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Madagascar- Malnutrition

Madagascar: The Food Insecurity and Malnutrition Crisis

Madagascar: the world's fourth largest island. Renowned for its incredible biodiversity is home to some 200,000 known species, including the infamous abundance of lemurs. Several of the plants and animals found there can be found nowhere else in the world. And as for the people who reside there, there are 18 main tribes that speak different languages. As a whole, the Malagasy people are acclaimed for their kindness and hospitality. Land and traditions passed down from their ancestors are highly valued, even through the many burdens and struggles they face on a daily. This contributes to Madagascar's identity as a culturally distinct and visually remarkable place. (Madagascar Tours & Voyages, Nature & Cultural Tours, Wildlife Tours, Mauritius Holidays & Vacations, 2024)

Madagascar's written history, rich and extensive, began in the seventh century when Arab trading posts were established along the northwestern coast. Then during the 1500's European contact began when a Portuguese sea captain spotted the island. By the late seventeenth century the French had established posts. In the 1790's, the island was unified by the Merina rulers. Later on in 1817, as British influence grew, the Merina ruler and a British governor abolished the slave trade. However, by the year 1895 the French gained complete control over Madagascar, making it an important site during the second World War. It remained this way until France lost control and Madagascar gained its independence on June 26, 1960 following a national uprising which had begun in 1947. (Madagascar (05/09), n.d.)

Present day life in Madagascar, however, is a obvious example of the major food and wealth disparities in the world. To illustrate, a day in the life in an eastern town in Madagascar, home to about 5,000 people, follows a 59 year old woman. She has two sons and a grandson. The family lives together in a mud and wattle house with a metallic roof and dirt floors. They use bushes near the house to use the bathroom. They get water from streams near the forested hills around their home. They use kerosene lanterns and candles for light because their house doesn't have electricity. For a living, since she was 25 years old, she crushes large rocks into gravel by hand using a mallet. She carries up to 20 kilograms of rocks up a steep hill to work. She does this about five times a day, each trip taking about an hour. Because she never went beyond reading and writing in school, her prospects for better work are very low.. And as she continues to grow older, she worries she won't be able to keep up with the physical demands her job requires. Leaving her with no guaranteed secure access to food. Her family, alongside many other Malagasy families, is living in severe multidimensional poverty. (Mppn & Mppn, 2023)

The extremity of this matter holds a certain gravity to it because Madagascar is so culturally vibrant. The Santabary Festival, for example, is a unique Malagasy celebration. Carried out annually at the end of April to early May, the festival celebrates the year's harvest of rice. It dates back to ancient times and celebrates the gratitude locals have for the rice harvests they have received. There is food, traditional music, and dancing across the nation. This festival demonstrates the connection between Malagasy people and rice, showing just how important the crop is to them, their culture, and their history. (Admin, 2015)

Madagascar's population is about 3.2 million people. (Madagascar Population (2024) - Worldometer, n.d.) 39.6% of its people reside in urban areas, leaving the other 60.4% residing in rural areas. (Madagascar Population (2024) - Worldometer, n.d.-b) The government is a republic, meaning representatives run the country. (globalEDGE, n.d.) 71% of its land is cultivated and farming is very common there. (Land / Madagascar | Interactive Country Fiches, n.d.) Rice is the main crop grown, consumed, and exported. (Covell et al., 2024) The average farm size is 1.3 hectares, which is about the size of three football fields. (Borgen Project, n.d.) The climate is hot and rainy from November to April, and dry from May through October. (World Bank Climate Change Knowledge Portal, n.d.) As far as geography goes, there are narrow coastal plains and a high plateau mountain at the center of the nation. (Briney, 2019)

The average family size is 4.6 people. (Institut National de la Statistique (INSTAT) [Madagascar] et al., 2005) Typically, in rural areas, families reside in earth blocks and thatched roofing, whereas families in urban areas typically reside in two or three story homes. (Kent et al., 2024) Most Malagasy people eat about 300 g of rice per day. Beyond this, their diets can vary depending on the region they live in, however, they typically consume starchy tubers, maize, plantains, and greens or vegetables. (Golden et al., 2019b) Most Malagasy families get their food from local markets. (Salle, 2013) One popular dish is Mofogasy, otherwise referred to as just Mofo, it is a rice cake or pancake that people eat for breakfast. (Stu, 2024)

