented to increase crop yields, pesticide resistance and human health consequences have outweighed its benefits. With regards to human health, the UN declared that pesticide use was responsible for approximately 200,000 deaths per year, contributing to diseases such as birth defects, respiratory problems, cancer, and asthma.⁴³ As such, regulations for pesticide use are vital to ensure the health of farm workers and their families.

In the early 2000s, Oregon State University and the UN released studies recognizing the hazards of pesticide use in the West African region, calling organizations and countries alike to act.⁴⁴ While pesticide use increased between 1996 and 2000, the safety precautions of using such pesticides were almost unknown to local farmers, as 86% of farmers in Benin wore little to no protective clothing.⁴⁵ As a result, exposures to such pesticides among farmer workers and their families caused deadly and costly hospitalizations and illnesses.⁴⁶ Furthermore, the use of pesticides was taking a toll on West African traditional foods, such as cowpea, a golden grain used to produce the nutritious kosai (golden fried donut snack), lowering their yields and impacting the health of those who consume the food.⁴⁷

In response to the health and environmental concerns, the Food and Agricultural Organization (FAO) of the UN established **farmer field schools** (FFS) in the region, with goals to work with local small farmers to introduce sustainable agricultural techniques such as using alternative biopesticides instead of hazardous chemical pesticides.⁴⁸ Through FFS, farmers are able to create a community, convening throughout the production cycle to build connections, share techniques, and adapt new practices.⁴⁹ Farmers are also able to share ways to combat rainfall fluctuations that plague the region, which would decrease agricultural outputs and influence the region's food security. In one case in southern Mali, after nine years (2003-2014), pesticide use declined by 92%.⁵⁰ Although initiated by the FAO, it is the continual spread of knowledge by citizens of these countries that are improving agricultural and health outcomes of the West African region.

SUBTHEME 4

FOOD-RELATED ILLNESSES

Good nutrition is our first defence against disease and our source of energy to live and be active.

– Food and Agriculture Organization


Problems of food related illnesses– from foodborne illnesses, nutrition-related chronic diseases, and deficiencies in micro and macronutrients– affect people all over the world. Although ubiquitous, food related illnesses impact certain populations more, including but not limited to rural and lower-income populations.

Foodborne illnesses

Foodborne illnesses (i.e. E. coli infections, salmonella, botulism, listeriosis, campylobacter) are defined by the WHO as illnesses caused by contamination of food from production to consumption.⁵¹ Estimated to cause 600 million illnesses and 420,000 deaths yearly, the burden of foodborne illnesses is heavy but easily preventable with proper infrastructure and public education.⁵² Although ubiquitous, in low and middle income regions of the world, sanitation and food storage problems exacerbate the prevalence of illness. In particular, children, pregnant women, and the elderly are especially vulnerable as a result of their suppressed immune systems.⁵³ Efforts targeting infrastructure for hygiene and sanitation of food, as well as public education to increase awareness are needed to decrease the burden of foodborne illnesses.

Double burden of malnutrition

As countries develop and progress through the “epidemiological transition,” they face various health consequences surrounding overnutrition and undernutrition. The world currently faces a double burden of malnutrition, a phenomena where citizens face undernutrition in conjunction with overnutrition. While undernutrition facilitates the susceptibility to infectious diseases, overnutrition contributes to NCDs.⁵⁴ Although the prevalence of undernutrition and its associated conditions⁵⁵ are gradually declining with efforts, the rise of conflicts, climate change, and political crises are affecting countries’ progress.⁵⁶ On the other hand, the prevalence of overnutrition and NCDs is increasing and placing a heavy burden onto global finances, as the global economic burden of NCDs are predicted to cost \$47 trillion over the next two decades (2011-2030).⁵⁷ In particular, obese patients have between 25-52% more medical costs than those of normal weight.⁵⁸ Because NCDs typically affect older adults and as the age of the world population is increasing, countries have to contemplate the future of healthcare for the elderly. Furthermore, the double burden of malnutrition is a predicament within countries, becoming an impending obstacle as sufficient infrastructure for both types of malnutrition is needed to ascertain the wellness of citizens.



SUBTHEME 4

FOOD-RELATED ILLNESSES

To identify methods to improve malnutrition conditions, the WHO has identified the driving conditions behind the double burden of malnutrition: lifestyle, culture, food insecurity, social and environmental determinants, food supply and systems, and biological reasons.⁵⁹ Ultimately, attaining the UN's 2030 goal of Zero Hunger will be challenging; countries and organizations alike have to work together and promote cost-effective efforts to attain health and wellness of citizens.

