

OBESITY AND FOOD HUNGER

BY: KERIM CALVELO DEMIRKOL

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BIOGRAPHY

I am Kerim Calvelo Demirkol, a global citizen born and raised in Qatar (Middle East Region) by two awesome expatriate parents of Turkish/ Bulgarian and Filipino descents. I am privileged to see the world through my own eyes and not through the lenses of institutions. (which means I am homeschooled and not practicing my parents' religions.)

As a world explorer, I have travelled more than 40 countries before my teenage years. I am fluent in world regions and have studied World History with critical eyes on the global issues affective our world today.

I am an Arena Fide Chess Master and hopes to become Grand Master in three years (when I am 16). I am focusing my high school studies in Medieval History, World Mythology, Economics and Finance. These are the subjects that interest me the most. Learning these subjects, indirectly, the world hunger and inequality became a challenge that I attempt to solve.

Whenever I have free time, I bake organic bread.

RESEARCH MATERIALS

COUNTRY: PHILIPPINES

- The current population of the Philippines is 113,186,006. (as of December 2022.)
- Urban population is made of fifty-four (54%) vs. rural population of 46%.
- Philippines is a republic with a presidential form of government wherein power is equally divided among its three branches: executive, legislative, and judicial.
- Philippines is an agricultural country with a land area of 30 million hectares, 47% of which is agricultural land but only 30 percent of the total land area of the country is cultivated by almost 5 million farmers. Farm area devoted to agriculture has been decreasing due to land conversion
- In 2021, the agricultural industry generated a gross value added (GVA) of about 1.76 trillion Philippine pesos, equivalent to a 9.6 percent share of the country's gross domestic product (GDP).
- Major crop products exported include coconut, sugar, pineapple, banana, coffee and mango. On the other hand, rice and corn continue to be imported to meet the demand of the growing population.
- The average size of a farm in the Philippines, mostly small-scale family farms, is 1.29 hectares (5.56 million farms/holdings covering 7.19 million hectares.) In comparison, the biggest mall in Philippines (Mall of Asia) is 67 hectares; barely, 2% of this farm size.
- The climate in the country is tropical and maritime. It is characterized by relatively high temperature, high humidity, and abundant rainfall.

Source: Philippine Statistics Officer (2022)

TYPICAL FILIPINO FAMILY

- Nationally, the average household size is 4.1 people per household.
- Arguably the most recognizable house style in the Philippines, the bungalow design is one of the more prevalent styles around, mostly found in subdivisions.
- The Filipino diet is of limited diversity wherein white rice, pork and breads contributed most to daily intake of energy, protein, carbohydrates, thiamine, riboflavin, and iron. Many nutrient-dense food groups such as vegetables, fruit, and dairy were seriously lacking in the diet.
- Most dishes in the Philippines are stewed, sauteed, broiled, braised, or fried. There are a few major styles in preparing and cooking Filipino food. The first involves vinegar, which is present in popular dishes such as adobo, paksiw, and sinigang.
- The average salary in the Philippines was PHP 161,847.60/year (\$3,218).
- Public healthcare in the Philippines is administered by PhilHealth, a government-owned corporation. PhilHealth subsidizes a variety of treatments including inpatient care and non-emergency surgeries.
- Public preschool, elementary and high school education are provided free, although quality education are perceived to be given by private education institutions.
- 91% of the country's population have access to basic water services, but access is highly inequitable across the country, with regional basic water services access ranging from 62% to 100%
- Seven-and-a-half million Filipinos have no toilets while 8.4 million have no access to clean drinking water.
- For food accessibility, the Philippines scores lower than its neighbors in the Association of Southeast Asian Nations in agricultural infrastructure, particularly on logistics system. The limited farm-to-market roads and high transportation costs contribute to this problem.

