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Philippines, Food Security

Helping the Philippines to Achieve Sustainable Food Security

The Philippines, an archipelago in East Asia, is comprised of more than 7,000 islands with a total population of nearly 110 million people. Having an overall total land area measuring 298,179 square kilometers, the Philippines is typically divided into three island groups: Luzon, Visayas, and Mindanao, or the northern, central, and southern regions, respectively (Central Intelligence Agency, 2018). A majority of its population resides in the northern region in the capital city, Manila or in the neighboring city, Quezon. The cities are crowded and the country is shifting towards more urbanization, but 52.5% of Filipinos still live a rural lifestyle, due in great part to the sheer number of small island communities and the efforts required to travel island to island.

Despite gaining its independence in 1946, the Philippines is still influenced by its historic ties to both Spain and the United States, which maintain several military bases in the region and impact the local economy (BBC, 2018). Spanish missionary efforts played a role in greater than 80% of the population today identifying as Roman Catholic and another 11% of the population identifying as Christian, but not Catholic. However, religious, social, and political differences between the dominant Roman Catholic tradition and the roughly 5.6% Filipino Muslim population has fueled nearly 40 years of conflict in the southern region of Mindanao. This conflict has displaced more than two million civilians and killed approximately 160,000 citizens since 1969 (Berkley Center for Religion and Georgetown University, 2008). The in-fighting and struggle for better representation within government has put the Philippines in an increasingly vulnerable position as terrorist groups like Al-Qaeda attempt to expand their power base. However, geography, history, religion, and military conflicts, both internal and external, are just part of the roadblocks Filipinos face as they work toward achieving improved food security and the elimination of malnutrition and dietary diseases.

In the Philippines, tradition dictates that family must be held in high regard. Often, parents and siblings will sacrifice for one another, so that one or two children might attend school or pursue higher education. However, the societal norm of children financially supporting parents in their old age puts a heavy burden on the youth of the nation. Also, concentrating monetary resources on one or two children is not a guarantee of success for them nor is it a guarantee that their success will be enough to pull the entire family up to a better economic level. The average family size of between 4 and 7 children would be a heavy financial burden even in many first world nations. Rural Filipino families generally have more kids than their urban counterparts and most Filipino families live with at least two generations following a patriarchal style with the oldest male making most of the family decisions (Council on International Educational Exchange, 2012). In rural areas, women are not only expected to take care of the children and household, but also to join the men in working the rice fields.

Persistent, pervasive, and generational poverty means that many teens and children must stop attending school, instead seeking work in more urban areas in sales, or as domestic servants (Council on

International Educational Exchange, 2012). They often send a large portion of their salaries back to their families left behind in rural areas. With no effective welfare or social security system, elderly Filipinos are completely reliant on their children and other relatives, to provide food and shelter. Consequently, this cycle of the young taking care of the old continues, and the rural population stays poor. New generations can barely provide for their current needs, much less save for their future “retirement” while shouldering the burden of supporting the older generations. Additionally, as this urban migration to find work continues, more and more families have set up illegal, makeshift dwellings. These shantytowns are cramped, set up along river banks or beside railroads, with no plumbing or basic facilities (Council on International Educational Exchange, 2012). These close quarters without proper facilities only increase the likelihood of spreading infectious diseases and waterborne illnesses.

Poverty, due to lack of education and sustainable farming or other jobs, directly contributes to malnutrition and dietary diseases (Malnutrition in the Philippines, 1982). In rural areas, most farmers can only afford small plots of land, that are insufficient in size to grow enough food to sustain their family for a year. Rice is the staple crop for Filipinos, much like potatoes were for the Irish. Lack of diversification of food, makes Filipinos especially vulnerable if their crops are destroyed or become diseased. In addition, they are not getting the appropriate meat or vegetable consumption necessary for proper brain development. Lack of protein and appropriate vitamins and minerals causes stunted growth and irreversible brain damage. In particular, micronutrient deficiencies such as iron-deficiency anemia and zinc deficiency play a role in infant mortality, “failure to thrive”, slower growth, and impaired immune system function (Zinc and Iron Nutrition Status in the Philippines Population and Local Soils, 2019).

