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Timor-Leste, Malnutrition

Timor Leste: Malnutrition in Multiple Occurrences

Food is oftentimes taken for granted in more developed countries such as the United States where hunger can quickly be solved by grabbing a granola bar from the pantry. The access to healthy food, as well as unhealthy food in developed countries is seen as normal. This is not the reality in less developed countries such as Timor-Leste where malnutrition is a prominent aspect of life. The ability to obtain food which is nutritious and beneficial to one's body should be a right given to all. Hunger and malnourishment should not be limiting factors in one's ability to succeed and grow. Food should be used to empower and create, not disenfranchise and undermine.

To understand the concern and effects of malnutrition in Timor-Leste it is important to first examine the country itself and its culture. Timor-Leste, also known as East Timor, is an island located in the Timor Sea, north of Australia and east of Indonesia. The country has a monsoonal climate similar to that which both India and Bangladesh experience. With this particular climate Timorese are subject to distinct rainy and dry seasons that occur each year (The World Factbook: Timor-Leste). The topography is almost exclusively mountainous leaving only 25.1% (East Timor - Agricultural Land) of the total land area, 14,874 square kilometers, available for agriculture. The limited space that is used for farming produces predominantly coffee, sugar beets, and cane (Timor-Leste). Agriculture accounts for 25% of the country's GDP, as well as provides jobs for 75% of the working class (East Timor Country Profile). Despite the country's rich history and culture, it is a relatively new country in comparison to others in world history. It received its freedom from Indonesia in May of 2002, after having fought a long battle to become a sovereign nation of its own. In regards to the country's leadership structure, Timor-Leste operates under a semi-presidential republic (The World Factbook: Timor-Leste). Average wages are very low at only \$115 U.S. per month (Timor Leste Minimum Wage Rate 2019). In the United States, a family of four could easily spend \$115 on a single dinner at a fine-dining establishment. The Timorese have a government health care system with a free at the point of use set up (Determinants of Health Care Utilisation). Out of approximately 1,300,000 residents of Timor-Leste, just 30% of the population live in urban areas (The World Factbook: Timor-Leste). The common dwellings that Timorese people reside in are houses on stilts referred to as Fataluku homes (Timorese People & Culture). These homes are thatched and tapered high to showcase their specific cultural identity. Similar to many developing countries, large families, and in turn high birth rates are the norm of Timorese people. The diet of the Timorese is not rooted in high quantities of protein but rather large amounts of rice, tropical fruit, root vegetables, and corn (Food of East Timor). The Timor-Leste people's access to modern necessities is severely limited, compared to the developed countries of the world. For example, only 41.5% of the population has electricity (East Timor - Access to Electricity). Over half of the population does not have cell phones (Overview) or a decent toilet (Timor-Leste). In addition to these numbers, research shows that over a fourth of the population -- 353,000 people -- do not have access to potable water (Timor-Leste). These numbers, when compared to the United States, clearly show the obvious struggles faced by the Timorese and we can see factors that could contribute to malnutrition in the population.

Timor-Leste faces a challenge in regards to the improper nutrition of its population. There are three main causes that plague the country which fuels its struggle filled relationship with food. Firstly, citizens of this