Source: Food Security and Nutrition in the Philippines (2017)

THE PROBLEM - DIETARY DISEASE AND MALNUTRITION IN THE PHILIPPINES

The Philippines is grappling with severe malnutrition, with a high prevalence of wasting, stunting, micronutrient deficiencies and overweight among children and women. Without additional interventions, the cost of malnutrition to the economy is estimated at nearly USD \$4 billion annually. (Source: Nutrition International)

For nearly thirty years, there have been almost no improvements in the prevalence of undernutrition in the Philippines. One in three children (29%) younger than five years old suffered from stunting (2019), being small in size for their age. (Source: World Bank)

The key determinants of undernutrition are multisectoral. At the immediate level, a child becomes undernourished because of inadequate or inappropriate food, health, and care.

At the basic level, poverty is one of the most important causes of undernutrition: 42.4% of children from households in the poorest income quintile are stunted. Governance structures also pose significant challenges for the country’s efforts to combat undernutrition. (Source: World Bank)

Moreover, data from the WHO showed that the prevalence of malnutrition in the Philippines is 5.75 percent, compared to Thailand's 0.64 percent, 0.28 percent for Malaysia and 0.02 in Vietnam.

- About 30% of Manila's 50,000-75,000 street children are estimated to be moderately or severely malnourished.
- According to the National Nutrition Survey, the Bangsamoro region (indigenous) has the highest prevalence of stunting in the Philippines at 45.2%. This means that an estimated 230,000 children, or at least 1 in every 2 children under 5, are stunted and deprived of achieving their full potential in life.
- Community-based piped water provision and flush toilets have the greatest potential to reduce malnutrition.

THEIR SOLUTIONS - DIETARY DISEASE AND MALNUTRION IN THE PHILIPPINES

Solution	Strength (Pros)	Weakness (Cons)
Corporations educating public “to eat a healthy, balanced diet”	Country-wide accessibility of education and knowledge for all citizens	This does not address the main root cause of dietary disease and malnutrition - lack of access to nutritious food.
Barangay Nutrition Scholar (BNS) Program. Presidential Decree No. 1569 (1979) mandated the deployment of at least one (1) BNS in every barangay in the country to monitor the nutritional status of children and other nutritionally at-risk groups and link them with nutrition and nutrition-related service providers. PD 1569 also mandated the NNC to administer the program in cooperation with local	Involvement of volunteers increases engagement of citizens to “eat healthy and balanced diet.”	This does not address the main root cause of dietary disease and malnutrition - lack of access to nutritious food.

Solution	Strength (Pros)	Weakness (Cons)
government units. Source: https://www.nnc.gov.ph/9-plans-and-programs		
InterAgency Task Force on Zero Hunger (IATFZ Executive Order 101, 2020 <ol style="list-style-type: none"> 1. Review and Rationalization of Existing Policies, Rules, Regulations related to the EO 2. Ensure Available and Affordable food 3. Secure Nutrition Adequacy 4. Secure Food Accessibility and Safety 5. Ensure Resiliency and Food Stability for Emergencies 6. Ensure Information, Education, Awareness and People Participation 	<ul style="list-style-type: none"> • With collaboration from United Nations agencies such as the United Nations’ Children’s Fund (UNICEF), Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO). • In line with UN Sustainable Development Goal #2: Zero Hunger. (timebound to 2030) 	<p>Programs are high level and the benefits from specific programs are yet to be felt by the country:</p> <ul style="list-style-type: none"> • iron-fortified rice pilot; • stunting prevention programme • agricultural livelihood support in Mindanao, • disaster preparedness and response; • integration of food security nutrition into local plans, and; • an upcoming social behavioral change communication project <p>Program development and implementation are assigned to NGO - Assigned to NGO - World Food Program (WFP)</p>
NGOs <ol style="list-style-type: none"> 1. Action against Hunger 2. World Food Programme (WFP) 3. Feed The Children 4. Rise Against Hunger Philippines 5. Food for the Hungry 	Factors such as climate issues and political challenges have contributed to the food insecurity that Filipinos continuously face and NGOs bypass certain amount of bureaucracy	Most of the programs are focus on children and disaster response.

SOLUTIONS AND RECOMMENDATIONS

General Solution Statements:

- We can improve human health BY increasing access to food, health education and opportunities.
- We can promote more economic growth in urban areas BY protecting the environment.