The workforce in Madagascar has significant room for improvement. On average, men earn 37% more than women, and women are 20% more likely to experience unemployment than men. Women and girls as young as five spend 14.6% of their lives working in the unpaid care sector or domestic work. (Borgen Project, n.d.) In rural areas, over 90% of men and women aged 15-65 work, while in urban areas about 70% of women and 80% of men between these ages work. (Glick et al., n.d.) About 70% of the economy works in the agriculture sector. They harvest crops like rice, vanilla and coffee, and in drier regions raise livestock like cattle. (Employment Overview in Madagascar | Rivermate, n.d.) The average yearly income in Madagascar was 510 USD in 2018, leaving the majority of the population in severe poverty. (Anker et al., 2020)

Primary school (grade school) completion rate in 2022 was 62% for girls and 77% for boys. Healthcare in Madagascar is lacking accessibility because only 60-70% of its inhabitants have ready access to primary healthcare, and many people have to walk at least 6 miles to receive treatment. However, mobile health centers have been introduced in some remote or sparsely populated areas. As for affordability, private healthcare can be expensive but it provides the best healthcare services there. Public healthcare in Madagascar is the complete opposite, it is affordable but unreliable. Cases of diseases such as TB, malaria, and leprosy are rising, consequently, the government is trying to fix their healthcare system with fee exemptions. (EU-terveydenhoito.fi, 2024)

Madagascar's population is rapidly growing, doubling in the past 25 years, which has worsened living conditions. Due to the rapid population growth, the agriculture sector struggles to produce an adequate supply in order to feed everyone. As a result, Madagascar is facing severe malnutrition. It has the world's fourth highest rate of malnutrition at 47.3 percent and is ranked fifteenth globally of children affected by malnutrition. (International Fund for Agricultural Development, n.d.)

Facing high poverty rates, 90% of Madagascar's population lives on less than 3.10 USD a day. This ties back to food insecurity which exists in Madagascar as a result of low crop diversity, high reliance on rain-fed agriculture, rising food prices, and low incomes. Different regions of the country are prone to different natural disasters as well, such as droughts or cyclones and flooding. That leaves the about 1.31

million people who reside in these areas up against even higher levels of food insecurity. Together, these issues have led the Malagasy people to a food insecurity and malnutrition crisis. (Madagascar | World Food Programme, 2024b)

Nearly half of Madagascar's population has an imbalance of nutrients that their bodies need versus the nutrients they actually intake, in other words, nearly half of the Malagasy population is malnourished. Malnutrition can cause someone to be visibly emaciated, growth and development can be stunted, and the immune system can shut down. Some symptoms many face are fatigue, irritability, dry skin or rashes, hair loss, and more. (Malnutrition, 2024)

Malagasy dishes typically consist of rice and some accompaniment, like rice and starchy tubers, maize, plantains, and greens or vegetables. (The Delights of Madagascan Cuisine | Alimentarium, n.d.) (Golden et al., 2019) While these dishes do have some nutritional value, they fall short of ideal nutritional standards. Not to mention that more than two-thirds of children in Madagascar live in poverty, meaning many Malagasy people and children cannot afford full meals consistently for them to be properly nourished. (UNICEF, 2021) There is also a lack of education about nutrition, so many people remain uninformed and uneducated about the importance of eating healthy. (Alanna & Alanna, 2022)

Chronic malnutrition affects nearly 40% of children in Madagascar, 1.31 million out of the 28 million people there are facing high levels of acute food insecurity. (Madagascar | World Food Programme, 2024b) This means they suffer from food deprivation that threatens their lives or livelihoods. (Global Report on Food Crises (GRFC) 2024, n.d.) On top of this, food insecurity has been pushed even further by natural disasters, COVID-19, droughts, cyclones, heavy rains, strong winds, floods, and landslides have caused damage to infrastructure and reduced agriculture production. (Fayad, 2023) On top of this, food inflation in Madagascar has limited access to food to the 85 percent of the population living on less than 1.90 USD.

All together, these factors have propelled Madagascar into its current malnutrition crisis, with millions of people facing severe food insecurity. All of the challenges, natural disasters, and inflation have made it even harder for the majority of the country which lives in poverty to access more nutritious foods. This domino effect has caused a dire situation nationwide that desperately needs to be addressed and resolved.

