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Malnutrition in the Philippines: An Approach Through Microfinance

In 2008, 20.70% of all children under the age of five had suffered from malnutrition at some point in their lives in the Philippines ("Philippines"). Despite the fact that malnutrition still persists in nearly a quarter of the population, this is an improvement from a 1975 survey, in which 45.4% of all children suffered from malnutrition ("Philippines: Malnutrition Prevalence"). In nearly thirty years' time, the Philippines has grown tremendously, with 52% of its labor force in the service industry, 33% in agriculture, and only 6.9% of its labor pool unemployed ("Philippines"). Despite these advancements, a plethora of factors—such as low living wages, lack of advanced education, improper consumption of nutrients, nonobservance of family planning (Smitasiri)—contribute to deplorable living standards and malnutrition. Extensive years of research by government facilities suggest that malnutrition in the Philippines is highly correlated with interrelated factors of health, physical, social, economic, and limited market options of varied food products ("Health and Nutrition", 1-2). Additionally, a lack of advanced education and failure to practice family planning leads to children that families cannot afford to feed (Smitasiri); 1.5% of all children under the age of five die from malnutrition (Yoon, Paula W., *et. al*). Microfinance provides families with the means to address the economic side of malnutrition. With the aid of mobile phone technology, microfinance has the potential to increase the supply of both labor and economic production. Other benefits include development of local entrepreneurship, which leads to increased and varied supplies of affordable foods. The additional income accrued can be used to finance other ventures, creating a model of self-sustaining economic growth (Stieglitz). Taking these factors into account, microfinance ought to resolve the current dilemma of malnourishment, which stems from poverty, limited access to capital, and lack of educational awareness regarding nutrition and family planning. The Philippines needs to harness its growing economy by improving the living standards of its youth and the dietary educations of its citizens, increasing access to a variety of low-cost nutritious foods, and alleviating income inequality while continuing to stimulate its economy.

In the Philippines, a typical diet consists mainly of rice and other cereals; this is problematic as rice is an incomplete protein—other sources of protein are needed for a complete diet. Families occasionally supplement rice with vegetables, but only when they are able to afford them. Inconsistent intake of vegetables is a primary cause of micronutrient deficiencies such as a lack of vitamin A and iron ("The FNRI Pyramid: Daily Eating Guide for Filipinos"). Because poverty-stricken families cannot afford enough food, they often water down their rice to economize, creating a kind of porridge. Supplementing the rice with water fills their stomachs, temporarily satisfying hunger, but greatly limits their caloric intake (Gupta). Inadequate nutrient intake can induce the body to consume present stores of proteins, leading to protein-energy malnutrition (PEM) syndrome. In Manila and other urban cities in the Philippines, PEM remains a severe problem, especially amongst pregnant women. Many of these women are affected by iron anemia, which physically weakens both mother and child and leads to labor complications and potential mortality for both mother and child ("Philippines Summary," 1-2).

The NCHS/WHO uses three different growth proportions to measure malnourishment: underweight (weight for age), stunting (height for age), and wasting (weight for height); a child is considered malnourished if any measurement is less than two standard deviations from the population mean ("Philippines Summary"). Using these standards, a 2010 Food and Agriculture Organization (FAO) study found that four million preschool-aged children were considered underweight. While these results indicate that malnourishment in the Philippines has declined within the last decade, it still remains a prevalent issue ("Philippines Summary"). For example, despite recent reports that suggest that Filipinos

have adequate food security and accessibility through wet and dry markets (i.e. selling fresh/raw foods and dry goods, respectively) and small convenience stores called “sari-sari” (“variety” in Tagalog) stores (Roache 1-10), most of the Philippines’ 28 million citizens— the vast majority of whom are living below the poverty line— go hungry and become malnourished (“Philippines Summary”) because they cannot afford to buy food.

