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A Big Obesity Problem in One of the World's Smallest Countries

In recent decades, obesity has become a global epidemic. In 2016, the global obesity rate was 13%, and over 39% of the world was overweight (World Obesity Federation). In 2000, only 8.6% of the world population was obese while 22% was overweight (Statista). The global obesity rate is expected to continue to skyrocket. The World Obesity Federation predicts 1 in 5 women and 1 in 7 men will be obese by 2030. Clearly, something has to be done to reverse this trend. When it comes to dietary diseases, including obesity, Nauru is one of the most affected countries. A small Pacific Island nation, Naura is located approximately 2,600 km east of Papua New Guinea. Even though Nauru is the third smallest country in the world, they face considerable difficulties. Nauru has struggled economically and politically over the last half century. However, the most serious of their current problems is the dietary issue. Nauru estimates its obesity rate to be 65.6% for adult women and 61.4% for adult men (Global Nutrition Report). In addition, Nauru has an average BMI of 34-35,which is 10 higher than the average global BMI. Something needs to change to help out the suffering population of Nauru. More specifically, enhancing Nauru's healthcare system, educating citizens about nutrition, and establishing sustainable agriculture to support healthier lifestyles would make a meaningful difference for Nauru.

Improving the healthcare system would lead to beneficial short term impacts to support those already suffering with obesity. This could also offer long term benefits for Nauruans by creating an effective infrastructure that encourages its citizens to develop healthy habits. In addition, educating Nauruan citizens on healthier cooking and nutrition would allow many to positively affect their health in their own homes. Finally, sustainable agriculture would allow for a renewable and nutritional food source, creating a compelling alternative to imported food.

In order to fully understand the prevalence of obesity, it is necessary to consider the country's economic circumstances over the past century. In the mid 1970s, Nauru had one of the highest GDPs per capita at $50,000, but today the GDP per capita is only around $10,500 (Watanabe). The origins of this collapse date back to the 1900s. Since its discovery in 1900, Nauru's main source of revenue has been phosphorus mining, but the value of phosphate exports on Nauru has plummeted from $1.3 billion in 1990 to $0.3 billion in 2004 (Howes and Surandiran). That was due to almost all of its natural phosphate resources being exhausted. Additionally, the extensive phosphate mining has led to only 20% of the country now being suitable for living and agriculture, with only four square kilometers available for a population of over 12,000 people. Nauru lacks other meaningful economic resources and has transformed itself from "fiscally self-sustaining to externally dependent" (Borgen Project).

Household dynamics in Nauru are very different from those in more developed countries. A typical Nauru family includes 6 - 8 people per household, and the average wage is only $575 per month (Wage Centre). Nauru citizens have an inadequate universal healthcare system, which needs to see improvement. The high demand for obesity medication hurts Nauruan society, leading to a high hospital bed occupancy ratio of 80% (Lee). A lot of the government's money is

forced to be spent on handling obesity, such that the government can't support other priorities as efficiently.

According to Nauru's Department of Finance the unemployment rate is 18%, but most Nauruans work domestically, usually on their own small farms. Over 20% of Nauruan workers have become unemployed because of obesity (Lee). The prevalence of obesity makes it difficult for Nauruans to engage in very physical labor, resulting in a struggling workforce. On the positive side, Nauruans have free access to education from ages 5 - 16, which is provided by the government. The country is above the food poverty line, but 24% of the population is below the basic needs poverty line (Asian Development Bank). This indicates that Nauruans seem to have adequate access to food, but they lack the income to afford foods with higher nutritional content.

Nauru's large population, small amount of land, and low GDP per capita together help explain the country's obesity crisis. As a result, the country's primary food source has become cheap imported foods. Currently, 90% of Nauru's foods are imported, and the Nauruan diet consists mainly of instant noodles, rice, canned food, coconut milk, fried fish, and soda (Thelwell). All of those foods lack protein and fiber, and they contain unhealthy amounts of sugar, fat, sodium, and calories. The World Health Organization warns against this combination; in other words, it advises against an overindulgence of sugar, fat, and sodium as they are associated with weight gain, which can lead to obesity (WHO). Clearly, the Nauruan diet needs to change, but there are no simple solutions. Not only is Nauru's economy in a vulnerable spot due to dependance on dwindling phosphate mining, but it lacks the land to sustain large scale agriculture as residential housing already occupies much of the existing territory (FAO).