1.8 million children under five in Madagascar suffer from chronic malnutrition. (Madagascar: Nutrition Profile, 2018) (UNICEF, 2023) Access to food has been wiped out by droughts and natural disasters, and the crisis is expected to worsen once lean season comes around. Similar regions prone to natural disasters nutrition situation is expected to slightly improve before worsening from the lean season.

2024 predictions stated that the situation is likely to worsen and about 458,700 children under the age of five are likely to suffer from acute malnutrition and about 121,000 of these children are likely to suffer from Severe Acute Malnutrition (SAM). (Madagascar: Acute Malnutrition Situation for June - September 2023 and Projections for October - December 2023 and January - April 2024 | IPC - Integrated Food Security Phase Classification, n.d.) Therefore about 338,000 children are expected to experience Moderate Acute Malnutrition (MAM). These predictions shed light on the seriousness of the issue and

highlight the importance of taking action to fix malnutrition in Madagascar so child development and overall health can improve.

By improving malnutrition in Madagascar, development will cease to be stunted and lives will become more efficiently productive. (Bain et al., 2013) Right now, intense counseling and nutritional supplements are ways the country is working towards eliminating malnutrition. (World Bank Group, 2024) Another plan is a ten-year program seeking to reduce the number of stunted children by 30 percent by the year 2028 in order to provide a brighter future. (World Bank Group, 2018)

The elimination of malnutrition in Madagascar could start a chain reaction of positive outcomes. First of all, it would allow healthy citizens to unveil new potentials and leave poverty. If Madagascar can financially support itself, it could protect agriculture from falling apart at the face of natural disaster. Right now, over 60 percent of Malagasy people live more than about 3 miles (5 kilometers) from a health care center with poor roads and transportation. People in Madagascar don't have great access to healthcare. Improved nutrition will make Malagasy people healthier, resulting in less doctor or hospital trips. (Global Health | Madagascar | U.S. Agency for International Development, n.d.)

One way Madagascar can improve their malnutrition crisis is by implementing crop diversification techniques to agriculture. National or local governments can help implement this to farms in Madagascar. One way could be by providing new and different crops and seeds to farmers. Free and/or cheap seeds would allow farmers to grow a larger variety of crops. A better variety of crops gives the consumers more nutrients they need.

Malagasy people's diet mostly consists of rice along with a few other provisions due to culture, lack of resources, unaffordable prices, and a lack of education on the other foods and nutrients that they need. One thing that local governments specifically can do to help change this is requiring schools to educate students on the importance of good nutrition and what that looks like in their community. They can also give students and children resources for local cheap or free nutritious food.

Community organizations can help by recruiting volunteers from those looking to help fix and change poverty in Africa and who can distribute and plant seeds as well as help harvest and sell them once they're grown. Organizations can also donate affordable, nutritious foods to areas and regions that suffer the most from food insecurity and malnutrition. By doing all of these things, crop diversification will not only help solve the malnutrition crisis in Madagascar, but also bring new foods, practices, and ideas there.

Even though crop diversification will bring much aid to the malnutrition crisis and support to the many Malagasy people living in poverty, it will be a big adjustment for local families across the country. It will require people to be open minded, and ready to try new things, such as where they get their food or the kind of food they eat. Rice is a food many people in Madagascar eat on a daily basis, but it lacks nutritional value. People will have to be ready to make changes to their diets and eat the new crops grown in order to get the nutrients their bodies need.

Local families who farm can support the crop diversification mission by planting new crops to sell and eat. And other local families can support by purchasing these new foods, so long as they are reasonably

priced. This will also benefit regions on such a level because it will keep their dollar local, which can uplift the economy on a smaller scale. Many Malagasy people who are malnourished live in poverty, so affordability is a key factor for the crop diversification plan, otherwise it will not work and families will not be able to buy, provide, or receive new nutritious foods.

Crop diversification techniques provide some solutions that directly address food insecurity. If the government gets involved, crop diversification can have a wide reaching effect on the community. This solution can bring new and healthy foods to areas struggling to get the food and nutrition that they need. Not only can the government bring good food to those in need, it can also provide free or low cost seeds in a large variety to local farmers leading to a variety of nutritious crops. As a result, consumers will have access to nutritious and affordable food.