country do not have the ability to access alimentative foods that are valuable in their diets. One of the reasons that resources are difficult to obtain and not widely available to them is a result of the crude road conditions within the country. These units of transportation are scarce and severely hinder the rural dwellers' access to the few markets there are. The current roadways that have been built are unsafe to travel on and remain unfinished (Timor-Leste's Telecommunications Sector). Timorese are unable to simply hop onto a road or highway and exploit stores like Walmart or Target where food is abundant and always in stock. The markets are limited in number as well as the options of food they have. Without convenient acquisition of food, malnourishment is commonplace. However, it isn't only just the inadequate roads that account for the problem with food in Timor-Leste. The diet of the Timorese has shaped a societal eating pattern that minimizes the focus on foods essential to their diet. Poor diets with nutrient deficient food hampers proper growth, contributes to the severe stunting and impairs cognitive development of the brain. 50% of the children under five suffer from chronic malnutrition/stunting, meaning the impaired growth and development (Timor-Leste: Nutrition Profile). With the lack of emphasis on a balanced diet, the Timorese experience a massive shortage in iron and consequently have a devastatingly high child population that is 40% anemic (Timor-Leste: Nutrition Profile). In concurrence with improper nutrition, women and children are most adversely affected. Women's health and wellbeing oftentimes are minimized and not taken into account in Timor-Leste. The fertility rate as of 2016 was 5.5 (The World Factbook: Timor-Leste), a high number that is typical for developing countries. However, with young women becoming pregnant quickly and having multiple births while their bodies are not nourished, nor physically ready to do so, the risk factor for giving birth increases greatly. Therefore, 42% of the deaths of women ages 15-49 are attributed to complications during pregnancy (Timor-Leste: Nutrition Profile). Ignoring serious health issues and forcing cultural standards onto young teenage girls creates a society that is always uncertain of the survival of women and babies when their bodies are pushed through labor. These issues are like an infestation in Timor-Leste. When left ignored and untreated, the problem will continue to grow and paralyze their country from the inside.

As a result of the lack of unattainability to proper food, a poorly nourished diet, and lack of recognition of the importance of women's health care, Timor-Leste is suffering greatly from malnourishment. The effect this has on the population is devastating and I believe infrastructure spending could help to solve these problems. Understanding what we know about Timor-Leste, its geography and climate, makes it a candidate for wide spread hydroelectric power. The current financial structure of Timor-Leste is not rooted in deep pockets and the creation of dams would have a high initial cost. However, as of 2016, 7% of Timor-Leste's budget was used for petroleum fuel to run electrical generators (2016 General State Budget). With the dams built and hydroelectric power generated from them, there would be a 7% savings in their budget every year after their completion. Timor-Leste exports petroleum, so assuming the 7% of generator fuel was produced in the country, it can now also be sold to pay for the expenses of the hydroelectric project. After analyzing how the project can be feasible, it is important to understand why time, money, and resources should be dedicated to its completion.

Included with each dam construction will have to be major and minor roadways to both build and service the dams. Building dams and reservoirs will help to increase the infrastructure of roads in the country as they will need to be relied on heavily for the transportation of materials. These roads have a side benefit of opening markets and the flow of food around the country, including the import of more nutritious foods from around or within Timor-Leste. Another improvement that dams provide is they control flooding and provide a stable source of water. Regulating the water flow, especially during Timor-Leste's rainy season will work to carve out more agricultural land. More agricultural land equates to farmers diversifying or expanding their current crops and improving monetarily from it. Finally, electricity will be one of the most important benefits to the creation of dams. The current limited access to electricity will be greatly boosted, providing the Timorese with a reliable source of power and energy that can be used to

improve health care and education. Electricity generated by the dams could be the seed to build more clinics and schools in rural areas, improving conditions for all, but especially the women and children. Hydroelectric power could become a powerful factor in reducing the immense number of individuals affected by malnutrition.

Seeking out solutions to the issues Timor-Leste has with food is of the utmost priority. Working to help generate positive interactions with food will give the Timorese the ability to flourish, both mentally and physically. The first part of this process is to start funding and rehabilitating their current defective roadways. This is an essential part of the plan because without the ability to travel to market, rural persons are unable to feasibly acquire food. The funding and formation of this road development would be done in congruence with the establishment of dams across the country's waterways. There will be a call for access to roadways in order to transport supplies to the building site, as well as continue the maintenance of the dam, and give newly hired workers a quicker way to travel to work. Along with the money that will be saved from the cutback in purchasing petroleum, the development should be done through a tax based system implemented by the government. With a tax based system the citizens will benefit as not only will they be held accountable for their development but will also be more involved and attentive as there are people working construction on the roads as well as the dams. For this to work, it will be needed to have either an outside financial group or government assess the current conditions and decide what the monetary cost will be. Developing the roads along with dams in Timor-Leste will shape a centripetal force that physically brings together the nation, uniting people from east to west.