Climate and weather create food security roadblocks, also. Malnutrition is compounded by widespread intestinal parasites and the tropical diseases that thrive in tropical climates. The National Institute of Health estimated in 1982 that anywhere from 5-10% of the nutritional value of foods eaten was lost to the effects of parasites and acquired gastrointestinal illnesses from unsafe water. Even today, this has not been eradicated, perhaps continuing to be prevalent in part due to the widespread practice of eating and preparing food with hands instead of clean utensils. Additionally, the Philippine climate results in extreme weather, where annually the islands are hit with an average of 5 to 6 typhoons (Central Intelligence Agency, 2018) These storms uproot crops and flood farms, making it nearly impossible to have secure and long-term food access.

In urban and metropolitan Manila, lack of food and jobs is not as severe as in rural areas. In many ways, it is the opposite, as more and more fast food chains open and gain in popularity. This has resulted in a concerning uptick of dietary diseases caused by “overnutrition”. Cardiovascular disease, high blood pressure, and type II diabetes will naturally increase with the increased consumption of poor nutritional value foods filled with high sugar, high carbohydrate, and hydrogenated oils. Nutritional education and introduction of healthier foods will be a key part of building true food security.

In thinking about solutions and recommendations, it seems important to use all available resources as effectively as possible. For years, financial aid has been directed towards the Philippines, but for many reasons and despite good intentions, it has not led to widespread improvements. In the United States, the United Way unites thousands of different charities, thereby streamlining the donation process and helping distribute funds effectively to member charities. Continuing to grow the United Way Philippines program, while also using experienced international charities like Save the Children and World Vision, is vital to making a sustainable difference. Also, whenever possible, nutritional and health educational

initiatives need to partner together. Here in Jacksonville, Florida, the Jacksonville Zoo often struggled, in the past, to bring in the donations needed to sustain and grow the zoo. However, when a decision was made to make it the Jacksonville Zoo and Gardens, the addition of over 1,000 varieties of plantings resulted in a unification of donor sources, even more annual memberships, and a much more beautiful and interesting venue to visit (Jacksonville Zoo and Gardens, 2020).

It is also key, when implementing changes or choosing possible solutions, to give priority to changes and solutions that would have multiple benefits. For example, biofortification of a staple crop like rice, in the Philippines, while essential to helping provide the micronutrients needed for children's proper growth and development, would also be helping provide higher yields and disease resistant crops. Higher yielding crops, drought resistance, and disease resistance that accompany biofortified crops would then lead to greater farming success even during severe weather or drought (Zinc and Iron Nutrition Status in the Philippines Population and Local Soils, 2019). This is a sustainable and cost-effective strategy that could reduce child morbidity and maternal mortality. Simply put, better food leads to better nutrition and better health. It is known that the average adult should consume 8 to 11 mg of Zinc daily and 12 to 28 mg of iron daily (Zinc and Iron Nutrition Status in the Philippines Population and Local Soils, 2019). These micronutrients are required at even higher levels for pregnant and lactating women.

Unfortunately, apparent lack of understanding about the far-reaching and long-term effects of micronutrient deficits and full-blown malnutrition has resulted in a seemingly slow response regarding the development of biofortified rice varieties. Right now, only two varieties, Zn rice, NSIC Rc₄₆₀, and Fe rice, NSIC Rc172 (MS,3) are available commercially for production, but more varieties are in final stages of testing and should be available in the next few years (Zinc and Iron Nutrition Status in the Philippines Population and Local Soils, 2019). Once these biofortified crops are developed and more readily available, both farmers and consumers will need to be educated about using these new varieties of rice. Gatherings could be held inviting farmers to see demonstrations of how to best use these crops, and classes could be held to educate cooks on better ways to cook and prepare the rice for maximum health and nutrition. Billions of dollars are lost every year worldwide, due to health issues like iron deficiency anemia and zinc deficiency. Using biofortified rice could become a highly effective way to improve nutrition and potentially enable many more people to consume the nutrients needed to live healthier lives with less nutritionally based disease.

