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Tajikistan, Malnutrition

Tajikistan: A Rural Population Bound to Nutrient Deficiencies

Tajikistan is a small country in Central Asia, with an area of about 55,300 square miles. As it borders Afghanistan, China, Uzbekistan, and Kyrgyzstan, its estimated population is 9,886,000 people. The largest city contains 775,800 people and goes by the name of Dushanbe. Due to being surrounded by 4 separate countries, the Tajik people are landlocked by their breathtaking mountain ranges (LandLinks, 2021). Since the mountain ranges take up much of the usable land, only about 28% of the square miles (15,484 square miles) can be farmland. Tajik families tend to have their own home gardens/farms. However, these 'farms' are only 0.5 acres. The lack of usable land leads to unsustainable agriculture and extreme nutrient deficiencies. Tajikistan is known to be the poorest, and least stable, country in Central Asia, as the average income is only 260,285 Somoni (USD 19,990) per year. Almost 80% of the average yearly salary (\$15,992) is spent on food. Despite this large amount being contributed to food, the Tajik people still suffer from a major issue: Malnutrition.

The climate in Tajikistan causes much more than just a simple hassle. There is either a constant heatwave or the occasional cold wave. The weather in this country is almost like a seesaw. When it is hot, the weather becomes dry and humid. The cold weather is very contrasting to the hot weather. Winter in Tajikistan is freezing, and the air is dry. Despite the unmatched temperatures, the rainfall is quite heavy. The land is described as wet and is very beneficial to the small farms. In March of 2022, it had rained for a total of 21 days in Tajikistan. So far, this has been the most rainfall in this Central Asia country this year (Nomades, 2022).

The country of Tajikistan is a Presidential Islamic Republican government. The head is Prime Minister Kokhir Rasulzoda, and he is accompanied by Chief of State (President) Emomali Rahman. Rasulzoda has been in power since November 23, 2013. Similar to America, they hold a presidential election every 7 years. It is possible to limitlessly renew your presidential seat in Tajikistan as well (Cabar, 2020). The president heads the executive branch and is identified as the Supreme Commander in Chief of the Armed Forces in Tajikistan. Rahman is the current, and 3rd president, of Tajikistan. He has held his power since November 16, 1994. When Rahman first became president, he was faced with the challenge of a civil war in which almost 100,000 people died.

Traditional families in Tajikistan tend to be larger than most. The average household contains 6-7 people, and that's excluding the potential grandparents that might live there as well. The homes in Tajikistan are typically very small, about the size of a small cottage. Occasionally, there is not enough room for the number of people staying in the house, so people must sleep on the floor. Many homes lack an adequate heating system and have leaky, broken roofs (Thelwell, 2019). Due to the large mountain ranges, finding a decent home is very rare. Having access to decent food at home can also be equally difficult for Tajik families. Over 75% of households grow their fruits & vegetables, but they remain chronically malnourished. Families have other methods of getting food, such as a market, but the mountains make it

difficult to travel. The majority of Tajik people rely on family members living abroad to send them money and nonperishable food. When they do decide to go out, they tend to buy items such as flatbread, shurbo soup, rice, tea, and halwa steamed dumplings. Though butter is not very accessible, oil is a very common item used to cook food. Over 50% of Tajik meals contain large amounts of oil, causing many nutrient deficiencies. With their lack of nutrient education, children 5 and under are becoming more malnourished as each day passes.

As of March of 2022, Tajikistan remains the country in Central Asia with the highest malnutrition rates. A World Bank report states that only 38% (3.5 million) people in Tajikistan have access to the basic, minimum water sanitation (UNICEF, 2017). With a lack of water and accessible, healthy, decent food, the Tajik population is suffering. The current malnutrition in this country is widespread and children are tragically dying. Tajik people have continued to have poor diets including saturated fats and extremely high sugar levels. Thanks to these unnourished diets, these people are dying from obesity, heart disease, and hypertension (FAO, 2018). Progress may have been made with unemployment and poverty rates, but malnourished children's statistics are rising every day. That statistic itself is quite large, considering every 7/10 Tajik people are under the age of 30. Recent facts show that 25% of Tajikistan's children are suffering from stunting, as well as 50% of children five-years-old & younger have an iodine deficiency. This same deficiency has caused major issues and is contributing to the high levels of malnutrition. Humans need the right amount of iodine in their bodies for metabolism to work properly and to have healthy functioning of the thyroid gland. Iodine deficiency can cause thyroid disease and eventually leads to permanent brain damage. Since the economic shock in 2014, over 30.1% of Tajik people have become malnourished, or nutrient deficient (WFP, 2022).

One major cause of malnutrition is the current climate & weather in Tajikistan. The contributing factors consist of but are not limited to, melting glaciers, soil erosion, intense weather events, and loss of biodiversity. The weather events are major incidents such as landslides from the mountain ranges, floods from high precipitation, avalanches from heavy snowfall on mountains, and droughts from the extreme heat waves. These climate shocks have continuously destroyed farmlands and ruined potentially good crops.

It is not just the climate that contributes to the malnutrition rates. The mountain ranges have taken away multiple good opportunities for farm growth, and better land. Mountains cover over 93% of Tajikistan's territory, which leaves only 7% of the land arable. Out of that 7%, 97% of it (6.79%) is destroyed by soil degradation (WFP, 2022). More than half of Tajikistan's food is imported from other countries, like Russia, because of the current lack of usable farmland. Over the past 6 years, the population has gradually grown, and this has affected the malnourishment statistics in a very negative way as well. Tajikistan has not been able to keep up with the nutritional demands of its citizens, and without the proper food, the small population won't survive.

