Lily Schmitz Union High School La Porte City, IA, USA Pakistan, Malnutrition

## Pakistan: Challenges, and Pathways Forward With Malnutrition

Pakistan is a country often overlooked. However, 241.49 million people call Pakistan home ("Pakistan at a Glance | FAO in Pakistan"). Pakistan is a country full of amazing landmarks. From the Himalayas to the Deosai National Park, Pakistan is full of hidden beauty.

Pakistan is a country located in Southern Asia, stretching for 494,671 square miles. Comparably, the entire country of Pakistan would be slightly bigger than twice the size of California ("Geography of Pakistan"). Among those 494,671 square miles, the country of Pakistan is divided into three parts ("Pakistan at a Glance | FAO in Pakistan"). The first 1/3 is the northern Himalayas ("Pakistan at a Glance | FAO in Pakistan"). The second 1/3 is the Indus River plain in the center and the East ("Pakistan at a Glance | FAO in Pakistan"). Finally, the last 1/3 part is the Balochistan Plateau in the South and the West ("Pakistan at a Glance | FAO in Pakistan").

Agriculture is an important part of Pakistan's economy. Agricultural products are responsible for 23% of Pakistan's Gross Domestic Product ("Pakistan at a Glance | FAO in Pakistan"). Additionally, agriculture provides jobs for 37.4% of the Pakistani working population ("Pakistan at a Glance | FAO in Pakistan"). With that being said, 47% of the land is cultivated. Wheat and rice collectively take up 48% of the crop area ("Pakistan at a Glance | FAO in Pakistan"). The average farm size in Pakistan is roughly two hectares ("Exploring the Case"). For reference, the average farm in the US is about 445 acres, which is equivalent to about 180 hectares ("Farms and Land in Farms 2021"). This means that farms in Pakistan are nearly half the size of the average farms in the United States.

Family is important to the Pakistani culture. Most families average around 6.4 people per household ("Pakistan - Housing, Urbanization, Migration"). Because family is so important usually parents, and their sons and their son's families all live under the same roof.Most of the time Pakistani families live in a variety of different homes ranging from pukka houses to kuchha houses ("Pakistan - Housing, Urbanization, Migration"). Pukka homes are made out of stone, brick, cement, concrete, and timber ("Pakistan - Housing, Urbanization, Migration"). These types of houses are the most durable ("Pakistan - Housing, Urbanization, Migration"). Another type of home is kuchha houses these houses are made out of less durable materials such as mud, bamboo, reeds, and thatch ("Pakistan - Housing, Urbanization, Migration"). The last type of home is called a semi-pukka home, these are homes made out of a mixture of the two types of materials. ("Pakistan - Housing, Urbanization, Migration"). Semi-pukka and kuchha houses are the most common types of houses are more readily available, causing them to be more common.

Fortunately, 95% of Pakistan citizens have electricity and this continues to increase each year ("Pakistan: electricity access"). In addition, there are about 191.8 million people have access to cellular devices, this

is nearly 80.5% of the population (Kemp). As of 2023, there were 87.35 million internet users, and 70.71 million social media users (Kemp). Although they have electricity and internet access, nearly 69.5 million Pakistanis do not have access to a toilet. One-third of Pakistani people do not have access to a toilet at all, let alone a toilet of their own (Pakistan | WaterAid Global,). Moreover, 22.1 million people living in Pakistan do not have any clean water close to home, that is nearly 1 in 4 people (Pakistan | WaterAid Global,). Having accessible toilets is important for proper sanitation and could potentially take away one cause of possible diseases.

The typical Pakistani diet is very limited. The average diet of a Pakistani family consists of rice with either veggies or meat (Munyon). Usually, this meat is chicken or mutton, keeping in mind that because there is such a large percentage of Pakistanis who follow the Islam religion, pork is not an acceptable meat to consume. Sauteeing is a popular method of cooking in the Pakistani culture (Munyon). Food is usually cooked on a stove or with fire because these are the most efficient ways of cooking for most families. Stores are common in Pakistan, with over 2.5 million places to shop, and only the basic items are sold. Clothing, food, beverages, and tobacco amount for amount of about 75% of retail sales ("Pakistan - Selling Factors and Techniques").