Because the Philippines has a young population and about 70 % of households own a television, it seems that students and TV could both be used effectively to educate the newest generation who could then teach their parents and extended families (NDHS, 2008). Students in rural and urban areas need to be educated about nutrition and gardening. This could be done in school and via TV programming. Due to the wide accessibility of TV and social media, both would be appropriate platforms to disseminate information about healthy diets and nutrition. This could be accomplished in the form a cooking show, which could explain new ways of preparing meals that are actually more nutritious. Since women in the Philippines are still the primary cooks and caregivers, shows about nutrition and affordable cooking could help shift the nation to more nutrient dense options like brown rice. At the same time in cities, students and families could be involved in planting and tending one or two rows of a community garden and then be permitted to consume or sell the produce. As became the case during WWII, these "victory gardens" could be marketed as the patriotic thing to do. Programs, such as 4-H, could be established in rural areas

to bring together farmers and students. Public recognition at community events and on television, and even small monetary prizes or free admission to local events could be used to incentivize students to participate.

Since most rural or subsistence farmers in the Philippines struggle to make a profit and often fall short of even sustaining their family's food needs, encouraging formation of farming collectives, like coffee growers in other countries have done or like orange farmers here in Florida have done, could be a sizable help. A collective would be able to pool resources and have a greater share of the profits through price negotiation and the sharing of farming equipment and labor as it has in some Indian farming communities (Collective Farming a Boon to Small, Marginal Farmers, 2018). This would hopefully lead to greater efficiency in farming and higher production. Collectives might also empower farmers to be able to market directly to middle class consumers, restaurants, and resorts or hotels wanting to provide tourists with a "farm to table" dining experience, while allowing farmers to keep monies normally taken by "middle men".

Lastly, the frequency of natural disasters and lack of access to professional healthcare and clinics needs to be addressed. Farmers and healthcare workers could be incentivized to work for the greater good. For example, to help stabilize the coastlines of the islands and to create a protective barrier to mitigate damage caused by frequent natural calamities, mangroves could be planted. This would not only protect shorelines from erosion, but would also develop new diverse ecosystems, that could serve as an additional source of food for Filipinos. A wide variety of fish and crabs flourish in mangrove habitats, which could provide a source of protein to families who normally mostly consume rice. Planting these protective trees could be a part of a school project, in which children help plant and monitor the growth of the mangroves. Simultaneously, farmers could be subsidized to also plant the protective mangrove trees along the shores. Potentially, this could qualify as community service hours and be used as credit for college for students who participate. Farmers who contribute in donating plants could be compensated with tax cuts or more land.

The Philippines has a good healthcare system, but it is focused in urban cities, namely Metropolitan Manila (The Philippine Health System at a Glance, n.d). Without medical care and doctors in rural areas, families are left largely on their own to handle births and to suffer malnutrition. Incentives like student loan debt forgiveness and retirement benefits need to be offered to doctors and nurses willing to work in rural areas. This would help balance disparities in healthcare access and could accelerate the urbanization of the Philippines. In addition, the presence of more healthcare workers in rural areas could help in educating families about proper diet and nutrition. Meeting and interacting with medical professionals could help motivate children to attend school and to do well academically to become physicians themselves.

Clearly the solutions to food security and eliminating poverty are complex and interwoven. Encouraging charities to partner together, empowering students and farmers, reducing effects of annual typhoons, and getting healthcare resources to rural areas are the logical and feasible approaches to tackle these long existing problems. Finding ways to empower and educate the Filipino people, themselves, to be able to achieve food security and build their standard of living is critical to the betterment of our world.

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