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The 2015 World Expo Exposed: The Depiction of Global Food Security
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Abstract:

The World Expo Milano 2015 “Feeding the Planet, Energy for Life” was the first World Expo to be themed around food. The central theme of the Expo questioned how the world can feed everyone in a sustainable manner. This research project was a case study of the World Expo that examined the central themes that different entities expressed as solutions to creating food security. The pavilions of different entities, such as countries, groups of countries, civil society organizations, corporations, and international organizations, were evaluated through participant observation. Pavilion Zero, the pavilion sponsored by the Expo that was designed to represent the theme of “Feeding the Planet, Energy for Life”, was used as a baseline to which the other pavilions could be compared. The central, emergent themes of reducing economic inequality, promoting environmental sustainability, and fostering women’s empowerment were examined in depth. The extent of coverage and the sub-themes of each of these themes were then analyzed in comparison to the type of entity that sponsored the pavilion. These themes and sub themes were also compared to the findings in the literature review. The study found that environmental sustainability was the most prominent theme in the Expo, particularly in the pavilions of corporations and most developed countries; it was more prominent in the Expo than in the literature findings. Women’s empowerment was least talked about within the Expo despite its importance in the literature; when the issue was discussed, it was showcased by civil society organizations/international organizations and countries that do not have most developed economies. This study found that the proposed solutions to solving world hunger and food insecurity varied according to the type of entity that sponsored the pavilion.

Key words: hunger, food security, World Expo

THE 2015 WORLD EXPO EXPOSED: THE DEPICTION OF GLOBAL FOOD SECURITY

The World Expo Milano 2015 “Feeding the Planet, Energy for Life” was the first World Expo to be themed around food. The central theme of the Expo questioned how the world can feed everyone in a sustainable manner. Therefore, the Expo provided an excellent opportunity to conduct a case study of the World Expo that examined how the pavilions of different entities, such as countries, groups of countries, civil society organizations, corporations, and international organizations, promoted solutions to ending food insecurity.

This project looks at hunger and food security at the global level, which Clapp (2008) claims is crucial when examining the food system and the politics of hunger. Clapp (2008) claims the developments in the food system at the global level “shape the realm of what is and is not possible on the food front in the national and local contexts.” (p. 283) Therefore, studying how food security is depicted at the international level in an event such as the Expo is important. Examining how solutions to hunger were portrayed in the Expo is important to learning how solutions to hunger are portrayed to the international public. Since the Expo was a large, international event, it had the capacity to educate many people about how to end food insecurity. According to the World Expo Museum, the Convention relating to International Exhibitions says, “An exhibition is a display which, whatever its title, has as its principal purpose the education of the public.” This project examined the solutions to reducing food insecurity put forth to the public by the Expo and its pavilions. The information put forth to the public at the Expo will affect their opinions on how to solve hunger. Examining how food insecurity is portrayed in the Expo also showcases how different entities frame and address the problem of food insecurity.

Statement of the Research Problem:

Inequality and food insecurity are global problems. They are present in developing countries as well as developed countries, such as the United States. According to the World Food Programme, “795 million people in the world do not have enough food to lead a healthy active life” (“Hunger Statistics”. n.d.). This shows that both inequality and hunger are prevalent across the globe. Food insecurity is positively correlated to poverty levels;

therefore, the two issues must be solved together. Since inequality exists, even the richest countries have citizens and residents suffering from food insecurity. For this reason, both inequality and food security are issues that affect every nation state.

Since food insecurity is such a large problem, many people are trying to tackle it, and they are using very different approaches. Governments are promoting more equitable access to food, such as the United States' program to provide free lunches to all school age children living in certain areas. The United Nations worked very hard on both inequality and hunger issues during the Millennium Development Goals, and they are now pushing forward to create new initiatives. Monsanto claims to be reducing food insecurity by creating new biotechnology for farmers to use. The One Acre Fund is trying to create food security in Africa by financing, educating, and supporting small farmers. While all of these approaches differ and have various levels of effectiveness, they are all seeking to diminish hunger.

The 2015 World Expo "Feeding the Planet, Energy for Life" took place in Milan, Italy. Nations, corporations, and international organizations hosted the exhibits at the Expo in order to promote technology that will "guarantee healthy, safe and sufficient food for everyone" ("Learn More", 2015). This was the first Expo to be centered on food, and given its goal to provide everyone with quality and sufficient food, promoting equitable access to food should have been a priority. Therefore, the governments and organizations should have featured ways to create more food equality in their exhibits.

This research project will examine how equality and food security were addressed in the 2015 World Expo. Did the World Expo promote food security and if so, how? Did it aim to reduce inequalities? Which ways were governments, nonprofits, businesses, and groups of nations looking to solve this issue? Did approaches vary based on the type of sponsor of the exhibit, and/or did approaches vary based on the economics of the sponsor?

Global Hunger Amid Plenty

This section will detail both the state of global hunger and the causes of food insecurity as defined by scholars. Statistics for the current state of food insecurity are largely taken from the UN because they have uniform data on hunger across the world. While Lappé et al. (2013) critiques their data for underselling the state of food insecurity,

more inclusive measurements of food insecurity are not available at the global level. The primary cause of food insecurity is determined to be limited access to food, which can be caused by socioeconomic factors, climate change, and the structure of the food system (Barrett, 2010; Clapp, 2014; McMahon & Johra, 2011; McMichael, 1998; Schmidhuber & Tubiello, 2007; Senauer and Sur, 2001; Vermeulen et al., 2012b; Ziervogel & Ericksen, 2010).

The State of Global Hunger

Global hunger encompasses more than stunted, bony bodies lined up for a bowl of stew; while this famine hunger is a severe form of hunger, day to day hunger and nutritional deprivation are much more common and known as chronic hunger (Lappé & Collins, 2015). About 8,000 children under five years old die daily from chronic hunger and related preventable diseases (Lappé & Collins, 2015).

According to the Food and Agriculture Organization (FAO) of the United Nations' 2015 report *The State of Food Insecurity in the World*, hunger is an everyday problem for 795 million people in the world (FAO, IFAD, and WFP, 2015). Of those 795 million, 780 million are located in developing regions of the world (FAO, IFAD, and WFP, 2015). According to the FAO, no "one size fits all" solution exists for solving world hunger (FAO, IFAD, and WFP, 2015). In addition to chronic hunger, about 2 billion people suffered from micronutrient deficiencies in 2005 (Sanchez & Swaminathan, 2005).

Undernourishment differs greatly by level of development. Developed regions have less than 5% of their population suffering from undernourishment while 12.9% of the population in developing regions suffers from undernourishment (FAO, IFAD, and WFP, 2015). Great differences are present in rates of undernourishment even within developing regions. In developing regions, Africa has the greatest level of undernourishment at 20.0% of the population, followed by Oceania at 14.2%, Asia at 12.1%, and Latin American and the Caribbean at 5.5% (FAO, IFAD, and WFP, 2015). The highest prevalence of undernourishment by region is in Middle Africa, where 41.3% of the population is undernourished (FAO, IFAD, and WFP, 2015). While Asia does not have the highest proportion of undernourished people, it is home to the greatest number of people suffering

from undernourishment, which totals 511.7 million people, meaning that about 64% of the global population of undernourished people live in Asia (FAO, IFAD, and WFP, 2015).

Many different types of people are hungry. In 2005, about 50% of hungry people were in smallholder farming households, 20% were the landless rural, another 20% were the urban hungry, and 10% were pastoralists, fishers, and forest dwellers (Sanchez & Swaminathan, 2005).

Several prominent scholars criticize the way the UN collects and reports its data on hunger in the article “How We Count Hunger Matters” (Lappé et al., 2013). They suggest that the FAO underestimates the extent of hunger (Lappé et al., 2013). The UN’s measures only base hunger off of caloric intake, which makes the numbers much smaller than they would be if a measure similar to the United States’ measurement of food insecurity based on a person “who is often unsure of where their next meal is coming from” were used (Lappé & Collins, 2015). Lappé and Collins (2015) estimate “nutritional deprivation” due to calorie deficiency, stunting, and nutrient deficiency – as well as access to safe water in order to be able to absorb nutrients – to amount to around one fourth of the global population. However, the UN’s metric of calorie counting is the best available metric available for temporal and spatial comparison around the world.

Even within the poorest areas, such as Africa, hunger results from inequality rather than scarcity. According to Lappé and Collins (2015), “if food available within sub-Saharan Africa were equitably distributed, all Africans could meet their basic caloric needs.” (p. 20) Karmakar and Sarkar (2013) claim that India also has enough food to feed its population. The Earth has enough food today to feed everyone and will most likely have enough food to feed everyone even with population growth, based on current population projections (Clapp, 2014; Lappé & Collins, 2015) Adequate availability of food does not effectively translate to adequate access to food (Barrett, 2010). Amartya Sen (1981) said, “Starvation is the characteristic of some people not *having* enough food to eat. It is not the characteristic of there *being* not enough food to eat. While the latter can be a cause of the former, it is but one of many *possible* causes.” (p. 1) Since we have enough food to feed everyone, the key to solving world hunger lies in understanding why everyone does not have food to eat. According to Lappé & Collins (2015), we must address “unfair structures of economic and political power” in order to solve the global hunger crisis. Still, the concern

of a growing population pressing on Earth's limited resources is a concern for some scholars (Godfray et al., 2010; Ingram, 2011).