With a 60% obesity rate among adults, the citizens of Nauru likely know that obesity is a problem stemming from improper nutrition and lack of physical activity. The challenge is that economic conditions make it difficult for anyone to modify their eating habits (Hallett). Despite being aware of the situation, they do not have the resources to prioritize nutrition. Nauru's government and outside organizations must intervene. The Borgen Project is one of many organizations that can assist Nauru. Its mission is to promote global food security, clean water, and food aid reform in various countries. Currently, the Borgen Project has started spreading awareness about Nauru's situation and wants to help. The Hesperian Health Guides can also contribute. Hesperian Health Guides is a non-profit organization that publishes and provides health information to various countries. Support from the Hesperian Health Guides could lead to a better healthcare system on Nauru by more thoroughly educating its healthcare workers. A third organization, the World Health Organization (WHO), has been supporting Nauru since 2018, and they have created a country cooperation strategy for Nauru. This strategy includes strengthening healthcare systems to prevent Nauruans from communicable diseases, improving access to essential medicines, and supporting the planning of this process (WHO). The WHO's work in Nauru is essential and can continue to support Nauru's existing healthcare infrastructure.

These organizations rely on funding from public and private donors that support their missions. Their broad reach around the world limits the amount of funds available `for a country as small as Nauru. However, an argument could be made to allocate more funds to Nauru since the lessons learned in this clearly defined situation could then be applied more broadly in larger countries. Another source of funding could be Australia. There are tight relations between the

two countries because Australia is “Nauru’s most significant economic, trade, security and development partner” (DFAT). Nauru imported over $30,000,000 worth of goods from Australia in 2022 (OEC). Australia’s 2022 GDP was $1.68 trillion; therefore, a small amount given to Nauru can go a long way (World Bank). A healthier Nauru would help them become a more significant economic partner to Australia.

A strengthened healthcare system is a necessary solution to reduce the obesity levels. In order to build up the healthcare system on Nauru, there needs to be a steady supply of medicine, modern technology, a well-maintained infrastructure, and trained health care professionals. The medicine and technology would not be too difficult to obtain as it only requires a certain level of financial support (WHO). To create a well-maintained infrastructure, though, Nauru’s government must create a plan to enact over the next few years that includes infrastructure projects, budgets, laws, and resources. Every step of this plan is necessary and would contribute to the overall success of Nauru’s healthcare system. Finally, well-trained doctors, nurses, therapists, and other jobs are needed to fill out the new infrastructure. One potential problem is that it could be difficult to fill these positions with qualified applicants. Many Nauruan citizens need to complete additional education and training, or citizens of other countries would need to be recruited to work in Nauru. The second option would most likely account for the majority of the new healthcare workforce on Nauru; in the past, health workers from New Zealand and Australia have moved to Nauru (Hayes). Clearly, there is a lot of work that needs to go into building out the healthcare system, but the built up system will have momentous effects on the people. In the end, the goal is for Nauru’s people to receive every opportunity to make healthier choices.

It is vital that not only Nauru’s government, but also Nauruan citizens play a role in promoting health. Education is one way both can work together. For example, if Nauru’s government adds a class into the school system on healthy cooking methods, countless Nauruans would benefit. Simply learning about cooking without fryers (a common technique to cook in Nauru) would affect the population widely. Various healthier methods of cooking could then be introduced, including boiling or steaming; these methods have far less fat than fried food and in turn would help a lot of Nauruans lose weight more easily. A more detailed nutrition class could also be launched. This would teach about the positives of eating many fruits and vegetables vs. the negatives of high sugar and fat diets. By learning about this, young children would grow up to have much healthier eating habits and a better understanding of why not to drink and eat items such as soda or instant noodles. In addition, when the children are being taught about nutrition, they might encourage their parents to do the same – allowing a school class to positively influence the whole population. Implementing these new eating habits would be tough for the population because of the limited income that Nauruan families have. The government could address the likely higher cost of more nutritional foods by providing food vouchers to incentivize citizens to make better food choices.