According to the 2010 census, an average Filipino household consists of 4.6 persons; each household is typically a family composed of a father, mother and two to three children (“Household Population of the Philippines Reaches 92.1 Million”). As the main source of income, the average Filipino male receives a minimum wage ranging from 3.30 USD per day to 10.37 USD per day; while higher than in neighboring countries, this wage is still well below the poverty line of 15 USD per day for a family of five (Pastrana). Family incomes are a strong proxy to measure economic purchasing power for staples, such as varied and nutritious foods, in the Philippines. With an average family income of 206,000 PHP (5,048.40 USD), many Filipinos lack the funds to buy diversified foods (“Family Income”). This is due in part to government corruption; political elites in power have embezzled resources, depriving most low-income Filipino families of purchasing power (Roache, 1-10).

Filipino women are an untapped economic resource in alleviating the malnutrition crisis. While Filipino women receive, on average, twelve years of education (“Philippines”), studies from the 2008 National Demographic and Health Survey suggest that as women become more educated, they are less likely to want children, become more willing to use contraception, and will bear children later in life (“Philippines 2008 National Demographic and Health Survey Key Findings” 1-13). Increased access to and improvements in education can ultimately reduce the number of malnourished infants. If women were to pursue a greater degree of education rather than marry at a young age, they could potentially gain more opportunities and contribute a greater share to family income; additionally, fewer children translates to a smaller household, which means that income is divided among fewer people. According to a 2008 study conducted by Professor Fiscalina Amadora-Nolasco of the University of San Carlos, women surveyed blamed a lack of education as the root of many of their problems, along with their living environments (92-106). On many occasions, the women felt extraordinary pressures because of lack of income and fear of demolition owed to unclean neighborhoods. In coastal regions, where fishing constitutes a major sector of the economy, pollution had adversely affected the population of fish in the fishing grounds. “Indiscriminate disposal of garbage in the sea” had led to “[u]nsanitary surroundings... in some areas, garbage ha[d] piled up and accumulated beneath the dwelling units so that during high tide, the sea [was] hardly visible in certain areas.” This not only limited incomes within the fishing community and harmed the local economy, the unsanitary living conditions were believed to “contribut[e] to the high incidence of illnesses of children in the area.” Locals, already struggling financially, would be unable to afford proper medical treatment. Many women’s health had been directly affected by concerns over their children’s well-being, which undermined their ability to help supplement their husband’s incomes (92-106). The pollution also gave rise to fears of “slum clearance;” community members feared that the government would level the area, leaving them without anywhere to live and their children without proper educational institutions (Amadora-Nolasco, 92-106). Loss of educational opportunities is particularly detrimental to low-income girls; women with only elementary education tend to start families at a much younger age and have twice as many children on average as their college-educated counterparts, translating to a greater number of dependents to feed and care for and greater financial strain for households.

Low-income Filipino women have many children and closely-spaced births as a result of poor family planning, attributed to male-spousal demands for controlled sexual relations and limited social rights for women (Amadora-Nolasco, 92-106). Only two out of five Filipinos have access to healthcare, which provides families with contraception. Although family planning is widely known among Filipino women, only half of all married women use family planning (“Philippines 2008 National Demographic and Health Survey Key Findings,” 1-13). Amadora-Nolasco highlights several reasons for this:

Having many children and closely-spaced births... was attributed primarily to husbands' opposition to family planning or failure to use contraceptive methods for fear of side effects. Women reported that their husbands thought that the pill increases women's craving for sex and that it causes chest discomfort. Tubal ligation was also said to intensify women's sex drive, and the intrauterine device or IUD was believed to cause abdominal pains. When asked who in the family is most likely affected by having many children as a result of non-adoption of family planning methods, the women were one in saying that the children will suffer the consequences, and just like their parents, they too will not be given the opportunity to obtain college education. In effect, 'the children will find it difficult to live better lives' (Amadora-Nolasco, 96-97).

Women are also constrained by their traditional roles as the main caregiver for children while men are traditionally the decision-makers of the family. It is therefore critical that women gain increased and improved access to education and healthcare. Women have gained some victories; recently, with the rise of feminism, women are becoming increasingly independent, reshaping their local economies with new ventures of entrepreneurship through microfinancing, albeit with limited social rights (Morduch, 1569-1614).