For my proposed Solutions and Recommendations to my chosen country, Philippines:

- A. Educate Urban Population on the link of Obesity & Food Hunger. Lack of Access to Nutritional Food is a problem like Food Hunger.
- B. Provide access to sustainable and healthy foods in urban areas through food banks managed by municipality (or through the already established Barangay Nutrition Scholars).
- C. Educate Rural Population on Farming Technologies.
- D. Improve infrastructure in Rural Areas to develop water facilities and cultivate farmland.
 - These solutions meet all the needs of the population in your country.
 - Plan of Actions:
 1. Define criteria of sustainability in food banks.
 2. Improve Food Literacy among urban and rural population.
 3. Develop profitable business models for food banks involving corporations normally involved in traditional food bank – manufacturers, farms and fisheries, government commodities, distributors, retail, consumers, community service providers.
 4. Develop educational awareness campaigns for urban population on the effects of obesity, lack of nutritional food access.
 5. Develop educational awareness campaigns of critical infrastructure in rural areas to ensure sanitation, protection of environment and farming technologies.
 6. Establish the roles of Barangay Nutrition Scholars for Urban & Rural Areas.
 7. Tie up these initiatives to specific programs of Interagency Task Force on Zero Hunger.

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PHILIPPINES: OBESITY & FOOD HUNGER

INTRODUCTION

There are already several researchers that have explored the paradoxical link between lack of regular access to adequate food (food insecurity) and increased risk of obesity. (Harvard School of Public Health.) The United States Department of Agriculture defines food security as “access by all people at all times to enough food for an active, healthy life.” People who struggle to meet these criteria are considered food insecure; food insecurity leads to hunger.

On the other hand, the World Health Organization (WHO) emphasized that obesity is one side of the double burden of malnutrition, and today more people are obese than underweight in every region except sub-Saharan Africa and Asia.

The realities out there are paradoxical indeed.

- In big cities where there is abundant supply of food products, there seems to be lack of access to healthy food causing an unhealthy and obese population.
- In rural countries where there is an abundant farmland to cultivate, the population lack access to food sources.

Most adults believe it is complicated to solve world problems that mildly seem to be interrelated - improving human health, increasing access to food and health education and opportunities, promoting more economic growth in urban areas and protecting the environment. As a non-adult, I believe that most of the answers lie in those exact ideas. I strongly believe that we can improve human health by increasing access to food, health education and opportunities.

COUNTRY AND FAMILY

Philippines is an agricultural country with a land area of 30 million hectares, 47% of which is agricultural land but only 30 percent of the total land area of the country is cultivated by almost 5 million farmers. Farm area devoted to agriculture has been decreasing due to land conversion. During my research on agricultural land use, quick calculation give me an average size of a farm in the Philippines, mostly small-scale family farms, is 1.29 hectares (5.56 million farms/holdings covering 7.19 million hectares.) In comparison, the biggest mall in Philippines (Mall of Asia) is 67 hectares; barely, 2% of this farm size. With the population of 113 million, its urban population is made of fifty-four (54%) vs. rural population of 46%. With these figures, it is evident that Filipino families prefer to become urban dwellers rather than farmers in rural areas; where urban dwellers past time could be going to the mall.

The World Health Organization (WHO) has reported that the leading cause of death in the Philippines was cardiovascular disease. This caused about 35% of all deaths. One only must take a look at the unhealthy food culture of deep fried and fast food to make the connection with these deaths.

In his latest article in Philippine newspaper, Inquirer, De la Pena (November 2022) highlighted that millions of Filipinos are now at greater health risks as obesity's heavy toll. The Department of Science

and Technology-Food and Nutrition Research Institute (DOST-FNRI) said it saw an increase in the prevalence of obesity, especially among children and adults, from 7.6 % to 14% of children 5 to 10 years old, from 10.7 to 13% of individuals 10 to 19 years old percent, and from 37.2% to 38.6% of adults 20 to 59 years old.