In the fight against obesity, prioritizing sustainable agriculture could also be extremely helpful for Nauru in both the short and long term. One advantage Nauru does have is its proximity to the ocean. The ocean could go a long way towards solving its nutritional issues. Nauru has access to plenty of skipjack, marlin, and yellowtail tuna. The development of fisheries on the island would allow Nauruans to catch and eat healthier food. The people of Nauru would especially benefit from incorporating more nutrient-rich fish in their diets because they are high in protein,

calcium, phosphorus, and omega-3 fatty acids, which lower the risk of heart disease. There are some downsides to fishing around Nauru. For example, recent overfishing and poor waste management has put an immense strain on Nauru's seas. Nauru's work with the Chemicals and Waste Management Program is one solution to the waste management problem, as it will create policies to manage chemicals much better and to prevent any more human harm to Nauru's ocean ecosystem (UNEP). In 2021, the Nauru Agreement signed by many Pacific Island nations combats overfishing. The Pacific Islands that signed the agreement control the world's largest tuna fishery and have agreed to limit the amount they fish (World Economic Forum). Fishing boosts Nauru's economy and helps decrease obesity rates, but it cannot be at the expense of its ecosystem.

Aquaculture would help Nauru obtain the amount of fish needed for its population. Aquaculture is the breeding and raising of aquatic animals — including fish and shellfish — in a controlled environment (National Ocean Service). The advantage of aquaculture is that it would occupy the part of the Pacific Ocean that borders Nauru. Therefore, none of the island's limited space would be consumed for the purpose of raising aquatic animals. Aquaculture would also prevent overfishing around Nauru. As Nauru develops more aquaculture environments, less of the fish in the open ocean need to be harvested. In addition to aquaculture, aquaponics can be implemented to create an even more efficient ecosystem. Aquaponics works by growing fish or other aquatic animals. It then incorporates hydroponics, a process where plants are grown with nutrients derived from nitrogenous fish waste. (North). The nitrogenous waste is converted into nitrate for the plants by nitrifying bacteria. Aquaponics requires no soil and is unaffected by droughts or changing sea levels. Aquaponics can be done in saltwater with salt-tolerant plants which can survive in the aquaponics environment (Puccinelli). Considering Nauru's limited space for land-based agriculture, this system would allow for Nauruans to become more self-sufficient within their environment. A recent study concludes that aquaponics would be extremely beneficial to any Pacific Island. Aquaponics is unaffected by droughts, rising sea-levels, or sandy soil conditions, and it conserves pure water and nutrients (Pickering). Aquaponics would also create more jobs for the many unemployed citizens of Nauru. Building and maintaining the system is costly, but the investment would be worthwhile (Pickering). This should be a priority area for any incremental financial support Nauru is able to secure. Most importantly, aquaponics provides a large supply of fish, but also the ability to grow vegetables filled with many of the nutrients that Nauruans are lacking.

Although Nauru has one of the highest obesity rates, many other Pacific Islands confront the same crisis. In fact, the 13 countries with the highest adult obesity rates are all Pacific Islands, and every single island has an obesity rate of at least 40%; some even reach 60% (World Obesity Federation). Pacific Islands all share a similar geography; they are surrounded by the ocean with limited land available. Due to these similarities, many of the solutions that could benefit Nauru also apply to other Pacific Islands. In general, Pacific Islands lack strong healthcare systems, especially when compared to more developed countries. The strengthening of all of their existing healthcare infrastructures would be extremely beneficial to their populations and could reduce obesity rates. In addition, just like Nauru, other Pacific Islands could establish aquaponics systems, which would get better nutrition to their populations. Overall, solutions that address Nauru's obesity epidemic could help out many other nations.

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