The coronavirus hit Tajikistan hard, with an average of 54 cases per day. Taking the small population into consideration, 54 new coronavirus cases a day is quite a large amount. Countries and organizations have attempted to save Tajikistan from its large amounts of malnutrition. In response to COVID-19, the World Food Programme (WFP) has involved over 3,000 community members in conditional cash transfers. The program will provide these cash transfers through labor work. The labor work will, not only get money for Tajikistan's communities, but it will also save the climate and current state of geography in Tajikistan. The labor work will consist of the construction of bridges & roads, building climate resilience, and soil conservation. They will also be educating Tajik people on food assistance so that way the Tajikistan population can build self-reliance skills. WFP states that this will assist almost 15,000 Tajik people. This

means that there are about 5 Tajik people per community member that will be receiving assistance. If the WFP gets more community/volunteer members involved, perhaps another 6,000, this means that there would be an even larger total of Tajik people being helped. A total of 45,000 Tajiki people will be saved from poverty through this program if at least 9,000 people are involved. A way to get people involved is by promoting and introducing the current issue to citizens in other countries like the United States (US). A partnership with companies like Global Issues, BBC News, The New York Times, & The Guardian will instantly get many more people involved. By reaching out to popular, credible, news sources WFP will be able to add potentially, at least, 2,000 new community members. Looking at America's population, this does not seem like a lot of people. However, if there are 5 Tajik people per community member, then there will be 10,000 new Tajik people being helped by 2,000 members.

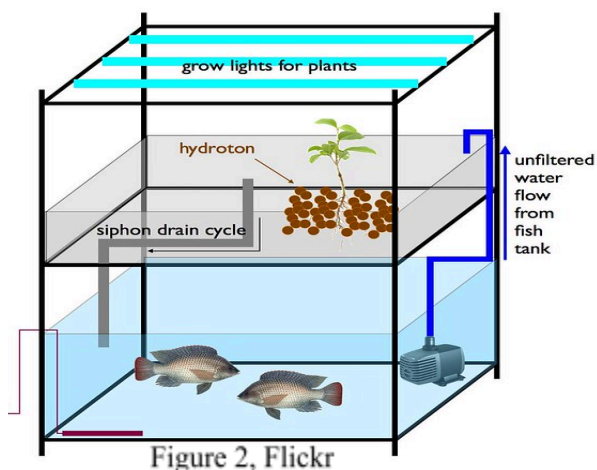
Another organization has taken a huge punch at malnutrition in Tajikistan. United Nations International Children's Emergency Fund (UNICEF) has been taking a cunning effect on how they believe malnutrition should be solved in Tajikistan. UNICEF partnered with governments, as well as non-governmental organizations, to end poverty & malnutrition in Central Asia. They believe that malnutrition has been caused by the lack of education, unsustainable agriculture, hygiene, the economy, and the environment. Due to these playing factors, they have decided to take a much more holistic approach to solve this issue. UNICEF wants to improve technical capacity, so they can plan & develop sustainable mechanisms to teach about nutritional needs from the national to regional levels in Central Asia. WFP and UNICEF have partnered together to put an end to this monstrosity of food insecurity. These organizations will be assisting the Ministry of Health and Social Protection of the Population (MoHSPP) to increase the availability of pediatric treatment and reduce wasting in Tajikistan (UNICEF, 2017). If the plan becomes successful, then the citizens in Tajikistan will be educated on nutritional values, hygiene, and water sanitation. With this new information, Tajik people can overcome the deadly effects of malnutrition, and the children can be saved from the current state of debilitating health.

Despite UNICEF & WFP's best efforts to change Tajikistan for the greater good, there is one more organization that is not done fighting yet. The United States Agency for International Development (USAID) has put forth multiple goals over the course of seven years, in hopes that Tajikistan will finally be a sustainable country. USAID created a program titled "*Feed the Future*", and this initiative was put into effect for Tajikistan. It addresses the true causes of poverty and attempts to knock out all hunger and malnutrition. After putting the program in place, USAID was rewarded with many positive results. During COVID-19 they were able to assist more than 500,000 Tajik people. They provided 178,748 children, ages 5 and under, and 67,203 pregnant women with nutritional interventions and they educated them on the negative effects of malnutrition. Even though the land is not that reliable in Tajikistan, USAID was able to promote the availability of foods such as broccoli, sweet potatoes, cherry tomatoes, kale, and protein-rich mung beans.

In Tajikistan's past, they have forgotten about their main water canals. The water banks were not reinforced, therefore, their soil has gone bad. An efficient way to continue promoting a solution to this problem is by supporting agroforestry. Agroforestry is the process of planting protection-crops, such as hedges or trees. These plants will be a safeguard for the crops. Agroforestry has been used effectively in many places, like India, the United States, and Nepal. The trees will keep the soil and surrounding ecosystems healthy by promoting biodiversity.

If planting crops outdoors is not an option, then the Tajik people will benefit from indoor planting instead. Hydroponics has proven to be an effective solution to grow certain crops like tomatoes, carrots, and onions. Hydroponics is the act of farming without soil. You take nutrient-rich water and grow crops in it instead. Hydroponics allows you to control all details of farming. You are able to monitor the sunlight, moisture, and temperature. Similarly, aquaponics can be used as well. This is not ideal however in

Tajikistan, due to the lack of flowing water. Many fish species have died out. Figure 1 shows an example of a high-tech hydroponic system, and figure 2 shows aquaponics.



Based on these implements put in place by past organizations, it has been proven that financial assistance, education, and support go a long way. By continuing to administer these tasks, and by teaching regular nutritional lessons, the country of Tajikistan can be saved from malnutrition. Children should not be dying. Adults should not be dying. Access to healthy food is a human right, not a privilege. Support from other countries has, once again, proven to make a difference in the lives of many.

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