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Dominican Republic, Factor 11: Malnutrition

Malnutrition in the Dominican Republic

According to the UN's Standing Committee on Nutrition, malnutrition "is the single largest contributor to disease in the world" ("What is Malnutrition?", WFP). Malnutrition is the lack of nutritious food or not having enough to eat. It can lead to stunted growth, impaired learning abilities, weak immune system, osteoporosis, muscle weakness, and many other problems based off of the nutrients the body is lacking. In pregnant mothers, it can also lead to stillbirth, miscarriage, and other complications (Acevedo, "Childhood Malnutrition"). In the Dominican Republic, this is a large issue that affects numerous urban families, as well as many rural families. With 20% of the entire population living in extreme poverty, and an increasing population, this issue is becoming more prominent with every passing day (Lamm, "Poverty in the Dominican Republic"). This report will discuss the numerous factors contributing to malnutrition in the Dominican Republic, such as poverty and the lack of education. Potential solutions will also be proposed, including urban gardens, furthered education, and an increase in agricultural technology.

In the Dominican Republic, the average household size is 3.9 as of 2002, with two children and two adults ("Dominicana On Line", Global Foundation). On the other hand, there are still many families in both urban and rural areas that have five or more people in a single home. More than one-third of the entire population is 15 years old or younger (González, "Dominican Republic - Demographic Trends"). According to Trading Economics, the rural population growth has decreased by 3.2% between 2010 and 2014. As of 2014, the urban population was at 8.1 million, and the rural population was at 2.3 million ("Rural Population (% of Total Population) in Dominican Republic."). Since there has been a large increase in rural to urban migration, families in the Dominican Republic are struggling to get access to healthier foods, such as fresh fruits, vegetables, and meat. Today's Dominicans are more disconnected from agriculture and do not have the opportunities to grow their own food; much of the agricultural land is unavailable for growing domestic food. There are less rural gardens, and many fields and farms have been altered for livestock or for exported crops (Campbell, "Food Lessons from the Dominican Republic - Nutrition Studies.").

Primary education is free for children between the ages 7 and 14, but children in isolated areas struggle to find proper schooling. In the small community La Piedra, school has become a very prominent project. The school, which was founded in 2014, provides nearly 100 children with free education and meals five days a week (Hernandez, "Guanin"). In this case, education is literally saving families. The social security system in the Dominican Republic offers help to support the elderly and disabled, along with benefits for death and those who are pregnant. On the other hand, few Dominicans have additional health insurance. Due to poor sanitation, malnutrition, and inadequate housing, infant mortality is high and diseases are common.

The average monthly wage in the Dominican Republic is 13,425 Dominican pesos, or about \$295 USD ("Salary Survey in Dominican Republic", Salary Explorer). Of the working Dominican population, 17% work in agriculture, 24% in industry, and 59% in services and government. The unemployment percentage is currently at 17% (Kester and Bjørnlund). In 2012, it was found that more women were unemployed than men, with 21.5% unemployed women and 10.1% unemployed men ("Dominican Women Still Lag Behind in Gender Equality", Dominican Today). Employment of children under 14 is illegal, but poor conditions force many children to work in order to support their families. According to the GDI (Gender Development Index), the estimated annual income for female workers in 2014 was only

\$8,860 USD; the estimated annual income of males in the Dominican Republic was \$14,903 USD (“Human Development Reports”).

The access to community and private gardens has decreased dramatically, since more people are now living in crowded urban areas. Larger metropolitan areas on the coast have access to supermarkets, while other smaller urban areas have smaller grocery stores and specialty shops. Food, on average, is more expensive in the Dominican Republic than the United States because the majority of it is imported (“Expat Focus”). The higher cost of food and difficulty of access results in more Dominicans trying to become self-sufficient growers.

There are numerous barriers to improving food security. For agriculture, the productivity of most crops is below 50% due to outdated practices and little access to new technologies (“Dominican Republic to Improve Agricultural Productivity of Small Farmers with \$22 Million IDB Loan.”, IDB). Dominicans have the abilities to maintain their own gardens, but many don’t have the space, resources, or irrigation in order to sustain a garden. Select families have access to adequate nutrition, but many cannot afford these foods available to them. About 10% of children suffer from chronic malnutrition (“10 Percent of Children”, Dominican Today); malnutrition within the first 1,000 days of a child’s life can lead to stunted growth, which is irreversible (“Stunting”, UNICEF). Malnutrition has a large impact on the poor because these are the people that cannot afford nutritious foods. This factor is measured by anthropometric, clinical, and biochemical indicators. There has been a slight improvement over the past few decades, but there is still a great population of people living with malnutrition and poverty in the Dominican Republic.