Causes of Global Hunger

Price (2014) asserts that hunger is due to a host of mitigating factors that include: food shortages, weather related disasters, war, poverty, overpopulation, poor farming practices, government corruption, transportation difficulties, climate change, and waste.

The FAO report, *The State of Food Insecurity in the World 2015* elaborates the importance of economic growth by saying, "Economic growth is necessary for alleviating poverty and reducing hunger and malnutrition; it is critical for sustainably increasing employment and incomes, especially in low-income countries" (FAO, IFAD, and WFP, 2015). Economic growth is so important due to its ability to increase household incomes through both higher wages and more employment opportunities (FAO, IFAD, and WFP, 2015). However, not all types of economic growth have the ability to influence hunger since the hungry are the poorest of the poor with little access to assets, such as capital, education, land, and health (FAO, IFAD, and WFP, 2015). Economic growth that does not reach those in extreme poverty, in the bottom quintile of income distribution does not improve food security (FAO, IFAD, and WFP, 2015). Therefore, inclusive growth is needed or the problem persists.

According to Senauer and Sur (2001), chronic undernourishment as defined by the UN persists due to poverty. The chronically hungry continue to suffer due to their lack of purchasing power due to low incomes, high food prices, disparate income distributions, and their dearth of access to productive resources (Senauer and Sur, 2001). The economic ability of people to purchase food is a central cause of hunger (Karmakar & Sarkar, 2013; Scanlan, 2009).

Although people can be at the lower end of economic inequality in a fairly wealthy country and still have the economic ability to eat, these people would still not be considered at the bottom of the economic system in our global society. People can also experience poverty without economic inequality if they live in a very poor society. However, these people are still at the lower end of the economic system in global society. In

this paper, I will discuss economic inequality as it exists at the global scale (unless otherwise specified) and as it correlates to poverty and hunger.¹

Although often forgotten, Ingram (2011) reminds us that food insecurity occurs in all countries, including those most developed, at least to some extent. In the most developed countries, food insecurity is often a result of economic inequality. The effects of inequality on hunger are quite great since we live in a world with sufficient food to feed everyone, yet 795 million people are still undernourished. Magdoff (2008) argues that the inequalities that lead to hunger are most obvious in the United States, where enormous quantities of food are produced, yet over 35 million people lived in food-insecure households in 2006.² Since the United States has such great surpluses of food, to still have so many food-insecure people is a testimony that the inequality not just between countries but also within countries is a problem for food security. In an earlier study, Nestle (1999) also finds that the United States greatly overproduces food; so American hunger is due to inequalities. The inequity of the current system perpetuates food insecurity (Nestle 1999). Poppendieck (1998) claims that hunger is a symptom of poverty, which is a result of inequality in affluent societies.

In countries that are not the most developed, societal inequalities are part of the problem, but the problem also extends to inequalities in level of development. Karmakar and Sarkar (2013) claim that while India has been self-sufficient for food for over 30 years, many people still experience food insecurity because these agricultural gains have not been distributed equitably to the masses. Karmakar and Sarkar (2013) claim that food insecurity and economic inequality are part of a vicious cycle that perpetuates the problem for generations.

¹ “Economic inequality” is used rather than “poverty” in order to highlight the disparities that exist and emphasize that the majority of today’s hunger is a result of unequal distribution of resources.

² This number is higher than the number of people the UN considers to be suffering from hunger because the US uses a survey module to measure food insecurity as “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.” (“Food Security in the U.S.”, n.d.) This is a much broader measurement than the UN’s measurement of hunger based on caloric intake (Lappé et al., 2013).

Another socioeconomic inequality, gender inequality is also a key factor that perpetuates food insecurity. The FAO report *The State of Food Insecurity in the World 2015* says, “The accommodation of gender considerations is crucial for economic growth in countries with agriculture-dependent economies” (FAO, IFAD, and WFP, 2015). Women hold important roles, such as producers, managers of productive resources, income earners, and providers of unpaid care work; however, many women face gender inequalities that “limit their capacity to contribute to growth and take advantage of new opportunities arising from the changes shaping national economies.” (FAO, IFAD, and WFP, 2015). Gender inequalities are one of the key influencers in the agricultural yield gap between developing and developed countries (FAO, IFAD, and WFP, 2015). Women grow 60-80% of food in the Global South, yet they have less access to resources, such as agricultural credit, than men (Lappé & Collins, 2015). Hungry people are disproportionately women and children, which highlights the role of gender inequality in hunger (McMahon & Johra, 2011).

Hungry women are not only disadvantaged by poverty; they are also discriminated against for being women (Lappé & Collins, 2015). Women and the children that they care for make up the majority of hungry people in the world (Lappé & Collins, 2015). Greater equality for women can also reduce fertility rates, thus creating less of demand for food in the future (Lappé & Collins, 2015). McMahon and Johra (2011) claim that food insecurity is not only a gendered phenomenon in developing countries, but it is also gendered in developed countries, such as Canada. Kushnir (2011) claims that progress on gender equality must be made at household and community levels. Empowering women is central to creating food security (Ahern & Finck, 2015; Kushnir, 2011).

Socioeconomic inequalities are not alone in their influence on food security. The food security of the future is being shaped today. According to Vermeulen, Campbell, and Ingram (2012b), the future of food security is contingent on how socioeconomic and environmental changes are managed. Vermeulen et al. (2012b) claim that climate change is probably as important or more important than total crop production for the state of food insecurity. The food system contributes substantially to pollutants such as greenhouse gas emissions, which in turn affect climate change and come back to affect the food system (Vermeulen et al., 2012b; Ziervogel & Ericksen, 2010). These effects are predicted to

become pronounced in the second half of the 21st century and intensify the poverty cycle (Schmidhuber & Tubiello, 2007; Vermeulen et al., 2012a). The four aspects of food security: availability, access, utilization, and stability of the food supply are all predicted to be affected by climate change, which will greatly affect the most vulnerable, poor populations (Schmidhuber & Tubiello, 2007; Vermeulen et al., 2012b; Ziervogel & Ericksen, 2010). The poor are unduly saddled with the effects of climate change (Schmidhuber & Tubiello, 2007; Vermeulen et al., 2012b; Ziervogel & Ericksen, 2010). Since, in accordance with Engel's law, poor people spend a greater percentage of their income on food, their food insecurity will likely increase due to their limited ability to adjust to price inflation (Vermeulen et al., 2012b). The poor are also likely to experience drops in their incomes because they tend to depend on sectors of agriculture that are most affected by climate change, and the poor have limited ability to adapt to climate change because they have fewer assets (Hertel & Rosch, 2010; Vermeulen et al., 2012b). Climate change could also affect forest goods that vulnerable populations do not typically purchase (Hertel & Rosch, 2010). Based on the potential impacts of climate change on the future of food security, environmental sustainability is critical to efforts to end food insecurity.

The FAO report *The State of Food Insecurity in the World 2015* also mentions the importance of environmental sustainability saying, "improved productivity of agricultural resources through sustainable intensification plays a key role in increasing food availability and improving food security and nutrition" (FAO, IFAD, and WFP, 2015). Seconding this notion, to "restore and conserve natural resources essential for food security" was another strategy proposed by the Hunger Task Force for the MDGs (Sanchez & Swaminathan, 2005). This strategy included reversing degradation of natural resources through developing green enterprises and paying farmers for environmental services that they provide, including carbon sequestration, watershed stability, and biodiversity protection (Sanchez & Swaminathan, 2005).

With at least 30% of the world's food being wasted, the issue of food waste is of importance not only as an issues of inequities in feeding people but environmentally as well ("The Growing Problem", 2010). The issue of supplying enough food for a growing population is daunting, but with a plateauing population, producing the food is possible; however, producing the food without draining other resources such as water will be

difficult (“The Growing Problem”, 2010). Many agricultural research agencies, such as Britain’s Royal Society, are promoting sustainable intensification to increase production rather than increasing agricultural land, which could harm ecosystems and biodiversity (“The Growing Problem”, 2010). Sustainable intensification can increase yields using less water, less fertilizer, and fewer pesticides (“The Growing Problem”, 2010).

People’s diets also affect the environmental sustainability of the food system. Increasing purchasing power in developing regions has created a greater demand for animal products, which require more resources, as plants are only converted to animal matter at a rate of about 10% (Godfray et al., 2010). Godfray et al. (2010) do not call for the elimination of meat from all diets in order to create a more sustainable food system, but they do call for the reduction of consumption of animal products, especially those that least efficiently use the Earth’s resources. Godfray et al. (2010) suggest that to create food security for the projected 9 billion people our world will have in the middle of this century, the required increase in food production must be done sustainably.