While roads promote access to local food sources, the Timorese will also now be able seek to markets outside of Timor-Leste. In today's world technology is also a major source of connection, something that Timor-Leste lacks, with less than half the population having cellphones. Providing hydro electric power will allow the country to build cell phone towers. Having cellphones isn't just simply for social media or snapchatting friends. Phones will provide farmers with connection to markets and knowledge to grow diverse as well as better crops. This would allow them to purchase and possibly grow new foods that will provide them with the nutrients they so desperately lack. With the dams creating a proper, dependable flood control, farmers will be able to broaden their horizons with the gain of land area. This expansion in land will not only increase food crop yields but allow farmers to sell crops for profit. Increased revenue allows the farmers, who make up a high percentage of the working class, to be able to afford more high quality food that is essential to their health. The Timorese need to produce a menu of foods that differ from their current insufficient meal plans. Tofu, spinach, dark chocolate, and cashews are all examples of iron-rich foods. Iron, a nutrient that is greatly lacking in their current diet results in a large portion of the population suffering from anemia. The funding for education of what a healthy diet looks like would be provided by the World Food Programme (WFP), and increased economic activity provided by dam building and the sale of food by farmers. The WFP would work directly in the country and demonstrate what foods should be consumed and help instruct how to use the limited budget they have to the best of their ability when purchasing or planting food. For this step to succeed, Timorese people need to be receptive of this difference in lifestyle and work together to see positive change. This requires the people that want to help Timor-Leste to have knowledge of their culture and an understanding of the barriers stopping them from progressing. While the economic infrastructure of the large working class of farmers increases, the education from the World Food Programme will help them to spend their money on meals that are valuable to their iron deficient bodies. Attacking the norm of the food they eat will in turn work to foster a shift in the way food is seen, enlightening the Timorese to recognize food as something that is essential, will benefit their body and mind.

Dams, hydroelectric power, electricity, and cellphones can also improve health care infrastructure in the country, especially creating a more prominent women's health care system. The World Health Organization would help this operation by laying the groundwork for a system that promotes the physical and sexual health of women. Coinciding with this group working with women for sexual health would be the electricity provided by the dams that would power hospitals, clinics, and schools. Similar to farmers being able to use the newfound spike in electricity from cell towers for their advancement, women will be able to use it for healthcare. Cell phones give women the ability to set up appointments for prenatal care, visits with the doctor, and even contact the hospital when they are going into labor. The women in Timor-Leste desperately need increased access to contraceptives and proper treatment, so with the introduction of widespread electricity there will be the ability to implement clinics where electricity is commodity desperately needed to run effectively. Alongside the powering of hospitals, will be schools in rural areas as well. Offering schools in areas where it had not been prior will help to educate young boys as well as girls. Synonymous with girls in school, pregnancy is almost always delayed and pushed off until education is completed. Therefore the electricity would help to provide the World Health Organization with proper utilities to provide prenatal care and higher quality hospitals in general, as well as work to educate young women and prolong pregnancy. Through the decrease in these young and old pregnancies, families are able to have children when they are ready and at a time when they are physically well. The hardest part of this change would be the way the Timorese view it. Discussion of sexual activities and the controlling of them is taboo and not often a topic to be discussed. The pushback would come from the societal standards of not having these "uncomfortable" conversations. Therefore, the World Health Organization would not only work to implement these care facilities and educating the women, but also the men of this country. Education of the men is just as important as educating the women and is key to change.

Timor-Leste is a country that can nourish its people with help from its government and others around the world. This recently independent country has had struggles getting off of its feet and creating a country that has a food system which supports its citizens. I believe a wide scale hydroelectric infrastructure project will better feed people through transportation and education, improve the health and well being of all, especially women and children and overtime grow and develop its economic structure. By doing this, they will make great progress into becoming a country that is full of opportunity and healthy food.

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