Pakistan is a country with little income. Most people make around \$293.50 per month working in Pakistan, and about \$8,973.10 per year ("Average Salary In Pakistan And Outsourcing Trends"). The average United States Citizen makes about \$4,949 per month (Punjwani), which is nearly half of what Pakistani citizens make per year. Unfortunately, 20% of Pakistani citizens live below the poverty line (Qureshi et al.). Most Pakistani families spend 36.6% of their income on food, 13.4% on transportation, and another 8.3% of their income on bills and utilities ("The Cost of Living in Pakistan"). The other 41.7% of their income is spent on other things such as eating out, and clothes/ shoes.

Due to the low income, the prevalence of poverty, healthcare, and education are largely underfunded and inaccessible. Unfortunately, many families cannot afford to send their children to school (Qureshi et al.). Approximately 22.8 million children ages 5-16 are not in school. This is an astounding 44% of the population for this age group ("Education"). With the lack of education, this leads to 11.4 million children ages 10-14 not receiving a formal education ("Education"). Part of this problem is that only 2.8% of the country's GDP goes to education, this is well under the 4% target that the country should be dedicating to education ("Education"). Because of this education problem, lots of jobs employ under-educated individuals.

Not only is education a big concern, but healthcare is also a big concern. Much like education, healthcare is not prioritized. Only 0.8% of the GDP goes to healthcare (Qureshi et al.). Pakistani citizens are also beginning to see that healthcare in rural areas is much harder to come by than it is in more urban areas (Qureshi et al.). This causes families who live in rural areas to travel further to get to a hospital or access healthcare. Nonetheless, rural families are not the only ones suffering from a lack of healthcare, urban families suffer as well. Hospitals often have inadequate equipment due to limited funding (Qureshi et al.). Another problem impacting the healthcare field is providers need to be educated to provide the appropriate care to a patient (Qureshi et al.). Additionally, the Pakistan healthcare system is significantly understaffed (Qureshi et al.). The World Health Organization recommends that there are approximately 2.3 doctors per 1,000 patients, in Pakistan however, there are about 0.8 doctors per 1,000 patients (Qureshi et al.). Because of the lack of access to healthcare, most people do not receive the care needed to remain healthy, resulting in increased infection and the spread of preventable diseases and also causing

the mortality rate to increase (Qureshi et al.). Although healthcare is very limited in Pakistan, the country has access to electricity

Pakistan faces various challenges, but one of the most common problems is malnutrition. When we think about malnutrition, typically we think of things like not having enough food/ starvation. However, malnutrition is defined as a lack of proper nutrition, caused by not having enough to eat, not eating enough of the right things, or being unable to use the food that one does eat ("Oxford Languages"). This means that malnutrition encompasses things not only like starvation but also obesity. This is important to remember as we see obesity levels rising in Pakistan (Simone). Pakistan is currently seeing a trend of overweight and underweight kids. Thirty-five percent of boys and girls are overweight in Pakistan and 39% are underweight ("WHO EMRO | Nutrition").

Although obesity levels are on the rise, there are a considerable amount of people who also suffer from acute wasting, which means that people are wasting away skin and bones. Unfortunately, several areas in Pakistan are suffering from an emergency amount of acute wasting disease ("Nutrition"). Not only is acute wasting a big problem, but stunting is another problem that the children of Pakistan face. Nearly half of children under five are stunted, and one-quarter of those stunted children are considered stunted by the age of six months old (Simone). There are also 39% of children who are zinc deficient ("WHO EMRO | Nutrition"). Because we see these effects being detected in young children, we begin to see that these effects happen maternally. "Normally we shouldn't see so much stunting at such a young age, it usually begins at around six months when children should start eating other foods in addition to breastmilk. This means that there is a big problem with maternal nutrition, suggesting issues with the diets of adolescent girls and women in general," says Giulia Baldi with the for WFP's Nutrition Division (Simone 3). This is a problem in pregnant women especially because 67% of Pakistani people cannot even afford the cheapest possible nutrition (Simone).