With volunteer assistance, the solution also brings much-needed nutritional education and resources to children and families living isolated from nutritious food. Education can have a positive impact on how nutrition is viewed and understood, resulting in long term positive change in the community which can decrease food insecurity.

One organization with current projects to help malnutrition in Madagascar is IFAD. IFAD stands for International Fund for Agricultural Development and it is an international financial organization institution. (International Fund for Agricultural Development, n.d.) In Madagascar, they are working to transform rural areas, food systems, and nutrition security for those who are struggling. They are also working to build resilience to climate shocks that often harm agriculture there due to its high vulnerability to natural disasters. About five million people in Madagascar live in zones at an especially high risk of them. (International Fund for Agricultural Development, n.d.)

In Madagascar alone, IFAD has funded 15 rural development projects that have benefited more than 694,000 households. Now, they are working on its country strategic opportunities programme (COSOP) for 2022-2026, the plan is to help agriculture workers become self-sufficient, despite the challenges they face with climate and finances, so healthy food can become accessible to everyone. (Sara Mbago-Bhunu et al., 2021)

That being said, addressing the malnutrition crisis in Madagascar is necessary and urgent. Doing so will build the nation's resilience to natural disasters, develop their economy, and improve the lives of millions of Malagasy people living in poverty. Solutions such as crop diversification and increased nutritional education can change food insecurity and poverty in Madagascar. The country holds the potential to build a healthy and self-sufficient future, starting with these solutions and efforts currently in the works for Malagasy people.

Works Cited

- Admin. (2015, April 3). Madagascar attractions, things to do. Africa Tour Operators.
<https://www.africatouroperators.org/madagascar/madagascar-attractions/>
- Alanna, & Alanna. (2022, October 14). Chronic Malnutrition in Madagascar: A Problem Landscape with Local Solutions - Duke Lemur Center. Duke Lemur Center - .
<https://lemur.duke.edu/chronic-malnutrition-in-madagascar/>
- Anker, R., Anker, M., Global Living Wage Coalition, Clif Bar & Company, Social Accountability International, Smith, S., & Prates, I. (2020). Anker Living Income Reference Value for Rural Madagascar.
<https://www.globallivingwage.org/wp-content/uploads/2020/11/Rural-Madagascar-LI-Reference-Value-FINAL.pdf>
- Bain, L. E., Awah, P. K., Geraldine, N., Kindong, N. P., Sigal, Y., Bernard, N., & Tanjeko, A. T. (2013). Malnutrition in Sub-Saharan Africa: burden, causes and prospects. Pan African Medical Journal, 15. <https://doi.org/10.11604/pamj.2013.15.120.2535>
- Borgen Project. (n.d.). 10 facts about agriculture in Madagascar. The Borgen Project.
<https://borgenproject.org/10-facts-about-agriculture-in-madagascar/#:~:text=Because%20Madagascar%27s%20terrain%20is%20mountainous,farm%20size%20is%201.3%20hectares.%E2%80%9D>
- Borgen Project. (n.d.). Gender inequality in Madagascar. The Borgen Project.
<https://borgenproject.org/gender-inequality-in-madagascar/#:~:text=Men%20in%20Madagascar%20earn%2C%20on,sector%20or%20on%20domestic%20work.>
- Briney, A. (2019, September 4). Geography of Madagascar. ThoughtCo.
[https://www.thoughtco.com/geography-learn-all-about-madagascar-1435198#:~:text=Madagascar%20is%20considered%20a%20part,9%2C435%20feet%20\(2%2C876%20m\).](https://www.thoughtco.com/geography-learn-all-about-madagascar-1435198#:~:text=Madagascar%20is%20considered%20a%20part,9%2C435%20feet%20(2%2C876%20m).)

Covell, M. A., Southall, A. W., Dresch, J., Kent, R. K., & Deschamps, H. J. (2024, October 27).

Madagascar | History, population, Languages, map, & Facts. Encyclopedia Britannica.

<https://www.britannica.com/place/Madagascar/Agriculture-forestry-and-fishing>

Employment overview in Madagascar | Rivermate. (n.d.).