McMichael (1998) and Clapp (2008, 2012) argue that the inequalities that cause food insecurity are the result of the effects of the globalized, neoliberal food system. According to Harvey (2005), neoliberalism can be defined as “a theory of political economic practices that proposes that human well being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets and free trade.” Neoliberalism influences food insecurity through globalization and trade liberalization, land grabs, the commodification of food, and the concentration of power in the food system.

Clapp (2012) refutes the benefits of neoliberal globalization for the food system. McMichael (1998) also claims that neoliberal globalization has compromised food security in many rural areas. According to Clapp (2008), corporate actors in the food sector have fostered the creation of a global market for food and agriculture that has led to the globalization of the food system, which has caused more people in both the Global North and South to eat more food with an international dimension. In the book *Food*, Clapp (2012) analyzed the dominance of developed countries in structuring the world food economy through state-led industrialized agriculture and international market expansion; unequal trade agreements between the Global North and South; the creation and growth of

transnational corporations; and the growing links between the food system and financial markets determining that these were not beneficial to global food security. In *Food*, Clapp (2012) argues that the global food system largely benefits a handful of corporations and financial investors from developed countries at the expense of smallholder farmers and consumers, which furthers disparity.

The ownership of land is centralizing so that fewer people now own a greater proportion of land; these global land grabs are causing fewer people to have access to the means to produce food (Lappé & Collins, 2015; McMahon & Johra, 2011). This is perpetuating hunger throughout the world. In most of sub-Saharan Africa, large-scale commercial farmers chiefly produce wheat rather than smallholders (Mason, Jayne, & Shiferaw, 2015).

According to Clapp (2012), neoliberalism and the intensification of agriculture led to the commodified world food economy we have today, in which many middlemen intervene between producer and consumer, profiting by underpaying the producer and overcharging the consumer. According to Clapp (2012), this unbalanced system has created a volatile market that led to the 2007 food price crisis, which will continue to leave a significant portion of the global population hungry. Clapp (2014) claims that economic policy reforms are necessary in order to create greater food security.

Corporations have concentrated their power across the food and agricultural system (Clapp, 2008). The increases in concentration and control have occurred across the supply chain from the production level to the retail level (Clapp, 2008). Clapp (2008) claims that while governments historically held power over governing the global food system, the power has recently been shifting to the hands of private economic actors, particularly transnational corporations. Transnational corporations have power through formal governance via lobbying and also informal governance (Clapp, 2008) Harsh (2005) describes informal governance as “decision-making and implementation...outside the sphere of official state structure and influence.” (p. 668) Transnational corporations’ power in informal governance manifests through their heavy influence in the marketplace, their voluntary corporate rules, and their framing of policy issues for their benefit in public debate (Clapp, 2008; Newell, 2003). Galipeau (2015) highlights how pressure from the Chinese government and a large corporation to grow grapes for wine caused a village in

rural China to change their crop production from subsistence farming to monocropping. This shift increased the village's dependence on the corporation, pesticides, and imported food, thus increasing the vulnerability of the villagers' food security and the future of their cropland (Galipeau, 2015).

According to Alkon, the food sovereignty movement is the only major food movement that directly opposes neoliberalism (Alkon, 2013). McMichael (2009) says that food sovereignty will allow for adequately provisioned, culturally and ecologically appropriate nutrients to be distributed to people through a food system that is not controlled by powerful corporations. The food sovereignty movement has mostly been developed by La Via Campesina (Alkon, 2013). La Via Campesina has banded together people around the world in opposition to neoliberal globalization and is considered a key actor in debates surrounding food and agriculture (Desmarais, 2008; "The International Peasant's Voice", 2011). According to Desmarais (2008), La Via Campesina is an international movement that organizes peasants, smallholder farmers, indigenous agrarian populations, and farm workers around the concept of food sovereignty. La Via Campesina defines food sovereignty as "the right of peoples to healthy and culturally appropriate food produced through sustainable methods and their right to define their own food and agriculture systems." ("The International Peasant's Voice", 2011)

Based on the literature, the root cause of food insecurity is generally lack of access to food. Various perspectives on the causes of people's limited access to food exist, suggesting that economic inequality and gender inequality impede people's access to food. Climate change and unsustainable practices are perceived as increasing the vulnerability of populations who already suffer from inequality. The globalized, neoliberal food system is also considered to exacerbate and increase disparity among people. The portrayal and prominence of these causes of food insecurity will be examined in the Expo.

Research Methods

This is a case study of the 2015 World's Fair, "Feeding the Planet, Energy for Life" examining social justice and food security. Research was done through collecting data from archival data sources and participant-observation (the exhibits were the unit of measurement).

Archival research is the “locating, evaluating, and systematic interpretation and analysis of sources found in archives.” (Corti, 2004, p. 21) Participant observation is a qualitative research method in which the researcher observes or observes and participates with a population (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). In this research project, the observed population is pavilions at the 2015 World Expo Milano. Participant observation data is collected through detailed field notes (Mack et al., 2005). The data are then generally used with other qualitative analysis, such as the thematic analysis that this project uses (Mack et al., 2005).

Defining and Sampling the Population

Prior to the event, the official Expo website was examined as an archival source to provide context for the research project. The website was used to define the population of pavilions from which the sample was selected.

From the 53 national pavilions, 9 cluster pavilions, 10 international organizations and civil society pavilions, and 22 corporate pavilions (94 pavilions in total) at the World Expo, I randomly selected 24 pavilions to examine through a stratified sample. I selected 13 national pavilions³, 2 cluster pavilions⁴, 3 international organization/civil society pavilions, and 6 company pavilions. This dispersion reflects a proportional sample among the strata.

The 12 country pavilions in the sample were:

Angola, Argentina, Azerbaijan, Czech Republic, Estonia, France, Iran, Ireland, Mexico, Netherlands, Russian, and the United Kingdom.

The 3 International Organizations/ Civil Society Mechanisms in the sample were:

Caritas International, Cascina Triulza⁵, and the United Nations.

The 6 corporate pavilions in the sample were:

³ I dropped the Holy See from this study because it could not be put into a category based on level of economic development.

⁴ I dropped the cluster pavilions from this study because they could not be put in mutually exclusive categories.

⁵ Instead of the World Expo Museum, which was chosen via the random sample, I decided to examine the Cascina Triulza because it was similar to a cluster pavilion for Civil Society Mechanisms, as evidenced from my archival data research.

Birra Moretti, China Corporate United, Expo Partner 1, Federalimentare, Intesa SanPaolo, and TIM.

Participant Observation

Participant observation was used in this study in order to understand the full content and context of the pavilions. Since the event and pavilions were only in place for six months, no preexisting sources described what they would contain before the project started. Therefore, both creating a broad question about what themes would be present and collecting very detailed data were necessary.

I evaluated the 2015 World Expo in person over the four-day period of September 15-18, 2015. I collected data on the selected pavilions above. I collected data about the exhibitions from observations and from handouts received at the exhibitions.

The detailed notes included observations of the inside and surroundings of the selected pavilions.^{6 7} The notes recorded the type, quantity, quality, location, and substance of the material being presented. The visitor appeal of each pavilion was noted. An example of the notes can be found in the appendix.

I collected handouts and brochures provided by the Expo and selected pavilions for further analysis. Upon collection, I noted the provider of the handout.

Pavilion Zero was used as the benchmark to make comparisons with other pavilions because Pavilion Zero represented the theme of the expo, "Feeding the Planet, Energy for Life" ("Pavilion Zero", n.d.). I used Pavilion Zero as a benchmark in order to compare pavilions to the ideals that the Expo sought to portray to its visitors. By identifying themes from Pavilion Zero, I was able to compare the other pavilions to a concrete example.

⁶ Data collected in languages other than English were not analyzed. Since English is the world's most widely used language and the native language of the researcher, data were collected only in English. However, the availability of information in a variety of languages or only a language other than English may be noted to examine the accessibility of information.

⁷ This project examined a public event. The research did not involve human subjects, and therefore, a representative of the University of Tennessee's Institutional Review Board (IRB) Committee decided that the project did not need to undergo IRB Approval.

David Rampello curated Pavilion Zero, and Michele de Lucchi designed it (“Pavilion Zero”, n.d.). The pavilion sought to introduce the Expo to visitors (“Pavilion Zero”, n.d.). According to the curator, David Rampello, the pavilion tells a story that:

“begins from the earliest period of human history, through symbols and myths, the different stages of evolution and man’s relationship with Nature – the domestication of animals and plants, and the introduction of tools to work the land and conserve food. The story ends with the current paradox regarding nutrition. A fascinating journey that turns a universal story into an individual one.” (“Pavilion Zero”, n.d.)

According to the designer, Michele de Lucchi, the scenography was the most important part of the pavilion (“Pavilion Zero”, n.d.).

Pavilion Zero was located at the main entrance to the Expo from the train station. The pavilion was a very large building, occupying more space on the map than any other pavilions besides the corridor devoted to Italy and perhaps the Future Food District. The pavilion had separate rooms dedicated to different themes, such as knowledge, the origins of agriculture and livestock production, storage of food, industrialization of food, food as a commodity, the paradox of food waste, balance with nature, and best practices.

