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Madagascar, Malnutrition

Madagascar: Micronutrient Supplementation Combats the Crisis of Malnutrition

An island country called Madagascar, the fourth-largest island in the world, is located in the Indian Ocean off the coast of southern Africa. Madagascar is currently in a malnutrition state which affects childhood, pregnancy, and growth stunts. Malnutrition occurs when there is food insecurity on vitamins, minerals, and food. Malnutrition is a condition that happens when a person's diet does not contain an efficient amount of nutrients.

Before the COVID-19 pandemic began, Madagascar's situation was that "chronic malnutrition (or stunted growth) had been estimated at 42%" ("An Additional 6.7 Million Children"). The percentage is roughly equivalent to 1.9 million children under five years old across the country ("An Additional 6.7 Million Children"). The increase of malnutrition in Madagascar continues to increase each year. Children under five that are associated with malnutrition have at least 44% of deaths among them (An Additional 6.7 Million Children).

The estimated population of Madagascar is around 27,534,354 people ("Madagascar, 2021"). About 60.1% of that population is rural, while 39.9% is urban ("Madagascar, 2021"). Madagascar has a republic government similar to the U.S. It is a semi-presidential representative where the president exists alongside a prime minister while sharing their duties.

The terrain, mostly being mountainous, correlates to about 5% of the total land cultivated. Agriculture is a mainstay of the economy ("Country Profile Madagascar"). Roughly 80% of the population are employed to work in agriculture, which accounts for "more than one-fourth of GDP" ("Country Profile Madagascar"). The island country cultivates food crops such as "rice, cassava, sweet potatoes, fresh vegetables, bananas, maize and beans" ("Country Profile Madagascar"). Ruling exports of Madagascar consist of "vanilla, cloves, fruits, cocoa, sugarcane, coffee, sisal and cotton" ("Country Profile Madagascar"). From the data of cultivation and exports, agriculture is the mainstay of the economy.

A typical Malagasy diet consists of rice, fish, beef, or chicken. The main staple of the diet is rice accommodated, with a source of protein ("Food in Madagascar"). Families obtain these foods from the local markets and their homegrown harvests. A local dish in this country is Romazava. It is a national dish made of meat, typically beef. It consists of tomato, garlic, ginger, and stewed mixed greens ("Noll et al."). It is braised for many hours until it is tender. Although there are many dishes, food availability is low in this country. Food prices are rising while the people in poverty continue to struggle to afford meals. Families continue to do agriculture to sustain food availability, but there is not enough to nourish everyone.

The geography of this island country includes highlands, such as mountainous terrain and valleys cradled within barren hills. The island is predominantly plateaued with mountains inland with a narrow coastal plain ("Madagascar, 2021"). Due to its geography, Madagascar has many climatic subdivisions. The coastal climate is hot and tropical, while central highlands have a temperate climate. The south coast climate contains an arid desert-like habitat

The standard for a Malagasy household is 4.6 people but can average from 4.7 in rural parts to 4.4 in urban areas (“Madagascar -Demographic and Health Surveys”). The majority of the population lives in rural areas. In most rural areas, household structures consist of mud and woven matting supported by poles. A household in urban areas typically includes "two- or three-story homes," with a kitchen, living quarters, and storage room ("Local Government").

Around 35% of all households have access to safe drinking water, which breaks down to 74% of urban homes and 23% of rural homes (“Madagascar -Demographic and Health Surveys”). The majority of the population do not have access to a water supply. Freshwater access is a significant aspect of life, agriculture, and livestock. Madagascar households have limited access to toilet facilities. Toilet access is at roughly 45%, while an estimated half of the households use pit toilets. A land with not much water or sewers, families sustain with pit toilets (“Madagascar -Demographic and Health Surveys”).

Many people do not have the ordinary housing of other countries. The majority of families do not have access to electricity; one in five households have it. The access to electricity varies from 84% in the capital to 11% in rural areas (“Madagascar -Demographic and Health Surveys”). The deficiency of electricity is one of the prominent obstacles to the country's development. Rural families acknowledged this challenge in their day-to-day lives. Not many people of Madagascar own a telephone. Only about 9.60 million mobile connections in Madagascar (“Kemp”). This amount towards telephone service is only at 34.2% of the total population (“Kemp”). Telephone access is more available to families in urban areas than rural families. Access to the telephone gives more opportunities to many families, such as food availability, communication, and medical assistance.

Local markets are accessible to families. Families in poverty rely on these markets and agriculture to sustain themselves. Due to government measures of COVID-19, sanitary checks at ports have slowed imports, causing prices to increase for these products (“Madagascar Key Message Update”). Families in poverty are struggling with high prices in the market. To this obstacle, households are dependent on agriculture to help with hunger and income necessities.

Madagascar's industry, agriculture, includes about 80% of the Malagasy work (“Alexander”). Agriculture is a critical career for most of the percentage working. An average farm size is about 1.3 hectares. This size is comparable to two and a half football fields. For agricultural workers, the minimum wage in Madagascar is 134,920 ariary per month or 674.60 ariary per hour (“Madagascar Minimum Wage Rate 2022”). In the United States currency, it is about 33.46 dollars per month or 0.16 cents per hour in this country (“Malagasy Ariary to US Dollars Exchange Rate”).