<https://www.rivermate.com/guides/madagascar/overview>

EU-terveydenhoito.fi. (2024, June 18). Austria - EU-terveydenhoito.fi.

<https://www.eu-healthcare.fi/health-services-abroad/country-specific-information-about-health-services/austria/>

Fayad, D. (2023). Food insecurity and climate shocks in Madagascar: Republic of Madagascar. IMF

eLibrary. <https://doi.org/10.5089/9798400242601.018.A001>

Glick, P., Steve Haggblade, & David Sahn. (n.d.). Patterns of employment and earnings in Madagascar. In

Patterns of Employment and Earnings in Madagascar. <https://cfnpp.cornell.edu/images/wp92.pdf>

Global Health | Madagascar | U.S. Agency for International Development. (n.d.). U.S. Agency For International Development.

<https://www.usaid.gov/madagascar/global-health#:~:text=Over%2060%20percent%20of%20Madagascar%27s,are%20unavailable%20in%20some%20areas.>

Global Report on Food Crises (GRFC) 2024. (n.d.).

<https://www.fsinplatform.org/report/global-report-food-crises-2024/>

globalEDGE. (n.d.). Madagascar: Government.

<https://globaledge.msu.edu/countries/madagascar/government>

Golden, C. D., Vaitla, B., Ravaoliny, L., Vonona, M. A., Anjaranirina, E. G., Randriamady, H. J., Glahn, R. P., Guth, S. E., Fernald, L. C., & Myers, S. S. (2019a). Seasonal trends of nutrient intake in rainforest communities of north-eastern Madagascar. *Public Health Nutrition*, 22(12), 2200–2209.

<https://doi.org/10.1017/s1368980019001083>

Golden, C. D., Vaitla, B., Ravaoliny, L., Vonona, M. A., Anjaranirina, E. G., Randriamady, H. J., Glahn,

R. P., Guth, S. E., Fernald, L. C., & Myers, S. S. (2019b). Seasonal trends of nutrient intake in

rainforest communities of north-eastern Madagascar. *Public Health Nutrition*, 22(12), 2200–2209.

<https://doi.org/10.1017/s1368980019001083>

International Fund for Agricultural Development. (n.d.). Home. IFAD. <https://www.ifad.org/en/>

International Fund for Agricultural Development. (n.d.). Madagascar. IFAD.

[https://www.ifad.org/en/w/countries/madagascar#:~:text=Like%20other%20countries%20undergoing%20rapid,children%20affected%20\(2%20million\)](https://www.ifad.org/en/w/countries/madagascar#:~:text=Like%20other%20countries%20undergoing%20rapid,children%20affected%20(2%20million))

Institut National de la Statistique (INSTAT) [Madagascar], ORC Macro, Hadar, Y., Randretsa, I., Rabeza,

V. R., Barrère, M., & Mariko, S. (2005). *Enquête Démographique et de Santé, Madagascar*

2003–2004: Rapport de synthèse (p. 1) [Report; Print]. INSTAT and ORC Macro.

<https://dhsprogram.com/pubs/pdf/SR105/SR105MD03-04Eng.pdf>

Kent, R. K., Deschamps, H. J., Dresch, J., Covell, M. A., & Southall, A. W. (2024, November 24).

Madagascar | History, population, Languages, map, & Facts. *Encyclopedia Britannica*.

<https://www.britannica.com/place/Madagascar/Local-government>

Land / Madagascar | Interactive Country Fiches. (n.d.).

<https://dicf.unepgrid.ch/madagascar/land#:~:text=About%2071%20%25%20of%20Madagascar%20is,of%20the%20island%20%5B120%5D>.

Madagascar | World Food Programme. (2024, March 29). UN World Food Programme (WFP).

<https://www.wfp.org/countries/madagascar#:~:text=Chronic%20malnutrition%20affects%20nearly%2040,incomes%20and%20rising%20food%20prices>.

Madagascar (05/09). (n.d.). U.S. Department of State.

<https://2009-2017.state.gov/outofdate/bgn/madagascar/124035.htm#:~:text=The%20written%20history%20of%20Madagascar,a%20fleet%20bound%20for%20India>.

Madagascar: Acute malnutrition situation for June - September 2023 and projections for October -

December 2023 and January - April 2024 | IPC - Integrated Food Security Phase Classification.