The overarching themes that emerged from Pavilion Zero were environmental sustainability, inequality, women’s empowerment, food sovereignty, biodiversity, promotion of smallholder agriculture, indigenous culture, and technological innovation.

The major themes that emerged from both Pavilion Zero and the literature review were environmental sustainability, economic inequality, women’s empowerment, and food sovereignty (Alkon, 2013; Clapp, 2014; Godfray et al., 2010; McMahon & Johra, 2011; McMichael, 2009; Schmidhuber & Tubiello, 2007; Senauer and Sur, 2001; Vermeulen et al., 2012b; Ziervogel & Ericksen, 2010). However, food sovereignty was not well represented throughout the rest of the Expo; therefore, I did not consider it a central theme. Several of the other themes that emerged from Pavilion Zero were related to the three central themes: biodiversity is related to environmental sustainability, smallholder agriculture is related to economic inequality and women’s empowerment, and indigenous culture is related to economic inequality and food sovereignty.

Research Questions

This project examined “Did the World Expo promote food security and if so, how?” Were the prominent themes from the literature of economic inequality, environmental sustainability, food sovereignty, and women’s empowerment addressed? (Alkon, 2013; Clapp, 2014; Godfray et al., 2010; McMahon & Johra, 2011; McMichael, 2009; Schmidhuber & Tubiello, 2007; Senauer and Sur, 2001; Vermeulen et al., 2012b; Ziervogel & Ericksen, 2010)

Within each of these themes this project sought to determine: Which ways were governments, nonprofits, and businesses looking to address this issue? Did the approaches correspond to how the literature addressed these issues? Did approaches vary based on the level of economic development of the sponsor? To what extent did different types of entities focus on this issue?

“Feeding the Planet, Energy for Life” Expo Milano 2015

I arrived to Milan’s airport early in the morning on September 15th. From the airport, I took a train to the central train station, next to where my hotel was located. As I stepped out from behind the ornate stone columns and arches of the train station and into the city, my eyes immediately fell upon a tall, slender skyscraper with the neon Expo logo covering its windows above a display of about 150 different flags. This would be my first sighting of the Expo in the city. After checking into my hotel and buying a pair of tennis shoes and other items to replace my lost suitcase, I headed to the Expo. The Expo was easily accessible via the metro/train network with additional signs added in the station to describe how to get to the Expo. As I rode the train towards the Expo, I began to leave the center of Milan behind. The Expo was not located in the city center, but on a large expanse of 1.1 million square meters in the outskirts of Milan (“Expo Milano 2015”, n.d.). This large plot of land in an industrial part of the city would be the home of the Expo from May 1 to October 31, 2015 (“Expo Milano 2015”, n.d.). As my train drew nearer to the Expo, my eyes fell upon large block shaped buildings covered in neon colors that were the Future Food District and the Arts and Food areas. My eyes traced over the large expanse before me as different silhouettes emerged. I feared that I had hopped on the wrong train because the train still seemed to be moving too fast for the Expo to be right there, but I had not hopped on the wrong train. The Expo was just so large that the train did not need to slow down

before reaching one end of it. As we sped by the Expo, I saw before me a place so popular that it had the power to draw in many visitors to learn about how to feed the planet and a place so large that my brand new shoes would be worn out after just one day of walking around.

During the Expo's 6 month duration, more than 20 million visitors attended the Expo as was predicted ("Expo Milano 2015", n.d.; "Expo Milano 2015 Review", n.d.). More than 140 countries were represented at the 2015 World Expo ("Expo Milano 2015", n.d.). The Expo was full of pavilions, which were buildings that represented individual countries, clusters of countries, international organizations, civil society mechanisms, and corporations ("Expo Milano 2015", n.d.). Individual country pavilions were representative of a single country ("Expo Milano 2015", n.d.). Cluster pavilions represented countries that could not afford their own pavilion but still wished to participate in the World Expo; for the first time this year, clusters were organized by chief agricultural products instead of by region⁸ ("Expo Milano 2015", n.d.). International organization pavilions were those sponsored by the United Nations and the European Union ("Expo Milano 2015", n.d.). Civil Society Mechanism pavilions were sponsored by nonprofit organizations, such as Save the Children and the Don Bosco Network; the exception was Cascina Triulza, a pavilion that held multiple civil society mechanisms that could not afford their own pavilion ("Expo Milano 2015", n.d.). The corporate pavilions were sponsored by different companies ("Expo Milano 2015", n.d.). The Expo also contained thematic and service areas including restaurants, restrooms, gardens, ATMs, and other areas that either pertain to the Expo's theme or meet people's needs ("Expo Milano 2015", n.d.).

World expositions are an important meeting place in global society. The Expo Museum website claimed that Expos are comparable to the Olympics when it said Expos: "are related to both the Olympics and the United Nations in many ways, but world's fairs are unique in that the everyday person can experience them firsthand, not just athletes or politicians. Anyone can enter that expo site and feel a part of something new, feel a part of the world community, feel what potential man has for doing good in the world." ("The History of World's Fairs", n.d.)

⁸ Cluster pavilions were not analyzed in this project.

World's fairs have popularized many products, which showcases their importance in global society. For example, the 1904 World's Fair popularized Dr. Pepper, ice cream cones, hamburgers, and hot dogs ("History of Dr. Pepper", n.d.). These are items that we now see around the world, demonstrating the power that Expos can hold.

What powerful messages emerged from this Expo? Four themes emerged from the literature review as ways to reduce food insecurity and world hunger in the long run: reducing economic inequality, promoting environmental sustainability, empowering women, and creating food sovereignty. The first three of these were the most prominent throughout the Expo. Environmental sustainability was the most prominent, followed closely by economic inequality, with women's empowerment being considerably less noticeable. Food sovereignty was discussed even less than gender equality, which is not surprising given the Expo pavilions were sponsored by many corporations and nations that benefit from and promote neoliberal globalization. Therefore, this research project examines how economic inequality, environmental sustainability, and gender inequality were represented in the Expo.

For this project, only countries, corporations, and international organizations/civil society organization pavilions were analyzed. The countries were separated into the two categories of Most Developed Countries (MDCs) and other countries (Non-MDCs), which included economies in transition, developing economies, and least developed economies.⁹ This distinction was made because these two categories of countries expressed the selected themes in different manners and to different extents.

	Countries		Corporations	CSOs/ IOs
Economic Inequality	Countries' focus on economic inequality fell between corporations and CSOs/IOs. This was not the main focus of any country's pavilion.		A very small portion of the companies from Federalimentare alluded to economic disparity in the world. Besides	Overall, CSOs and IOs put a large amount of emphasis on the importance of reducing economic inequality to
	MDCs	Non-MDCs		
	When MDCs mentioned	When countries that are		

⁹ The levels of development were determined based on the UN's *World Economic Situation and Prospects 2012: Statistical Annex*.

	Countries		Corporations	CSOs/ IOs
	inequality, they tended to highlight differences between the Global North and South, such as food waste and technological differences. Many of them also portrayed themselves as able to assist other countries through aid or technology.	developing or in transition (with the exception of Russia) mentioned inequality, they tended to focus on how they could reduce disparity within their own country through programs.	this miniscule mention of economic disparity, the corporate pavilions did not address the issue.	create food security. They focused on economic disparity as much or more than Pavilion Zero. ¹⁰ This was the main focus of the CSOs/IOs.
Environmental Sustainability	This was the most talked about emergent theme among countries, as it was also a large emphasis in Pavilion Zero.		Corporations focused more on sustainability than any other issue besides their self-promotion. Most corporations that talked about anything beyond self-promotion and technological innovations, mentioned sustainability.	CSOs/IOs emphasized environmental sustainability more than Women's empowerment but less than economic inequality. These organizations tended to focus on the disparities that are affected by environmental issues and on sustainable development.
	MDCs	Non-MDCs		
	MDCs tended to promote sustainability the most, and they promoted it through technological innovations and research. This was the main focus of many MDCs' pavilions.	Non-MDCs tended to not promote sustainability or to promote sustainability less than MDCs. They also tended to focus less on research and more on sustainable development and agricultural practices.		
Women's Empowerment	This was the least represented of the themes. Countries did not mention women's empowerment		No corporations mentioned women's	The UN was the only CSO/IO to mention

¹⁰ Since most of Cascina Triulza's information was in Italian, only the portion that was understood was taken into account.

	Countries		Corporations	CSOs/ IOs
	as much as Pavilion Zero with the exception of Angola. Most countries did not even mention the issue.		empowerment or gender inequality.	women's empowerment. However, they did make it a central part of their theme. Still, it was focused on less than either economic inequality or environmental sustainability.
	MDCs	Non-MDCs		
	MDCs did not mention women's empowerment and gender inequality.	Several non-MDCs did mention women's empowerment; however it was only a central focus in Angola.		

Table 1: This table examines the representations of the three themes according to the type of entity of the pavilion.