Microfinancing is beneficial to low-income and developing communities, particularly women, as it creates self-sustaining economic growth and provides opportunities that might not be available through traditional monetary institutions. Microfinance is a system of financial services for low-income entrepreneurs in places with limited access to banking services; through programs such as Kiva, individuals are able to make "micro"-sized loans (in increments of 25 USD, for example) to small business owners in developing countries, with the idea that small loans are more easily obtained and repaid. As loans are repaid, financiers can continue re-lending to other businesses, perpetuating the cycle. Because loans are provided in such small amounts from a large pool of lenders, the risk to investors is diluted; this is significant as the risk of default is higher in developing economies. With the aid of contemporary technologies, such as mobile phones, rising entrepreneurs— especially women— have improved access to money management services that support small businesses for production, logistics, marketing of products such as vegetables, and new access to capital ("About Microfinance"). According to Dr. Dyno Keatinge, Director General of the World Vegetable Center in Taiwan, "Vegetable growing, vegetable selling, vegetable marketing is women's business in the developing world. And therefore anything we do to help women improves women's health and improves women's empowerment" (Coelho, and Rasper). Despite international enthusiasm for microfinancing, especially amongst women, microfinance is not a cure-all solution for reducing poverty and malnutrition in the Philippines; aid from other groups is needed (Llosa, Alvaro, 247-68).

One program that helps alleviate malnutrition includes the Positive Deviance/Hearth (PD/Hearth), which has been active since 1982 by Save the Children/USA PD/Hearth; a community-based organization (CBO), PD/Hearth combats malnutrition with a continual emphasis on health education (Gupta). Through progressive education, their mission is to teach enrolled families— especially mothers— the importance of proper feeding techniques so as to lower rates of malnutrition and life-threatening illnesses related to malnutrition. Mothers are taught to avoid damaging practices used in the community, such as not washing hands or vegetables before cooking. Additionally, community leaders, or Positive Deviants, are trained to teach the program and provide checkups on families. Every mother enrolled in the program is then asked to contribute to the program by donating ingredients used in class, or, if they are unable to afford to contribute vegetables, mothers are asked to help clean or cook; this builds a greater sense of community between the mothers. The results have been dramatic: pilot programs showed a mean percentage of 50% improvement among undernourished children. Because PD/Hearth is a community-based approach, it is also community-specific, which can lead to some minor problems due to differences between communities. However, the programs are cost-effective and affordable and allow for the integration and involvement of community leaders and local government officials (Gupta). Furthermore, communities involved in the program have responded positively to the initiatives and classes. But what else can be

done to strengthen such efforts? In addition to non-profit organizations being actively involved, the government can provide funding to increase the number of PD/Hearth programs, or implement similar programs with relative ease because the program can run on little funding and is easy to continue within the community. Unfortunately, government support of programs such as PD/Hearth may not be possible in the Philippines due to weak tax collection and the implementation of tax breaks and incentives. The government's limited financial resources have hindered its efforts to address major issues. The primary means by which Filipinos can improve this situation is through voting of elected officials; for instance, the political climate has improved somewhat with the 2010 election of President Benigno Aquino, whose "No corruption, no poverty" campaign has spurred a drop in government deficit. Deficit-reducing procedures, however, have further limited the government's ability to raise and spend funds on programs. Additionally, the Aquino administration is intent on remedying the current fiscal inefficiency by improving and reforming the tax collection system rather than faster solution of imposing new taxes ("Philippines Summary"). Thus, microfinance remains one of the most attractive options, as it provides direct resources and capital to women, allowing them to have a greater sense of self-improvement via socio-economic empowerment and greater power to limit malnutrition through access to newly emerging vegetable markets.

According to emerging studies, microfinancing has the potential to relieve poverty through reverse or "trickle-up" innovation, in which advanced technologies are developed first in emerging economies rather than in advanced (particularly, Western) nations, as they are traditionally. Developing countries can also utilize techniques such as vertical gardening to address economic and nutritional problems. Vertical gardens allow families to grow a variety of vegetables in a spatially efficient manner; the technique employs a circular plastic drum with holes cut out of the sides to grow a variety of plants. "The drum provides more than six times the surface area of the top surface of the container for planting and growing vegetables" (Yusuf). The impact has been revolutionary; families gain a source of food that complements the incomplete protein of rice and can sell excess foodstuffs in their businesses, increasing the supply of nutritious foods in the market (Llosa, 120-62). Through this process, microfinance allows women to engage in business development and initiate their own businesses, elevating their role as monetary contributors to their families and providing income to spend on their own healthcare (Bisgrove, and Popkin). Microfinance stimulates the economy by providing new jobs, improves living standards by increasing fiscal stability, and introduces a supply of varied nutritious foods to families (Vijay, Govingarajan, *et. al*, 3-7).