(n.d.). <https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156531/>

Madagascar: Nutrition profile. (2018). [Report].

[https://2017-2020.usaid.gov/sites/default/files/documents/1864/Madagascar-Nutrition-Profile-Ma
r2018-508.pdf](https://2017-2020.usaid.gov/sites/default/files/documents/1864/Madagascar-Nutrition-Profile-Ma
r2018-508.pdf)

Madagascar population (2024) - Worldometer. (n.d.-a).

<https://www.worldometers.info/world-population/madagascar-population/>

Madagascar population (2024) - Worldometer. (n.d.-b).

[https://www.worldometers.info/world-population/madagascar-population/#:~:text=The%20total%
20land%20area%20is,in%20Madagascar%20is%2019.0%20years.](https://www.worldometers.info/world-population/madagascar-population/#:~:text=The%20total%
20land%20area%20is,in%20Madagascar%20is%2019.0%20years.)

Madagascar Tours & Voyages, Nature & Cultural Tours, Wildlife Tours, Mauritius Holidays & Vacations.

(2024, August 15). The Malagasy Culture | Madagascar Tours and Holidays.

[https://www.cactus-madagascar.com/madagascar-overview-the-malagasy-culture/#:~:text=Famou
s%20for%20their%20hospitality%20and,Merina%20Language\)%20as%20their%20root.](https://www.cactus-madagascar.com/madagascar-overview-the-malagasy-culture/#:~:text=Famou
s%20for%20their%20hospitality%20and,Merina%20Language)%20as%20their%20root.)

Malnutrition. (2024, May 1). Cleveland Clinic.

<https://my.clevelandclinic.org/health/diseases/22987-malnutrition>

Mppn, & Mppn. (2023, December 5). Day in the Life: Fanja from Madagascar | MPPN. MPPN |

Multidimensional Poverty Peer Network.

<https://www.mppn.org/day-in-the-life-fanja-from-madagascar/>

Salle, S. (2013, March 7). Madagascar Food Markets & traditional cuisine. Hills of Africa.

<https://hillsof africa.com/blog/madagascar-food-markets-traditional-cuisine/>

Sara Mbago-Bhunu, Ibrahim Bamba, & Deirdre Mc Grenra. (2021a). Republic of Madagascar Country
Strategic Opportunities Programme 2022-2026.

<https://webapps.ifad.org/members/eb/133/docs/EB-2021-133-R-21.pdf?attach=1>

Stu. (2024, March 21). Traditional food in Madagascar: hearty dishes & delicious street food. Find My

Food Stu. <https://findmyfoodstu.com/madagascar-food/>

The delights of Madagascan cuisine | alimentarium. (n.d.).

<https://www.alimentarium.org/en/story/delights-madagascan-cuisine#:~:text=A%20typical%20Madagascan%20dish%20consists,pork%20with%20shredded%20manioc%20leaves.>

UNICEF. (2021). Madagascar case study: Being prepared, acting first. UNICEF.

<https://www.unicef.org/media/110781/file/Madagascar-Case%20Study-Being-Prepared-Acting-First-2021.pdf>

UNICEF. (2023, November 24). Malnutrition among children expected to quadruple as southern Madagascar drought worsens. UNICEF.

<https://www.unicef.org/press-releases/malnutrition-among-children-expected-quadruple-southern-madagascar-drought-worsens>

World Bank Climate Change Knowledge Portal. (n.d.).

<https://climateknowledgeportal.worldbank.org/country/madagascar/climate-data-historical#:~:text=In%20Madagascar%2C%20two%20seasons%20are,maximum%20of%203%2C700%20mm%20annually.>

World Bank Group. (2018, September 6). A Ten-Year program to combat chronic malnutrition in Madagascar. World Bank.

<https://www.worldbank.org/en/news/feature/2018/03/08/a-ten-year-program-to-combat-chronic-malnutrition-in-madagascar>

World Bank Group. (2024). Addressing chronic malnutrition in Madagascar. In World Bank.

<https://www.worldbank.org/en/programs/sief-trust-fund/brief/addressing-chronic-malnutrition-in-madagascar#:~:text=Intensive%20counseling%20plus%20nutritional%20supplements,recommended%20nutrients%20for%20young%20children.>