The three themes that emerged from both the literature review and the Expo as solutions to ending world hunger were reducing economic inequalities, promoting environmental sustainability, and empowering women.¹¹ While these were three prominent themes that emerged from the Expo; the degree to which and how a pavilion addressed each theme depended on the type of pavilion. The majority (12) of pavilions examined were country pavilions. 6 country pavilions (Czech Republic, Estonia, France, Ireland, the Netherlands, and the United Kingdom) fell into the category of MDCs; 6 country pavilions (Angola, Argentina, Azerbaijan, Iran, Mexico, and Russia) fell into the category of non-MDCs. The sample contained 6 corporate pavilions and 3 pavilions that were either civil society organizations or International Organizations.¹²

Expressions of Economic Inequality

Economic inequality was one of the central themes of the Expo. The *Expo Milano Theme Guide* highlighted the importance of disparity around the world in the theme when it said:

¹¹ While technological innovation was a big theme within the Expo, it was not frequently described as a solution to hunger in the literature. Also, a lot of the technological innovation in the Expo was not related to solving hunger.

¹² Several corporations did not address any of these themes.

“If nine hundred million people suffer from malnutrition while an equal number suffer the effects of overeating and a poorly-disciplined diet, it is clear that the theme of safe, healthy eating is a truly global issue that directly or indirectly involves most of the earth’s population.” (Amato & Karadjov, 2012)

The guide also said:

“The purpose of these programmes is to harmonize respectful relations between individuals and their environment via fair and equal access to resources by all peoples and populations, without waste or unfairness, and to promote encounters and exchanges between people with different social and cultural identities and different food traditions, that are seen as a form of intangible cultural heritage linked to language, arts and traditional jobs and crafts.” (Amato & Karadjov, 2012)

It further pointed out:

“the contradictions inherent in food and in its availability: the world is characterized by equal numbers of people who live in conditions of malnutrition and inadequate supply of drinking water and who suffer from physical and psychological illnesses associated with undisciplined, wasteful, and excessive food consumption.” (Amato & Karadjov, 2012)

These quotations from the Guide showcase some of the reasons disparity was featured throughout the Expo.

Country Pavilions

Countries’ focus on economic inequality was greater than that of corporations but less than that of CSOs/IOs. While the theme was commonly expressed in country pavilions, economic inequality was not the main focus of any country’s pavilion.

When MDCs mentioned inequality, they tended to highlight differences between the Global North and the Global South, such as food waste and technological differences. Several of these exhibits showed that food is wasted at different levels of the food value chain and to different extents in the Global North and the Global South. Several pavilions also showcased the differences in technology between the Global North and South. For example, a part of the French pavilion talked about reducing food waste, saying that food waste is worse in developed countries where it is wasted at consumption and thrown away

when it is safe to eat; in contrast, food is lost in developing countries at production and early processing. The French exhibit gave the fact “Food waste produced by consumers in Europe and North America is around 100 kg per person, per year, while in Sub-Saharan Africa or South Asia it is ten times less.” This type of comparison emphasizes differences between development in the Global North and South

Many MDC pavilions also portrayed themselves as able to assist other countries through providing aid and/or technology. For example, the Dutch Pavilion showcased many different technological innovations, one of which was an app that provides information on soil quality for developing country’s farmers. Another part of the Dutch pavilion that was not very obviously connected to the rest of the pavilion talked about how population is growing fastest in developing countries where food is already scarce; therefore, these countries need to supply their own food even though they face drought and little knowledge of modern agriculture. The exhibit continued on explaining that this is why Dutch researchers need to share their knowledge. This area also said that bug cultivation in Africa could help with the area’s lack of protein and create local economic activity, which the Dutch have worked to implement in Uganda. In addition to showcasing the ability of the country to supply assistance, this example highlights the Netherlands’ “more-advanced” technology as compared with Africa.

When non-MDCs (with the exception of Russia) mentioned inequality, they tended to focus on how they could reduce disparity within their own country through development programs. For example, the Angolan Pavilion discussed how the country’s National Strategy on Food and Nutrition Security (ESAN) 2009 was to “ensure that all Angolans have access to secure, high quality food, and contribute to the country’s human, economic, and social development.” The Argentinean Pavilion had a video that surrounded the entire space with words such as disparity, development, inclusion, dignity, and education flashing on the screen. These pavilions focused both on reducing inequality within the country and striving to reduce the inequality between the sponsor country and MDCs.

Corporate Pavilions

Besides small allusions to economic inequality from Federalimentare, who briefly mentioned food waste and aid in a manner similar to how MDCs mentioned economic inequality, the corporate pavilions did not address the issue of economic inequality.

Civil Society Organization and International Organization Pavilions

Overall, Civil Society Organizations (CSOs) and International Organizations (IOs) put great emphasis on the importance of reducing economic inequality to create food security. They focused on economic disparity as much or more than Pavilion Zero.¹³ The Caritas Pavilion had an especially dramatic art piece titled “1 vs 99” that contrasted the wealth of the richest part of the population with the rest of the world through a sculpture of pennies. The sculpture’s central tower of coins represented 1% of the surface but contained 50% of the coins, which mirrors the fact that 1% of the population has 50% of the wealth. The base of the tower had 20% of the surface and 94% of the coins, again mirroring the human population. Finally, the remaining 80% of the space had only 6% of the coins, mirroring the fact that 80% of the population has less than 6% of the global wealth. The Caritas Pavilion also had a display with a continually changing number, which was at 73,702,325 while I was there, representing hungry people all over the world who had benefited from Caritas programs from the beginning of the Expo (May 1st) to September 15th when I toured the pavilion. The UN had a wide horizontal presence that discussed economic inequality in great depth. The information at their stand located in the Children’s Area summed up the key theme behind their presence, The Zero Hunger Challenge, into kid-friendly terms. It said,

“All children will receive nutritious food and will celebrate their second birthday in health. All children will eat lunch and dinner every day of the year. All of Earth will be taken care of so to ensure food and water for all children in the world. All families will produce more vegetables in their home gardens for a good nutrition. All children will eat all the food they have on their plates and will not make waste. All children - both boys and girls- have the same right to grow healthy and be happy.”

Economic inequality was the main focus of the CSOs/IOs’ pavilions.

¹³ Since most of Cascina Triulza’s information was in Italian, only the portion that was understood was taken into account.

Expressions of Environmental Sustainability

Environmental sustainability was another key theme throughout the Expo. Its centrality to the theme can be evidenced by its inclusion in The *Expo Milano Theme Guide*, which said:

“This document is a starting point for working together, to kick off debate and discussion amongst all the Participants who want to play an active role in the crucial decisions about food and sustainability: not only governments, institutions and international organisations, but also corporations, civil society and everyone who wants to make a positive contribution to finding new solutions for the common good.” (Amato & Karadjov, 2012)

The guide went on to say: “is it possible to ensure sufficient, good, healthy and sustainable food for all mankind?” This is the question that underpins the challenge of the 2015 Milan Universal Exposition” (Amato & Karadjov, 2012). The guide then said:

“Having nourished us across the millennia, it is now planet Earth that requires nurture, in the form of respect, sustainable behaviours, the application of advanced technologies and new political visions that will allow us to strike a new and better balance between our resources and our consumption.” (Amato & Karadjov, 2012)

Another question for the Expo was “How can we use resources in an environmentally sustainable way?” (Amato & Karadjov, 2012)

The *Expo Milano Theme Guide* alluded to the importance of sustainability when it asked each participant to consider the keywords “environmental sustainability” (Amato & Karadjov, 2012).

The Expo claimed to be related to the seventh MDG to “ensure environmental sustainability, in particular by supporting sustainable development policies and programmes in order to reverse the loss of environmental resources and reduce biodiversity loss” (Amato & Karadjov, 2012). This highlighted the Expo’s connection to both sustainability and the UN. The *Expo Milano Theme Guide* claimed, “sustainability must be the guiding light when analyzing [*sic*] all the segments of the agro-food chain” (Amato & Karadjov, 2012). The guide also asked the planners of each pavilion to consider how healthy eating could be beneficial to sustainable development (Amato & Karadjov, 2012).

The Expo sought to incorporate environmental sustainability in the content of exhibitions, in the design of the structures, and in the daily management of the Expo (Amato & Karadjov, 2012). The Expo sought to educate through building awareness of environmental sustainability (Amato & Karadjov, 2012). Each pavilion also had to meet sustainability requirements, such as using recycled materials, incorporating passive strategies at saving energy, and developing strategies for communicating to visitors about the pavilion's sustainability (Amato & Karadjov, 2012).

The Expo's website said:

"A platform for the exchange of ideas and shared solutions on the theme of food, stimulating each country's creativity and promoting innovation for a sustainable future, Expo 2015 gives everyone the opportunity to find out about, and taste, the world's best dishes, while discovering the best of the agri-food and gastronomic traditions of each of the exhibitor countries." ("Learn More", n.d.)

It also said that sustainability was "The explicit commitment undertaken by Expo Milano 2015 since the early phases of its candidacy, has been to produce a great event, focusing on respect for the environment, local communities and where they live" ("Learn More", n.d.).

The Expo website for the theme of the Expo said:

"About 1.3 billion tons of foods are wasted every year. For these reasons, we need to make conscious political choices, develop sustainable lifestyles, and use the best technology to create a balance between the availability and the consumption of resources. ("The Theme Expo Milano 2015", n.d.)