By improving or resolving malnutrition, Dominicans would have a smaller risk of contracting deadly diseases. There would be a reduction in birth defects and developmental problems, which means that future generations would be more able to get a life-sustaining job. Infections are also much more common because the body is not healthy or strong enough to fight off the infections. Improving or eliminating malnutrition for urban families would help the productivity of the cities and their businesses by ensuring that the population is able to work.

Population growth will be a great issue that will affect, and currently does affect, malnutrition. Currently, the population is around 10.6 million people. As the population of the Dominican Republic grows, there will be fewer resources available for those living there. Water scarcity is also an issue that will affect malnutrition. Without enough clean water, crops will struggle to grow; there will not be enough food to decrease the percentage of those malnourished in the Dominican Republic. Another issue that affects malnutrition is the high percentage of unemployment in the Dominican Republic. This loops back to the issue of people not being able-bodied to work; if these people cannot work, they do not have enough money to purchase food, and become even more malnourished. This turns into a never-ending battle for many citizens in the Dominican Republic.

There are numerous arguments as to whether lower food prices and food distribution to those in need could eliminate malnutrition and hunger. Simply distributing food may seem like the obvious solution to the Dominican Republic’s malnutrition issue. In reality, mass-distributing food to other countries would be overwhelming and practically impossible to accomplish. Even if we could develop ways to efficiently ship food to those in need, there would be the issue of preserving the food and keeping the costs down. Additionally, low food prices could critically affect the farmers that are producing the food. Runge, Senauer, Pardey, and Rosegrant in *Ending Hunger in Our Lifetime* state that, “increased food production and low food prices are not sufficient to end hunger. Hunger today is less a problem of general food availability than of access” (15).

In order to increase food security in urban areas in the Dominican Republic, each city and town could have numerous community gardens for families to care for and eat from. Community gardens would help feed families suffering from malnutrition and could also be used as an educational opportunity for families to learn about balanced meals and proper nutrition. Each garden could also have small livestock, such as chickens. The eggs could be used as a quick protein source, and any hens who aren't laying could be used as another food source. The chicken manure can also be used as a natural fertilizer for the gardens. Additionally, gardens can lead "to increased self-esteem among women, who are more likely to be the tenders of the gardens" (qtd. in North 19). Dr. Joe Mamlin started his own gardens and farms in Kenya to help feed his AIDS patients, who needed the extra nutrition in order for the AIDS drug to work (Thurow & Kilman 159). Similar gardens could be started in the Dominican Republic, specializing in a variety of produce that will survive in the tropical climate year-round.

A short-term solution could be nutritious packets of peanut butter called Plumpy'nut. This solution has been used in Africa, with successful results (Thurow & Kilman 236). Plumpy'nut could be used for urban families suffering from malnutrition while the gardens are being set up. Another possible way to increase food security could be using less grains and cereals to feed livestock. Livestock are able to eat in areas that are not suitable for crops, and they also have the ability to digest rough grains that humans can't eat. There has already been a slight decrease in the use of cereals for feeding livestock in recent years; this helps countries provide more cereals and processed grains for their citizens (Runge, Senauer, Pardey, & Rosegrant 54).

As a possible long-term solution, sweet potatoes could be pushed more in the Dominican Republic. According to the International Potato Center, sweet potatoes "can grow at altitudes ranging from sea level to 2,500 meters", require "fewer inputs and less labor than other crops such as maize", and tolerate "marginal growing conditions". This crop would be very reliable and provide many necessary nutrients. Sweet potatoes supply good amounts of vitamins A, B, C, and E, as well as a bit of zinc and iron ("Sweetpotato Facts and Figures"). Sweet potatoes can also be processed into many other products, such as juice, flour, chips, noodles, bread, and candy. Additionally, sweet potatoes can be used a cheap and healthy food source for livestock. The International Potato Center states: "Recent studies suggest that animals fed on high protein sweet potato vines produce less methane gas than with other feed, potentially contributing an important reduction in harmful global emissions." Sweet potatoes are beneficial for human consumption, as well as for livestock to feed off of ("Sweetpotato Processing and Uses").