Primary education is available for all children under the Malagasy Constitution. Although education is free, climate change and political unrest have lingering effects on restricted access to education. From political turmoil, low school enrollment rates are a result of poverty. The impacts of poverty and unemployment have caused children to take on many forms of child labor for financial support (“Children of Madagascar”). The Education For All (EFA) has funded the project of recruiting new academic staff, the building of schools, and educational materials (“Children of Madagascar”). This project will bring many more people access to education, yet increased efforts are needed to provide access for all.

Access to health care is problematic for 40% of the population living in areas far from health facilities

("Barmania"). Madagascar's infrastructure contributes to the transportation of health care. For the population that doesn't have much access, people are "walking for two hours to get to a health center or going to work" ("Barmania"). While health care in Madagascar is free, there are clear obstacles to healthcare access.

The realities and ways of life of the Malagasy people influence the present challenges of malnutrition. Malnutrition is one of the many major public health concerns in this country. The time between April and September 2021, "over 1.1 million people are experiencing high levels of acute food insecurity" ("Madagascar [Grand South]"). Access to nutritious food has lessened due to severe drought. Droughts include insufficient rainfall, sandstorms, and natural occurrences. About half the children in Madagascar are malnourished to the point of growth stunts ("Children of Madagascar"). High food costs are affecting the amount of nutrition people get. Malnourished children have a link with pregnant mothers. Pregnant and nursing mothers might not get proper medical care and nutrition counseling. Pregnant mothers need an abundance of nutritional supplements to provide more growth.

A possible solution to solve malnutrition in Madagascar would be micronutrient supplementation. This solution would help lessen the malnutrition crisis for Madagascar while decreasing the necessities of the people. It is a treatment of prepared vitamins and minerals to prevent micronutrient deficiency. A pregnant mother's body would increase its nutritional needs for themselves and the child. Study shows that women taking micronutrients have reported effects of decreased infant mortality and low birth weight risks ("Baumgartner"). Based on the results of the study, the use of micronutrients taken during pregnancy will benefit the child and mother. Micronutrients will be a vital step towards the solution and preventing stunting and malnutrition.

A project for the supplementation of micronutrients to pregnant and nursing mothers needs management. Management will require an organization to raise awareness and operate the program. Organizations like the World Health Organization and the United Nations have the background and experience to lead the project. Currently, the World Health Organization has taken roles in implementing micronutrients around the world. The WHO also collaborates with UN partners to "disseminate global guidance on the assessment of micronutrient status and effective micronutrient interventions" ("Micronutrients").

The community members, the Madagascar government, and other organizations have implementation for this project. A community member will provide information to the public about the benefits of micronutrients against malnutrition. Most of the local communities in this country are sociable, while some have cultural norms of contempt for foreigners. Local members will help provide health opportunities and nutritional value to others instead of foreigners providing. Due to the terrible condition of roadways, families will only be able to get much access without assistance. The organizations deliver supplementation for the people. Assistance from organizations like the World Health Organization and the United Nations will help support supply products and transportation.

The project will be sponsored by non-profit organizations, World Health Organization, the United Nations, and grants from the Madagascar government. A government grant is beneficial in supporting the project to solve malnutrition. Organizations can also help raise charities to collect funds for the program. The WHO and the UN could provide information around the globe due to prior backgrounds and funds. Micronutrient supplementation is cost-effective for pregnant and expecting mothers. Mothers will be nourished with a raised amount of nutrition and wouldn't be too costly. Supplementation costs of iron and folic supplementation (IFA) and the multiple micronutrient supplementation (MMS) are affordable.

Expenses would be at "0.86 USD and 1.82 USD per 100 supplements" from the IFA and MMS ("Kashi et al."). The acceptable price will further help the budget spending and provide nutrients for undernourished people.

For the project to be sustainable, management and organization work will be to be maintained. Financial stability will need to be actively maintained to ensure sustainability. The same goes for sustainability in projects for funds to concur. A sustainable project must have a long-term objective for which the pursuit of solving malnutrition adequately. The project will need to develop strong communications with contributors to avoid drawbacks.

For success, the project will need to take inspiration from successful programs from other known organizations. There are many organizations that work with different organizations in a micronutrient program, such as the WHO, UNICEF, and CDC. The CDC works with the WHO "to develop the evidence base for micronutrient interventions, policies, recommendations and best practices" for micronutrients ("Reducing Vitamin and Mineral Deficiencies"). The UNICEF works together with the CDC to combat micronutrient malnutrition. The CDC and the UNICEF strategize together for "home fortification, vitamin A supplementation, iron and folic acid supplementation, micronutrient supplementation" ("Reducing Vitamin and Mineral Deficiencies"). Creating connections with many organizations will allow and demonstrate a successful program.

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