It also said:

"Cooperation is essential if we are to achieve the goal of ensuring sufficient food and food security throughout the world, which is what "Feeding the Planet" means. Expo Milano 2015 is the chosen location for confronting the issues of agriculture, sustainable development, and the struggle to combat hunger for the common good. The keywords here are: innovation, energy conservation, environmental protection and natural resources. The protagonists of this dialogue are the participating countries, international organizations, Civil Society, and businesses." ("The Theme Expo Milano 2015", n.d.)

One of the thematic routes of the Expo was "Sustainable food = an equitable world"

(“Thematic Routes”, n.d.). This route was described by:

“How is it possible to make humanity more sensitive to maintaining a better balance between food production and natural resources? The main focus of Expo Milano 2015 is nutrition, which is the discussion platform for both biodiversity and traditional cultures.” (“Thematic Routes”, n.d.)

Country Pavilions

Environmental sustainability was the most talked about emergent theme among countries, which reflects how it had a large emphasis in Pavilion Zero.

MDCs tended to promote sustainability more than any other type of pavilion sponsor. They promoted it through showcasing technological innovations and research that promoted environmental sustainability. For example, the Czech Pavilion featured color-changing furniture made from empty water bottles; this technology was debuted at the World Expo. The British Pavilion focused on bees and discussed a lot of research, some of which mentioned how climate change affects bees. However, not all of the mentions on environmental sustainability were obviously relevant to food, such as swings that were in the entrance to the Estonian Pavilion that had screens that calculated how much energy your body generates from swinging. I was able to generate enough energy from swinging to power my phone. Sustainability was the main focus of many of the MDCs’ pavilions.

Non-MDCs tended to promote sustainability less than MDCs or not promote it at all. They also tended to focus less on research than MDCs, and instead, they focused on promoting sustainable development and sustainable agricultural practices. The Angolan Pavilion mentioned how the Angolan government “is developing programmes aimed at promoting and creating private economic activity, mainly the production of goods and services that are directly and indirectly linked to environmentally sustainable production.” Promoting biodiversity was a popular sustainable agricultural practice in non-MDCs. Azerbaijan, Mexico, and Russia put significant emphasis on biodiversity. The Azerbaijani Pavilion had three glass globes incorporated into the design of the pavilion. One of the globes that could be seen from the main street of the Expo was home to an exhibit called the tree of biodiversity. Part of the Mexican Pavilion discussed how modern Mexican farmers use ancestral techniques for “sustainable use of alimentary biodiversity in

healthful ecosystems” and seed banks. One room in Russia was covered in a variety of plant pictures from the samples of Vavilov, a famous Russian scientist. While non-MDCs did discuss environmental sustainability, it was less central to their displays than in the MDCs.

Corporate Pavilions

Corporations focused on environmental sustainability more than they focused on any other issue that had to do with food security. However, their chief focus was on self-promotion. Most corporations that talked about anything beyond self-promotion and technological innovations did mention environmental sustainability. Their mentions of environmental sustainability focused on sustainable innovations they had made, sustainable practices they had adopted, and how their product could help people be environmentally friendly. For example in the China Corporate United Pavilion, Rainbow Fish Technologies claimed they were seeking eco-friendly ways to “exploit” marine resources. Another example was that in the Federalimentare Pavilion, Sarong claimed to use environmentally friendly packaging. While these practices are mostly environmentally sustainable, the mentions of environmental sustainability still served the purpose of promoting the company.

Civil Society Organization and International Organization Pavilions

CSOs/IOs emphasized environmental sustainability more than they emphasized women’s empowerment but less than they emphasized economic inequality. When they talked about environmental sustainability, these organizations tended to focus on the disparities that are affected by environmental issues and to focus on sustainable development. Part of Cascina Triulza, hosted by Eathink 2015, housed an exhibit of 25 words, which had descriptions and objects that correlated with each word. Some of the words included were: biodiversity, pollution, pesticides, packaging, water, carbon, and waste. Many of the UN Stands discussed environmental sustainability. Some of the facts related to environmental sustainability that I found most shocking were how trashing ½ a hamburger wastes the same amount of water as taking a 1 hour shower, how one third of food is lost globally which causes great environmental costs, and the value of wasted food annually is about \$1 trillion. Other UN stands talked about the effects of climate change on

farmers, giving facts such as “2/3 of the world’s population are likely to be living in water-stressed countries by 2025” and “climate change will exacerbate the risks associated with variations in the distribution and availability of water resources.” These examples showcase how CSOs and IOs pushed people to change their lifestyle and educate people on how the most vulnerable populations will be affected by climate change.

Expressions of Women’s Empowerment

Women’s empowerment was another focus of the Expo. The *Expo Milano Theme Guide* suggested that women would be very important to the Expo when it said:

“When preparing their role in Expo Milano 2015, each Participant will be asked to keep in mind such keywords as ‘genuineness’, ‘safety’, ‘security’, ‘innovation’, ‘research and development’, ‘education’, ‘women and nutrition’, ‘environmental sustainability’, ‘variety’, ‘diversity’ and ‘quality’.” (Amato & Karadjov, 2012)

The theme guide elaborated on the importance of gender in Expo Milano 2015, saying:

“One important challenge that Expo Milano 2015 will address in its Theme is that of gender, seeking to highlight the role of women in relation to such crucial aspects of the Expo Theme as nutrition and food safety/security, food production and preparation. In most countries, it is women who manage the household and are employed in the agro-foods sector, and when breastfeeding their children, women provide the initial source of nutrition for virtually every human being. In rural societies, the role women play in ensuring the constant supply of sufficient food to meet people’s daily calorie needs has been recognized by the United Nations as being of central importance, and for this reason the U.N. actively promotes enhanced access by women to resources, credit, education and training as part of sustainable development projects.

The central role of women will be recognized, promoted, discussed, and debated in the Women & Expo initiative. All Participants are invited to take part in this initiative, which will be illustrated during the International Participants Meeting to be held in October 2012.” (Amato & Karadjov, 2012)

Based on these quotes from the *Expo Milano Theme Guide*, the pavilions should have placed a large emphasis on the central role of women, women and nutrition, and gender.

Country Pavilions

This was the least represented of the themes in country pavilions. Countries (with the exception of Angola) did not mention women's empowerment as much as Pavilion Zero. Most countries did not even mention this issue.

No MDCs mentioned women's empowerment or gender inequality.

Several non-MDCs did mention women's empowerment; however it was only a central focus in the Angolan Pavilion, where the pavilion talked about the importance of women in their development and the great role that women can play in improving a country. Inside the Angolan exhibit, the centerpiece of the first large room was a large multi-story artistic feature dedicated to the importance of women. The piece also had a touchscreen that talked about women's role in society, including constituting 35.9% of the Angolan Parliament. According to exhibit, women in the rural world "have made an undeniable contribution to strengthening and developing family-based agriculture." In the urban world, Angolan women are becoming more prominent in politics, business, fashion, and society. However, most non-MDCs did not mention women's empowerment to the extent that Angola did. Still, several of them did make small references to the issue.

Corporate Pavilions

No corporations discussed women's empowerment or gender inequality.

Civil Society Organization and International Organization Pavilions

The UN was the only CSO/IO to mention women's empowerment. The UN did make women's empowerment a central part of their theme, as their presence was focused on the five pillars of the Zero Hunger Challenge and women's empowerment. The UN's expressions of women's empowerment focused on the improvement that could be made if women were treated equally and on the importance of women in the food system. One of the UN's Stands was devoted to Women's Empowerment and Gender Equality. The UN

Women's Empowerment and Gender Equality Stand was located next to Cascina Triulza. The stand had a graph of the female share of the agricultural labor force in developing regions in the last 30 years and a graphic depicting the gender yield gap. According to this graphic, women would achieve the same yield levels as men if they were given equal access to resources, which would boost agricultural output in developing countries by 2.5-4%. "The additional yield could reduce the number of undernourished people in the world by 100-150 million or 12-17%" according to the display. Still, the UN focused less on women's empowerment than it focused on either economic inequality or environmental sustainability.

Discussion and Conclusions:

My findings predominately correspond with previous literature on food security (Ingram, 2011; McMahon & Johra, 2011; Schmidhuber & Tubiello, 2007; Sen, 1981; Vermeulen et al., 2012a) Reducing economic inequality, promoting environmental sustainability, and promoting women's empowerment were all exhibited in the selected Expo pavilions. However, environmental sustainability was disproportionately overrepresented in the Expo in comparison with its importance in the literature review. Women's empowerment was underrepresented in the Expo in comparison to the literature. Economic inequality was also underrepresented in the Expo given its significant correspondence with food insecurity in the literature.

While food sovereignty appeared in the literature review (Clapp, 2008; Clapp, 2012; McMichael, 1998; McMichael, 2009), it was not a central theme of the Expo. This is likely because the Expo is an event hosted by countries that generally support neoliberalism. Many corporations who profit from neoliberal globalization also sponsored the event. The dearth of information on food sovereignty was likely due to the sponsors of the Expo and its pavilions rather than the effectiveness of food sovereignty and anti-neoliberal policies at ending food insecurity.