Another long-term solution could be bringing in new agricultural equipment to make farming easier. While full-sized tractors that need lots of maintenance may be unnecessary, newer plows and seeds would make crops more successful. Continued diversification of crops is also important; according to the MIT Media Lab, the Dominican Republic exported \$10.7 billion and imported \$17 billion in 2014. While 80% of the Dominican Republic's land is suitable for farming, most of it is used towards exported crops, such as sugarcane, coffee, bananas, and tobacco. The leading imports are petroleum products, as well as many types of produce. The increase of imported food raises the prices within the country, which makes purchasing food much more difficult. This leads to poor health, hunger, and malnutrition; it also can cause negative effects on the economy, such as the negative trade balance of \$6.3 billion that they experienced in 2014 ("OEC - Dominican Republic", MIT Media Lab).

The Dominican Republic government and other organizations could supply communities and cities with funding, resources, and learning materials to start the gardens and encourage families to keep the gardens functioning. The government could set aside money that will go towards educating urban families about growing gardens, as well as supporting the first few test gardens in different cities throughout the Dominican Republic. Urban families, and even rural farm families, can be key players in this project by learning more about agriculture and how to maintain crops and animals. They can then use this knowledge to keep the gardens alive, and pass the knowledge down to their children. In fact, a study

done in 1998 by 2020 Vision found that the education of mothers was “by far the most important reason why child malnutrition decreased by 15.5 percent between 1970 and 1995” in 63 third-world countries (McGovern 86).

Additionally, a study done by ENDESA in 2007 “found that 15.4% of children of mothers with no education suffered from chronic malnutrition, while 9.4% and 4.7% in children of mothers with secondary or higher education levels respectively” (Acevedo, “Childhood Malnutrition”). There is an obvious linkage between a mother's education and her child(ren)'s health, as well as poverty. If a mother has a higher education, she has a greater chance of being hired for a job that will pay more. Therefore, a higher income will make shopping easier for the mother and her family, as well as reduce general stress in their daily lives.

While there has been a slight improvement in the malnutrition and poverty percentages in the Dominican Republic over the past few decades, it is still a major issue that needs to be addressed. Education is a big factor leading to malnutrition, as many people do not know much about balanced diets. The general education of mothers is also important, as it statistically reduces the chance of her child(ren) being chronically malnourished. Another factor leading to malnutrition is the low monthly income of families, which is not enough to regularly buy expensive, nutritious foods. Teaching urban families how to maintain a garden and care for livestock could save numerous lives, such as with community gardens. Additionally, new agricultural technologies could help improve the crop yields in the country. While mass-distribution of food is not a possible solution to ending malnutrition, short-term solutions, like Plumpy'nut, could provide extra nutrients in extreme times of need. If urban families, the government, and other aid organizations work together, malnutrition in the Dominican Republic could eventually be eradicated.