Every country suffers from some form of malnutrition. There are ways to help fix this problem, and one of the solutions is educating families about agriculture. This will hopefully bring awareness to the fact that you can have a garden in your backyard that can provide abundant resources if maintained. Another solution to infant and maternal malnutrition is an outreach program. Having an outreach program would help to educate mothers about the effects of infant malnutrition, and maternal malnutrition, as well as educate them on how they start to provide nourishment to themselves before, during, and after pregnancy. By following these solutions, we could initiate a decline in malnutrition. If we have healthy people we can start to have a healthy country.

Backyard gardens are one solution to the malnutrition problem in Pakistan. In the United States, 71.5 million households have a garden in their backyard ("Top 7 Gardening Statistics"). By implementing backyard gardens, healthier food would be more accessible and cost-effective. Acute wasting would be reduced because there would be more access to food, and we could start to see a decline in obesity rates versus an incline as well because healthy food would become more accessible. Gardeners are more likely to have healthy, well-balanced diets. Gardeners are also more likely to consume fruit and vegetables (Wimmer). "Backyard gardening can inspire you to take an interest in the origins of your food and make better choices about what you put on your plate," says Dr. Helen Delichatsios (Godman 2). This information is important because alot of Pakistan faces severe malnutrition problems, and this shows us that just having a garden in your backyard will create a better chance for a healthy diet. Adult education programs such as the Greater Des Moines Botanical Garden would be good programs to implement throughout the country of Pakistan. These programs would help educate the public about thoughtful

gardening practices as well as how they can start gardening. With the correct care, gardens can last for years, creating a sustainable food source accessible to everyone.

My second solution is to provide more awareness about healthy diets in schools. Although there are low amounts of kids in school, education can not only be absorbed but it can be shared as well. If schools begin to teach children about malnutrition, they could take that information home, and share that learned information with their parents, and the parents can in turn take action to create healthier lives for themselves, as well as their children. Schools should begin to educate children about hygiene, and nutrition. By educating children about proper hygiene, they can help to limit the spread of diseases. By keeping themselves clean, it decreases the spread of diseases.

By educating them about nutrition, they can attempt to make changes to their diet at a younger age. In addition to implementing backyard gardens school gardens could be a helpful addition to communities. This would make it easier for children to be able to learn more lifelong gardening skills of gardening that they could then take home and hopefully implement into their home life to in turn create a healthy opportunity for not only themselves but their families as well. Another program that could go hand in hand with the school garden program would be a type of Family and Consumer Science (FCS) program, much like the ones we have here in the United States. By implementing a FCS program students might be able to learn recipes to use to curate a healthier diet. This would also teach students the life skills needed to thrive in the real world. Changing their diet at a younger age can have a positive impact on the rest of their life.

My final solution would be Outreach programs like the 1000 Days outreach program. 1000 Days works to provide mothers and families with information on the importance of proper nutrition in the first 1000 days of a child's life. By implementing this program, maternal education about proper nutrition would be crucial in making a difference in the lives of not only the children but the mothers as well. The first 1000 days after the time of conception are the most developmental and important parts of a child's life. 1000 Days states that "Poor nutrition in the first 1,000 days can cause irreversible damage to a child's growing brain" ("Issues"). Poor nutrition even in the early stages of child development doesn't necessarily mean that the child is going to be underweight, but rather a lack of proper nutrition means obesity, diabetes, and incurable diseases could all be factors that impact a child's health. ("Issues") More often than not, malnutrition in children happens during pregnancy, due to malnutrition in the mother. The first step in attempting to decelerate the malnutrition rate would be education. Educating women and girls will be a crucial step in the right direction. Another outreach program is the USAID. This program works globally as a maternal and child program so that it can not only help people suffering from malnutrition but can also help prevent it as well ("Nutrition | What We Do"). Introducing USAID to provide countries with the skills, tools, and resources to help educate families about proper nutrition ("Nutrition | What We Do"). This organization works a small amount with Pakistan. However, I think that if they could become more involved, it would benefit the country of Pakistan immensely. I think that outreach programs like 1000 Days and the USAID would be very beneficial, to bring awareness to and educate not only women but families about the effects of malnutrition malnutrition as well as solutions on how they can combat it.

Even though Pakistan faces many challenges the implementation of school and backyard gardens, education about hygiene and nutrition, as well as making programs such as 1000 Days and the USAID more accessible are all solutions that can create pathways forward to a promising future.

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