In the Expo, the focus of countries' pavilions varied based on their level of economic development. MDCs focused more on North-South inequalities and environmental sustainability; they did not mention women's empowerment. MDCs' discourse on inequalities tended to focus on the ability of the country to assist non-MDCs either through

aid or technological assistance. The MDCs' discourse on environmental sustainability largely focused on technological innovations and research. Non-MDCs were significantly more likely to mention women's empowerment than MDCs; they also focused less on environmental sustainability. Non-MDCs discussed economic inequality as a problem in their own country, and they discussed programs that they were implementing to fix the disparity. Non-MDCs' mention of environmental sustainability focused on sustainable development and agriculture. The difference between the representation of MDCs and non-MDCs is possibly due to the pressure for MDCs to appear as if they do not have issues of food insecurity and inequality within their borders while also having more resources to devote to research, technology, and providing assistance to other countries.

Corporations focused predominately on sustainability in the limited instances that they actually addressed the theme, "Feeding the Planet, Energy for Life." They did not discuss women's empowerment at all, and they had only minuscule allusions to economic inequality, which mirrored how economic inequality was discussed in MDCs by talking about assistance they could provide for development and discussing food waste. However, their mentions still focused on promoting their brand, which was not necessarily the case when MDCs discussed economic inequality.

Civil society organizations and international organizations addressed all three of the themes with depth. These organizations most closely mirrored the example set by Pavilion Zero and the literature review. While these organizations promoted environmental sustainability, they did not over represent it as the MDCs and corporations did. Instead, they were more similar to the non-MDCs, suggesting inequalities caused by climate change and sustainable development. Their mention of how vulnerable populations are most affected by climate change was also discussed in the literature (Schmidhuber & Tubiello, 2007; Vermeulen et al., 2012b; Ziervogel & Ericksen, 2010).

Corporations probably participated in the Expo in order to market themselves while civil society organizations and international organizations participated in the Expo to promote their mission and values, which were generally more closely aligned with the theme of the Expo.

While the Expo did express many of the themes found in the literature review as ways to end global food insecurity, much of the Expo focused on topics that were not

related to reducing hunger, such as self-promotion, nature, general culture and history, technological innovations and research, local cuisine, agricultural products, tourism, art, investment, and selling souvenirs and food. Corporations, especially, did not focus much on reducing hunger.

These findings are an important contribution to the literature surrounding global food insecurity because the research addresses how an international event, such as a World Expo, centered on food insecurity represented the problem of food insecurity. The representation of ways to address food insecurity to a large, non-scholarly, international audience is critical in shaping public opinion about the issue and how to best address it. This research also provides an outlook on how different governments and organizations view food insecurity and their role in solving it.

Since 20 million people visited the 2015 World Expo, the pavilions had the opportunity to educate a large audience, as Expos are intended to do according to the Convention relating to International Exhibitions. The content of the pavilions had the ability to educate the general public about food security, its causes, and its solutions. The portrayal of food security by international organizations and civil society organizations within the Expo depicted that food security is an issue rooted in socioeconomic inequalities and affected by climate change. This perspective was aligned with Pavilion Zero's expression of food security. However, there were fewer international organization and civil society organization pavilions than there were national and corporate pavilions. The national pavilions did not address the issue of food security as comprehensively. The MDC pavilions tended to focus predominately on sustainability, neglecting to educate attendees about other aspects of food security. Non-MDCs provided a little bit of a broader perspective on food security, but did not quite compare to the international organization and civil society organization pavilions. The corporate pavilions largely ignored the issue of food security, which likely resulted in little to no increased insight on food security issues from visitors. The education of Expo attendees could potentially affect policies around the world, as the audience was international. The portrayal or lack thereof of food security issues within the Expo could also directly affect national and international policies as many diplomats attended the Expo.

While the 2015 World Expo was groundbreaking in its effort to be the first World Expo centered around food, the Expo as a whole did not quite live up to the goals it set for itself that were depicted in Pavilion Zero. The 2015 World Expo also failed to portray all of the aspects of food security that scholars have deemed important. The effects that neoliberal globalization has had on the food system and food security were not a focus of the Expo. Instead, many of the corporations that benefit from this globalization were present and further advertising their products. Besides failing to discuss the structural issues of the global food system, the Expo as a whole also did not focus on “feeding the planet” as much as it could have. Many of the pavilions focused on self-promotion, tourism, and culture when they could have focused on addressing food security. The exhibits related to food security could have also been more engaging and interactive. It seemed that these parts of the exhibits were not as interactive or visual as some of the parts that focused more on self-promotion.

Examining the use of space in terms of allocation and prominence within the Expo would be an area for future research. Investigating the extent of content focused on food compared to information that was unrelated to the theme is an area for future investigation. Studying the amount of space dedicated to self-promotion in comparison to addressing the theme based on level of development would be another possible vein of research. Also, examining the amount and sources of funding for each pavilion could provide further insights. Another area of research could be comparing the themes the pavilions’ websites said would be represented in the pavilions in comparison to what themes the pavilions actually expressed. Doing a comparative study between this Expo and other World Expos on their correspondence with their themes could also provide interesting information. Another comparative study could be done between this Expo and other World Expos’ promotion of social justice. Research could also be done on the relationship between the level of immersive aspects or interactivity of an exhibit in comparison to what themes the exhibit portrayed.

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Appendix

Countries

Pavilion	Location	Level of Economic Development	Adult obesity	% under 5 underweight	GINI	HDI	Gender Inequality Index	MPI
Angola	Southern Africa	Least developed	8.5	15.6	42.7	0.532	None	None
Argentina	Southern South America	Major developing economy	26.5	2.3	42.3	0.836	0.376	0.015
Azerbaijan	Southwestern Asia	In transition	22.2	8.4	33.7	0.751	0.303	0.009
Czech Republic	Central Europe	Developed	29.1	2	26.1	0.87	0.091	None
Estonia	Eastern Europe	Developed	24.5	None	33.2	0.861	0.164	None
France	Western Europe	Major developed economy	25.7	None	33.1	0.888	0.088	None
Iran	Middle East	Developing	24.9	6.8	37.4	0.766	0.515	None
Ireland	Western Europe	Developed	27	None	32.5	0.916	0.113	None
Mexico	North America	Major developing economy	27.6	2.8	48.1	0.756	0.373	0.024
Netherlands	Western Europe	Developed	21.9	None	28	0.922	0.062	None
Russia	North Asia and Europe	In transition	26.2	None	41.6	0.798	0.276	None
United Kingdom	Western Europe	Major developed economy	29.8	None	32.6	0.907	0.177	None

Table A1: This chart shows the geographical location, level of economic development, percent of adult population that is obese, percent of children under 5 that are underweight, GINI coefficient, Human Development Index (HDI), Gender Inequality Index, and Multidimensional Poverty Index (MPI) for each country in the sample. The information comes from the CIA World Factbook, the UN's *World Economic Situation and Prospects 2012: Statistical Annex*, the UNDP's *Human Development Report: Work for Human Development – Statistical Annex*, the UNDP's "Income GINI Coefficient", and the World Bank's "GINI Index."¹⁴

¹⁴ Democratic Republic of the Congo could not be found in the Fruits and Legumes Cluster, and therefore, the country was not included. However, a poster at the Fruit and Veggies Market did advertise the country's agricultural business park.

Corporations

Corporation	Description
Birra Moretti	Birra Moretti was the official beer partner of the 2015 World Expo ("Birra Moretti", n.d.). The company began in producing beer in 1859 in Udine, Italy ("Birra Moretti", n.d.). Birra Moretti is now exported to more than 40 countries around the world ("Birra Moretti", n.d.).
China Corporate United	The China Corporate United Pavilion was organized by the China Council for the Promotion of International Trade and the Shanghai municipal government ("China Corporate United Pavilion", n.d.). The pavilion had "Chinese seeds" as its theme and was hosted by Chinese national enterprises ("China Corporate United Pavilion", n.d.).
Expo Partner 1	<p>Expo Partner 1 was a building that featured several different corporations.</p> <p>CDP Group is the Italian National Promotional Institution, and a joint-stock company under public control ("Mission and Role – CDP", n.d.). According to their website, CDP Group intervenes in the Public Administration sector, promotes growth of Italian infrastructure, and assist businesses of various sizes ("Mission and Role – CDP", n.d.). The Group has been around since 1850 ("Mission and Role – CDP", n.d.).</p> <p>Fondo Strategico Italiano is a holding company for equity investment ("About Us - Fondo Strategico Italiano", n.d.). 80% of Fondo Strategico Italiano is controlled by CDP Group while the Bank of Italy controls the remaining 20% ("About Us - Fondo Strategico Italiano", n.d.).</p> <p>SACE is a joint-stock company that offers insurance and financial products such as export credit, investment protection and financial guarantees ("SACE – About Us", n.d.). SACE, who is owned by CDP Group is present in 189 countries ("SACE – About Us", n.d.).</p> <p>According to their website, Ferrovie Dello Stato Italiane is one of Italy's largest industrial corporations, running about 8,000 trains a day, transporting 600 million passengers a year ("About Us – Ferrovie Dello Stato Italiane", n.d.). The corporation was established in 1905 ("About Us – Ferrovie Dello Stato Italiane", n.d.). The corporation's mission is to "create and manage railway transport works and services for (its) customers while contributing to the development of a great project of mobility and logistics for Italy." ("About Us – Ferrovie Dello Stato Italiane", n.d.)</p> <p>Fiat Chrysler Automobiles (FCA) is the seventh largest automaker in the world ("FCAGroup – Our Businesses", n.d.). The company operates in 40 countries and has commercial relationships in about 150 countries ("FCAGroup – Our Businesses", n.d.). The group's auto brands include Abarth, Alfa Romeo, Chrysler, Dodge, Fiat, Fiat Professional, Jeep, Lancia, Ram, and Maserati ("FCAGroup – Our Businesses", n.d.).</p>