Multiple independent studies by Yale University highlight the benefits of bridging entrepreneurship and education. As discussed in studies by the Innovations for Poverty and Jameel Poverty Action Lab, headed by Martin Valdivia, emerging entrepreneurs need to be critically aware of the development of human capital and financial planning; gaps in knowledge can be resolved with additional supplemental workshops (Martin, 1-45). As demonstrated by tests in Peru, such a program can be unilaterally incorporated in different developing regions around the world with dramatic results. For example, the impact of formalizing business in Peru has encouraged budding micro-financed entrepreneurs to open new markets, speeding up the formalization of globally interconnected pathways for international trade. This has paved the way for larger financial institutions to establish credit in these regions (Martin, 1-45).

Thus far, micro-credit has opened up new pathways for budding entrepreneurs to receive microfinancing that they would otherwise never have received—*i.e.* in the form of government and/or formally established private bank loans (Llosa, 55-120). Such efforts have been praised by Harvard University Professor and Nobel Prize Winning economist Muhammad Yunus: "Of these 7.2 million borrowers... 97 percent are women. For them, a bank account is something unheard of. Now not only [do] they have a bank account, 67 percent of the total deposit comes from their own money... And our idea is, of the 7.2 million families that we have, at least these children will not go back to the same level that their parents were—who lived in the cycle of poverty" ("Q & A with Muhammad Yunus," 1-4). Studies and

pioneering programs from Columbia University suggest that mobile access to credit from independent and private non-governmental organizations have opened additional resources, allowing women to further develop their agricultural businesses with modern efficiency. Women can now exchange knowledge with developed nations and peers in their own country and have easy access to greater loans, the formalization of establishing credit, and the ability to order new parts and components for developing their capital resources (Stieglitz). As noted by Nobel Prize-winning economist Joseph Stieglitz, who has championed for further development of international microfinancing, including within the Philippines:

Markets, government, and individuals are three of the pillars of successful development strategy. A fourth pillar is communities, people working together, often with help from government and non-governmental organizations. In many developing countries, much important collective action is at the local level...The micro-finance model used by BRAC and Grameen has been copied all over the world. What makes their programs so successful is that they come out of communities they service and address the needs of the people in those communities (Stieglitz).

Microfinance can stimulate developing economies, strengthen community bonds, and empower women beyond traditional female roles.

Microfinance has emerged as a dynamic catalyst in developing nations such as the Philippines, offering new entrepreneurial opportunities, especially for women. Filipino women are an untapped economic resource with the potential to emerge as a motivated and socio-economically enfranchised demographic. By improving and increasing female access to education and healthcare, Filipino women can continue making strides, gaining economic empowerment and social mobility. Through innovations such as vertical farming in urban areas, female entrepreneurs can open up access to low-cost, locally grown, and varied vegetables for many Filipino families. The low-income demographic will especially stand to benefit; as the availability and range of foods increases, the populace will reap the benefits of a healthy balanced diet, reducing protein deficiencies and other issues connected to malnutrition. This is an especially critical issue among children and youth, a segment of the population particularly hard-hit by malnourishment. New mobile phone technology can aid in increasing the exchange of critical knowledge, spread the wireless development of human capital, and help provide easy access to micro-credit. Micro-credit initiatives offer possibilities for sustained economic growth; diluted investor risk means that there is potential to attract small-scale financiers and create a global network of micro-loaning and borrowing. Programs in microfinancing can be hugely promising for the people of developing countries, empowering them to become more independent. This is particularly significant in nations such as the Philippines, in which government funding is not always available to aid the economically disadvantaged. Organizations such as PD/Hearth can be powerful agents of change, as they are community-based, community-driven, and economically sustainable, promoting progress starting from a local level and strengthening existing bonds within families and communities.

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