Food during emergencies

During times of emergency, common food related illnesses such as scurvy, pellagra, beriberi, and iodine, vitamin A, and iron deficiencies, skyrocket and target vulnerable populations among refugees and displaced persons: children and women.⁶⁰ For children in particular, obtaining the right amount of food and nutrients are important for their physical and mental development. Although the WHO promotes breastfeeding, breastfeeding infants may be difficult for women due to complications of their own physical and mental health, and privacy and sanitation during emergencies.⁶¹ In addition to undernutrition, chronic diseases also worsen during times of emergency, as people are unable to properly manage their conditions. Although humanitarian aid from non-profit organizations improve the situation, as a result of high demand, violence and danger, many more people are unable to access foods.

FOOD-RELATED ILLNESSES

CASE STUDY

THE BURDEN OF NON-COMMUNICABLE DISEASE IN MEXICO: THE SODA TAX

Within two decades, Mexico has undergone the epidemiological transition, moving from a country plagued with high incidences of undernutrition to a country characterized by both undernutrition and NCDs such as obesity, diabetes, cardiovascular disease, and cancer. In particular for Mexico, diabetes mellitus is the leading cause of mortality, causing nearly 14% of all deaths in 2009.⁶² Despite the disease's prevalence and nearly \$350 million spent in 2006 for the direct costs of diabetes,⁶³ Mexico's healthcare system is still struggling with low numbers of diabetes diagnoses, screenings and checkups.⁶⁴ As a retaliation against 45% of deaths associated with sugar-sweetened beverage (SSB) consumption in 2010,⁶⁵ along with the well-researched link between SSB consumption and Type 2 Diabetes,^{66, 67, 68} President Enrique Nieto sought out to decrease the burden of chronic disease. Because of the social and economic burden of chronic diseases plaguing Mexico,⁶⁹ the President looked towards using the soda tax as a way to reduce incentives to buying SSBs, while also using the funds towards improving the country's healthcare infrastructure surrounding preventing and treating chronic disease. As such, in 2014, Mexico implemented an excise tax of one peso per-liter (.054 USD per liter) on SSBs.⁷⁰

Immediately after the implementation of the tax, the government saw clear results in sales reductions, with SSB sales falling 5.5% in 2014 and 9.7% in 2015.⁷¹ In particular, sales among low-income Mexicans, the most vulnerable populations for chronic disease, declined sharply, reducing purchases by 9% in 2014 and 14.3% in 2015.⁷² In addition to impacts within the country, large drink companies such as Coca-Cola were forced to change their products, as in response to a UK soda tax, the drink company decided to shrink the drink size from 1.75 L to 1.5 L.⁷³ Currently, the funds raised from the tax are designated to increasing potable drinking water for the youth.⁷⁴

Although it will take years before definitive results of health outcomes due to the soda tax can be seen in Mexico, current health professionals are optimistic, citing past successes with cigarette and alcohol taxes. Meanwhile, Mexico has continued to implement initiatives to promote nutrition and prevent chronic disease. In particular, the government has established a system of primary health clinics for the major Mexican states known as UNEMES Crónicas, exclusive for treating NCDs.⁷⁵ With the increasing prevalence of diabetes and other NCDs in Mexico, continued efforts are required to prevent, diagnose, treat, and manage health conditions.

CONCLUSION

We grow it. We eat it. We share it. Food connects us all.

– Food and Agriculture Organization

In 2015, the United Nations committed to seventeen Sustainable Development Goals, one of them being Zero Hunger by 2030. Although the global food predicament may seem too daunting to tackle in fifteen years, we urge delegates to not surrender to “quick-fixes,” but to dive deeper into complex sustainable initiatives that empower community members.

This is not to say governments should force its citizens to be eating a certain way or in certain amounts to achieve a goal. The plate is created by a person– suited to their personal tastes and influenced by their cultural, socioeconomic, and geographical backgrounds, and the nutrition education provided by their respective country. Rather, the role of the government is to empower the people to make healthy food choices, ensuring equal access, safe and sustainable foodways, and responsible food marketing.

Throughout the conference, it may be easy to get lost in the important yet complicated maze of relationships and factors underlying the global food predicament. Remember that food is an ever changing part of culture, morphing constantly in unpredictable and innovative ways. Yet it also stays grounded, in the humble roots of tradition and simplicity. Similarly we invite you to debate innovatively and flexibly, yet also remembering the core values of the country or organization you may represent.

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