Works Cited

- "10 Percent of Children in Dominican Republic Suffer from Malnutrition." *DominicanToday.com*. Dominican Today, 18 Apr. 2015. Web. 20 Mar. 2016.
<<http://www.dominicantoday.com/dr/poverty/2015/4/18/54828/10-percent-of-children-in-Dominican-Republic-suffer-from-malnutrition>>
- Acevedo, Loreta. "Childhood Malnutrition." *UNICEF Dominican Republic*. UNICEF, n.d. Web.
<http://www.unicef.org/republicadominicana/english/survival_development_12567.htm>
- Campbell, LeAnne. "Food Lessons from the Dominican Republic - Nutrition Studies." *Center for Nutrition Studies*. T. Colin Campbell Center for Nutrition Studies, 28 Feb. 2015. Web. 20 Mar. 2016.
<<http://nutritionstudies.org/lessons-from-dominican-republic/>>
- "Dominican Republic to Improve Agricultural Productivity of Small Farmers with \$22 Million IDB Loan." *IDB*. IDB, 15 Nov. 2012. Web. 20 Mar. 2016. <<http://www.iadb.org/en/news/news-releases/2012-11-15/agricultural-productivity-in-dominican-republic,10217.html>>
- "Dominican Women Still Lag behind in Gender Equality." *Dominican Today*. N.p., 7 Mar. 2012. Web. 10 July 2016. <<http://www.dominicantoday.com/dr/economy/2012/3/7/42890/Dominican-women-still-lag-behind-in-gender-equality>>
- "Dominicana On Line." *Dominicana On Line*. Global Foundation, n.d. Web. 20 Mar. 2016.
<http://www.dominicanaonline.org/portal/english/cpo_familia.asp>
- "Expatriate Focus." *Dominican Republic*. ExpatFocus, n.d. Web. 20 Mar. 2016.
<<http://www.expatriatefocus.com/expatriate-dominican-republic-cost-of-living>>
- González, Nancie L. "Dominican Republic - Demographic Trends." *Encyclopedia Britannica Online*. Encyclopedia Britannica, n.d. Web. 20 Mar. 2016. <<http://www.britannica.com/place/Dominican-Republic/Demographic-trends>>
- Hernandez, Severino. "Guanin." *Guanin*. Wix.com, n.d. Web. 20 Mar. 2016.
<<http://guanin.wix.com/guanin>>
- "Human Development Reports." *Gender Development Index*. United Nations Development Programme, n.d. Web. 8 July 2016. <<http://hdr.undp.org/en/composite/GDI>>
- Kester, Boris, and Nana Bjørnlund. "Dominican Republic - Jobs." *Jobs in Dominican Republic*. Visual Geography, n.d. Web. 20 Mar. 2016.
<<http://www.visualgeography.com/categories/dominicanrepublic/jobs.html>>
- Lamm, Stephanie. "Poverty in the Dominican Republic." *The Borgen Project RSS2*. The Borgen Project, 10 Feb. 2014. Web. 20 Mar. 2016. <<http://borgenproject.org/poverty-dominican-republic/>>
- McGovern, George S. "Women and Girls." *The Third Freedom: Ending Hunger in Our Time*. New York: Simon & Schuster, 2001. 86. Print.
- North, Christine L. "Improving Childhood Nutrition in Rural Dominican Republic." *Wright State University*. Wright State University, 2012. Web.
<<http://corescholar.libraries.wright.edu/cgi/viewcontent.cgi?article=1102&context=mph>>

"OEC - Dominican Republic." *OEC - Dominican Republic*. MIT Media Lab, 2014. Web.
<<http://atlas.media.mit.edu/en/profile/country/dom/>>

Runge, C. Ford, Benjamin Senauer, Philip G. Pardey, and Mark W. Rosegrant. *Ending Hunger in Our Lifetime - Food Security and Globalization*. Baltimore: John Hopkins UP, 2003. Print.

"Rural Population (% of Total Population) in Dominican Republic." *Rural Population (% of Total Population) in Dominican Republic*. Trading Economics, n.d. Web. 8 July 2016.
<<http://www.tradingeconomics.com/dominican-republic/rural-population-percent-of-total-population-wb-data.html>>

"Salary Survey in Dominican Republic." / *Salary Comparison*. Salary Explorer, n.d. Web. 20 Mar. 2016.
<<http://www.salaryexplorer.com/salary-survey.php?loc=61&loctype=1>>

"Stunting." *UNICEF STATISTICS*. UNICEF, Oct. 2015. Web. 20 Mar. 2016.
<<http://data.unicef.org/nutrition/malnutrition.html>>

"Sweetpotato Facts and Figures - International Potato Center." *International Potato Center*. N.p., 20 July 2011. Web. 9 July 2016. <<http://cipotato.org/sweetpotato/facts-2/>>

"Sweetpotato Processing and Uses - International Potato Center." *International Potato Center*. N.p., 04 Apr. 2011. Web. 9 July 2016. <<http://cipotato.org/sweetpotato/processing-uses-2/>>

Thurow, Roger, and Scott Kilman. "Take With Food; Getting Down to Business." *Enough: Why the World's Poorest Starve in an Age of Plenty*. New York: PublicAffairs, 2009. 159+. Print.

"What Is Malnutrition? | WFP | United Nations World Food Programme - Fighting Hunger Worldwide." *What Is Malnutrition?* World Food Programme, n.d. Web. 20 Mar. 2016.
<<https://www.wfp.org/hunger/malnutrition>>