	<p>Finmeccanica is a company that operates in the global high-tech sector (“Finmeccanica – Profile”, n.d.). The company works with helicopters, aircraft, aero structures, airborne & space systems, land & naval defense electronics, defense systems, and security & information systems (“Finmeccanica – Profile”, n.d.). Finmeccanica operates in 20 countries, focusing in the four main markets of Italy, the United Kingdom, Poland, and the United States (“Finmeccanica – Profile”, n.d.).</p>
Federalimentare	<p>This pavilion was representative of about 500 Italian companies from the agri-food sector (“Cibus Designs”, 2014). Cibus designed the Federalimentare pavilion (“Cibus Designs”, 2014).</p>
Fruit and Veggie Market (Part of Fruits and Legumes Cluster)	<p>A fresh produce market sold fresh produce as part of the Fruits and Legumes Cluster. The area had a sign talking about the Kinshasa fresh produce market with the website parcagro.com listed. Kinshasa is the capital of the Democratic Republic of the Congo (“Democratic Republic of the Congo”, 2016). The website says, “the Agricultural Business Park of the Democratic Republic of the Congo was the first step to a great agricultural reform in terms of the thought processes in Central Africa towards the development of agriculture.” (“About Us – Parc Agro”, n.d.) The fresh produce market seemed to be affiliated with the Democratic Republic of the Congo.¹⁵</p>
Illy (Coffee Cluster)	<p>Illy is a company that began in Trieste, Italy in 1933 when the CEO developed the first modern espresso machine (“Illy”, n.d.). The company has spread to 140 countries (“Illy”, n.d.). The company’s products are used in more than 100,000 cafes and restaurants (“Illy”, n.d.). In 2014, they had gross revenue of 391 million euros, or about \$422,807,850 (“Illy”, n.d.). The company’s mission is “to delight all those who cherish the quality of life, through our search for the best coffee nature can provide, enhanced by the best available technologies and by our search for beauty in everything we do.” (“Illy”, n.d.) Their vision is “being the world reference for coffee culture and excellence.” (“Illy”, n.d.) Their ethics are to “create and share superior stakeholder value over time through our commitment to improvement, transparency, sustainability, and people development.” (“Illy”, n.d.) Some of their products include: espresso machines, furthers, coffee grinders, coffee, cups, and K-Cup® Pods (“Illy”, n.d.).</p>
Intesa SanPaolo	<p>Intesa SanPaolo is a banking group that was formed by the merging of Banca Intesa and SanPaolo IMI, both Italian banks (“About Us Intesa”, 2016). According to its website, Intesa SanPaolo is one of the top Euro-zone banks and has a market capitalization of 39.2 billion euros (“About Us Intesa”, 2016). According to its website, the company is an Italian leader and also spreads into Central Eastern Europe, the Middle East,</p>

¹⁵ I was unable to locate the exhibit sponsored by the Democratic Republic of the Congo in the Fruits and Legumes Cluster.

	and North Africa with subsidiaries operating in 12 countries (“About Us Intesa”, 2016). The bank also had a location that was just a bank in addition to its pavilion.
TIM	TIM is an Italian telecommunications company that serves 30 million mobile lines in Italy and 66.2 mobile lines in Brazil (“About Us TIM”, n.d.). In addition to cellular phone lines, the company also offers landlines, broadband and Internet (“About Us TIM”, n.d.). The company has 5.2 billion euros in investments (“About Us TIM”, n.d.). The location on the map that said where the TIM pavilion was located was actually a store. TIM had both a store and a pavilion, which were located in different parts of the Expo.

Table A2: Description of Corporations in the Selected Sample

Civil Society Organizations and International Organizations

Civil Society Organization/ International Organization	Description
Caritas International	Caritas is a nonprofit organization. The organization “shares the mission of the Catholic Church to serve the poor and to promote charity and justice throughout the world,” which includes faith in action, emergency response, transforming lives, and calling for a better world (“Caritas”, n.d.). According to their website, Caritas is very definitively based in the Catholic Church and is “inspired by Scripture, Catholic Social Teaching, and by the experiences and hopes of people who are disadvantaged and living in poverty.” (“Caritas”, n.d.) Caritas was founded in Germany in 1897, but did not become Caritas Internationalis until 1954 (“Caritas”, n.d.). Caritas has over 160 members, which are either a national charitable Catholic organization or a collective of them that work together in support of the church (“Caritas”, n.d.). The organization is run by a president, a secretary general, a treasurer, the general secretariat, and member organizations, and an ecclesiastical assistant (“Caritas”, n.d.). Caritas works in 200 countries and has a budget of 4,193,491 euros, or approximately \$4,534,631 (“Caritas”, n.d.). Their budget is spent on advocacy and representation, communications, humanitarian coordination, support to regional structures, administration of confederation and general services, HIV/AIDS program, cooperation within confederation, capacity building, fundraising, and miscellaneous expenses (“Caritas”, n.d.). Their major programs are in conflicts and disasters, food, health, migration, and development (“Caritas”, n.d.).

Cascina Triulza	Cascina Triulza housed the Civil Society Pavilion (“Cascina Triulza”, n.d.). It showcased the various contributions made by civil society organizations (“Cascina Triulza”, n.d.). It included an exposition area where companies could set up the displays interpreting the theme “Feeding the Planet, Energy for Life,” an events area, a market area for small businesses to sell goods and services that “respect the environment and human rights,” and a work area for networking between businesses (“Cascina Triulza”, n.d.). The Triulza Foundation managed Cascina Triulza (“Cascina Triulza”, n.d.).
The United Nations (UN)	The UN is an international organization that was founded in 1945 (“Overview - United Nations”, n.d.). At this time, the UN is comprised of 193 member states (“Overview - United Nations”, n.d.). According to its Charter and status as an international organization, the UN can address issues that are faced by 21 st century humanity including but not limited to: peace, security, climate change, sustainable development, human rights, disarmament, terrorism, humanitarian and health emergencies, gender equality, governance, and food production (“Overview - United Nations”, n.d.). The UN also creates a forum that fosters dialogue and negotiations between member nations (“Overview - United Nations”, n.d.). 2015 was the 70 th anniversary of the UN (“Overview - United Nations”, n.d.).

Table A3: Description of Civil Society Organizations and International Organizations in the Selected Sample

Example of Notes

Iran

- Entry is real garden with virtual fish ponds
- Open air design so garden is in entrance
- English
- App available but not for apple
- Tablet with information on Iranian foods and Persian facts
- Giant video screen = main feature
 - Along one entire wall
 - Video in English but writing in Italian
 - Video about Qanats supplying water
 - Video showed handicrafts
 - Video about dates (the fruit)

- Video of traditional storage containers
- Video of drumming
- Video of Persian brews (herbal teas)
 - Water necessary for health
- Video of Persian food
- Video of Persian walnut
 - Cup of walnuts at breakfast good for health
 - Iran one of walnuts biggest producers
- Video of ancient stone carvings at Persepolis
- Video of Persian pomegranate
 - Iran is big producer
 - Suggests good in everything for taste
 - Used for dye
- Video of Persian hazelnut
 - Fast to digest and have phosphor and iron
 - 7th biggest producer
- Video of Iranian desserts
 - Porridges
- Video of Iranian beverages - medicinal
- Video of windmills
 - Shows Iranian use of sustainable energy to make food
 - Traditionally horizontal still use wind power
- **I spent 30 minutes watching videos and they still didn't repeat**
- Traditional pots on display
- At end
 - Iranian restaurant
 - Video of Iranian scenery
 - Gift shop

Reflections on Iran

- A lot of demonstration of plants through garden
- Not much to exhibit besides videos
- Several artifacts
- Videos talk about Iranian food, culture, and history
- Mostly culture and food products of Iran
- Large space, little information besides videos but have to wait through them
 - Can't walk to a new one if one doesn't interest you
- Spent 30 minutes watching videos and did not get through loop
 - Only 2 chairs so people have to sit on stage
- Video of windmills shows sustainable energy and food system
 - Horizontal wind mills traditionally
 - Use wind today