In this article, the causes of obesity can be attributed to (1) physical inactivity because of the lockdowns; (2) the kind of food that people were consuming and (3) convenience of online food orders and (4) not being able to monitor the content of food orders online. Dela Pena emphasized that “obesity, which was once considered a problem primarily in high-income and developed countries, is now a rising health problem in low- and middle- income countries including the Philippines.”

Consumption of ultra-processed food causes obesity and health problems. Ultra-processed foods include products that society nowadays do not even consider as junk food such as breakfast cereals, muffins, snack bars and sweetened yogurts. Soft drinks and energy drinks are considered ultra-processed foods, too.

UNICEF Philippines (2021) conducted an analysis of trends in sales of highly processed food and drink in the Philippines. Sales, in volume and value, have grown over a five year period up to 2019 for all highly processed products analysed with the exception of juices and concentrates. There has also been a significant increase in transactions and value of sales from fast food outlets with burgers making up 58% of all fast food transactions.

CHALLENGE AND IMPACT

In addition to obesity and preference of living in urban areas, the Philippines is grappling with severe malnutrition, with a high prevalence of wasting, stunting, micronutrient deficiencies and overweight among children and women. Without additional interventions, the cost of malnutrition to the economy is estimated at nearly USD \$4 billion annually. (Source: Nutrition International)

	Data	Rate
Population	113,186,006	
Food Insecurity	<ul style="list-style-type: none"> • 5.3 million Filipinos were severely food insecure • 48 million more experienced moderate or severe food insecurity Source: FAO	<ul style="list-style-type: none"> • 4.68% severely food insecure • 42.41% moderate or severely food insecure
Obesity Rate	Around 27 million Filipinos are overweight and obese (Source: DOST-FNRI)	23.85% overweight and obese
Malnutrition Rate	Source: Statista Research Department	14.5% undernourished

Table 1: Philippine Rate Comparison – Food Insecurity, Obesity & Malnutrition Rate

For nearly thirty years, there have been almost no improvements in the prevalence of undernutrition in the Philippines. One in three children (29%) younger than five years old suffered from stunting (2019), being small in size for their age. (Source: World Bank)

The key determinants of undernutrition are multisectoral. At the immediate level, a child becomes undernourished because of inadequate or inappropriate food, health, and care.

At the basic level, poverty is one of the most important causes of undernutrition: 42.4% of children from households in the poorest income quintile are stunted. Governance structures also pose significant challenges for the country's efforts to combat undernutrition. (Source: World Bank)

Moreover, data from the WHO showed that the prevalence of malnutrition in the Philippines is 5.75 percent, compared to Thailand's 0.64 percent, 0.28 percent for Malaysia and 0.02 in Vietnam.

- About 30% of Manila's 50,000-75,000 street children are estimated to be moderately or severely malnourished.
- According to the National Nutrition Survey, the Bangsamoro region (indigenous) has the highest prevalence of stunting in the Philippines at 45.2%. This means that an estimated 230,000 children, or at least 1 in every 2 children under 5, are stunted and deprived of achieving their full potential in life.
- Community-based piped water provision and flush toilets have the greatest potential to reduce malnutrition.

Simply put, low income in both rural and urban areas causes food hunger; wherein quality of food makes middle income families choose ultra-processed food causing obesity and health problems. Extremes seem to be a key factor in these ironies. Extreme high and low incomes, extreme opportunities to none, extreme knowledge to extreme mediocrity.

SOLUTIONS & RECOMMENDATIONS

My ten-point solution is outlined below which can be stated by:

“Improve Health of Filipinos by increasing access to food, health education and opportunities.

A. Access to Food:

1. Provide access to sustainable and healthy foods in urban areas through food banks managed by municipality (or through the already established Barangay Nutrition Scholars.)
2. Incentive use of farmlands and innovation of farming technologies in rural areas.

Rationale:

The food banking system is not re-inventing the wheel to address scarcity of food supply. The concept of food banking was developed by John van Hengel in Phoenix, AZ, in the late 1960s. Van Hengel, a retired businessman, volunteered at a soup kitchen trying to find food to serve our neighbors facing hunger (Feeding America Website.) Since then, time has evolved with the help of capitalism and consumerism. Arguably, availability of nutritious food is more important than availability of processed food with no nutritional value or worse, junk food category.

It can be noted that the existing food bank model acts as warehouse or “scrapfood” collector. Food bank acquire excess food, much of which would otherwise be wasted from manufacturers, distributors, retail stores, hotels, F&B establishments and consumers. (The Food bank Model, Food Bank Singapore LTD.) By definition given above of ultra-processed food, food bank acts as warehouse mostly of ultra-processed food.

Commonsensibly, accountability on food safety and food literacy should be given to food banks.

A different type of problem is faced by rural dwellers. Though they do not have access to conveniently packed food from corporation donations, rural areas are blessed with agricultural farmlands waiting to be utilized. Dongges, et. Al (2006) highlighted the importance of infrastructure in agricultural production as it lowers costs of inputs, enlarges markets and facilitates trade. It raises the productivity of factors of production resulting in increased agricultural production and productivity.

B. Access to Health Education

1. Develop educational awareness campaigns for urban population on the effects of obesity, lack of nutritional food access.
2. Develop educational awareness campaigns of critical infrastructure in rural areas to ensure sanitation, protection of environment and farming technologies.
3. Improve Food Literacy among urban and rural population.

Rationale:

The term “Food Literacy” should go beyond food labels but a systemic governance measure to take corporations and individual accountable for their routine decisions they make. Strong awareness will empower Filipino public to acknowledge obesity is a problem as much as food hunger. When there is increased awareness, the engagement to do the right thing will also empower them to stop corporations from using food hunger as a means for them to make more profit and demand healthy food and give access to poor family in the cities. The production of too much junk food and preservative-filled-foods should be highly regulated. Organic farming technologies making the cities greener and leaner.

Empowering health education will also empower other initiatives to be realistically achieved.

C. Access to Opportunities

1. Improve infrastructure in Rural Areas to develop water facilities and cultivate farmland.
2. Define criteria of sustainability in food banks.
3. Develop profitable business models for food banks involving corporations normally involved in traditional food bank – manufacturers, farms and fisheries, government commodities, distributors, retail, consumers, community service providers.
4. Establish the roles of Barangay Nutrition Scholars for Urban & Rural Areas.
5. Tie up these initiatives to specific programs of Interagency Task Force on Zero Hunger.

Rationale:

As there are already programs addressing obesity and food hunger separately by different Non-Profit organizations, linking these initiatives together will strengthen solutions to these country problems. The Barangay Nutrition Scholar (BNS) Program, a mandate under Presidential Decree No. 1569 (1979) requires the deployment of at least one (1) BNS in every barangay in the country to monitor the nutritional status of children and other nutritionally at-risk groups and link them with nutrition and nutrition-related service providers. PD 1569 also mandated the NNC to administer the program in cooperation with local government units.

Another important rationale in my proposed solution, in addition to utilizing food banks to address lack of access to nutritious food supply, is to make food banks profitable. I believe that the correct business model will enable correct institutions to stabilize this governance system. Just take a look at the business model of weight loss delivery meal. (Source: Healthline, 2022). Meal delivery services have become increasingly popular among health-conscious consumers and those following specific diets. In addition to being simple and convenient, many meal delivery services can:

- aid weight loss
- promote nutrient-rich eating habits
- make it easier to follow a balanced and nutritious diet

The same business model can be developed following food banks' quest for sustainable and nutritious food meals to families in urban areas.

CONCLUSION

As a society, we need to acknowledge that the population problems such as obesity and malnutrition are related to food insecurity caused by lack of access to nutritional food both for rural and urban areas.

There should be governance system in place to ensure access to food supply is available. Equality important are the access to education – on the importance of health awareness on food habits and culture – as well as access to opportunities that will create the urgency and the engagement between what is available and what should be available.

Develop systems that work both for the public and corporations. Legal requirements, mandates and profits have become a good common language for these entities.

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