Madagascar: Nutrition Profile

Malnutrition in childhood and pregnancy has many adverse consequences for child survival and long-term well-being. It also has far-reaching consequences for human capital, economic productivity, and national development overall. The consequences of malnutrition should be a significant concern for policy makers Madagascar, where nearly 1.8 million children under 5 (47 percent) suffer from chronic malnutrition (stunting or low height-for-age) (INSTAT 2013a).

Background

Madagascar is the fifth largest island in the world with a population of 24.9 million. The population is young—41 percent is under age 15—and predominantly rural, with 64 percent of the population living in rural areas (Population Reference Bureau 2017). Although the fertility rate in Madagascar has been slowly declining over the past 20 years, it remains high. On average, a Malagasy woman has 5 children, down from 6 children on average in 1997 (INSTAT 2013c, INSTAT and ICF Macro 2010). The total population is expected to grow to 34.2 million by 2030 (Population Reference Bureau 2017).

Currently, Madagascar ranks 153rd out of 157 countries in terms of progress toward meeting the Sustainable Development Goals (Sachs et al. 2017). According to the most recent data, the maternal mortality rate is 478 per 100,000 live births, 16 percent of female deaths are related to pregnancy or childbearing, and one in 16 children will die before reaching 5 years of age (INSTAT 2013b).

Madagascar is extremely vulnerable to climate change and climate-related hazards, experiencing an average of three natural disasters per year. In 2017 alone, cyclone Enawo and a late start to the rainy season resulted in US$400 million in damage (4 percent of GDP) and a nearly 20 percent reduction in agricultural activity (World Bank 2017a). Agriculture contributes about 25 percent of the country's GDP and employs 74 percent of the workforce. While the agriculture sector's contributions to GDP have declined over the past decade—down from 29 percent of GDP in 2009—the country has a positive economic outlook with GDP growth expected to exceed 5 percent in the medium term. Despite this, nearly 80 percent of the population lives on less than US$1.90 a day (World Bank 2017a, 2017b).

Madagascar has recently recovered from a period of political crisis that began in 2009 after a coup d'état. Elections were held in 2014 and the final stage of reestablishing democratic institutions took place in 2016 with the installation of the Senate (World Bank 2017a, USAID 2017). During the political crisis, technical and financial partners greatly reduced their support and Madagascar was unable to fully take advantage of global platforms such as SUN, further exacerbating its nutrition and food security situation (INSTAT 2013a).

Nutrition and Food Security Situation

Entering 2018, it is estimated that 407,000 people are severely food insecure and another 1.7 million are moderately food insecure, based on the outcomes of the 2017 growing season. Rice, maize, and cassava production have declined, with rice being the hardest hit; as of 2017, rice output had declined by 20 percent from the previous year and by 21 percent compared to the five-year average (FAO 2018). This is especially concerning as rice is the preferred staple of many Malagasy. Portions of the southern regions of Atsimo Andrefana and Androy are currently most at risk, experiencing crisis levels of food insecurity. The southeastern regions of Vatovavy Fitovinany, Atsimo Atsinanana, and Anosy are currently experiencing stressed levels of food insecurity and are projected to remain so through mid-2018 (FEWS NET 2017).

Food insecurity and the spread of disease due to climate hazards, such as flooding, have contributed to high levels of malnutrition across the country. Acute malnutrition (wasting or low weight-for-height) affects 8 percent of children

under 5. In many regions, this number is close to or exceeds the 10 percent threshold that is considered high by the World Health Organization (WHO) and UNICEF. Vakinankaratra (11.9 percent), Atsinanana (11.9 percent), and Boeny (12.6 percent) already exceed this threshold, whereas Atsimo Atsinanana (9.9 percent) and Melaky (9.8 percent) are approaching the cutoff (INSTAT 2013a; WHO and UNICEF 2017). Wasting levels peak among children 12–17 months (13.7 percent). Cases of diarrhea, fever, and acute respiratory infections are highest among children 6–23 months (INSTAT 2013a).

All but one of Madagascar's 21 regions have a very high prevalence of stunting (defined by WHO/UNICEF as ≥ 30 percent). Of these regions, those with the highest levels of stunting include Analamanga (51.5 percent), Bongolava (51.4 percent), Alaotra Mangoro (56.5 percent), Vatovavy Fitovinany (57.1 percent), Itasy (62.3 percent), Amoron'i Mania (64 percent), Haute Matsiatra (65.2 percent), and Vakinankaratra (65.2 percent). Only Diana is below the threshold at 22.3 percent, which is still categorized as high by WHO/UNICEF (INSTAT 2013a, WHO and UNICEF 2017). The level of stunting peaks at 18–23 months (57.8 percent). Differences in stunting levels can be seen according to maternal education and wealth levels—40 percent of children whose mothers have secondary education or higher are stunted, while the rate rises to 52 percent among children whose mothers had received a primary school education only. The prevalence of stunting among children whose mothers received no formal education is slightly lower than among those whose mothers attended primary school, at 47 percent. Similarly, 22 percent of children in the highest wealth quintile are stunted, while 34 percent of children in the lowest wealth quintile are stunted (INSTAT 2013a).

Childbearing begins early in Madagascar, which can have serious consequences in terms of nutritional status. By 19 years, 62.4 percent of adolescent girls had begun childbearing in 2012–2013, an increase from 57.3 percent in 2008–2009 (INSTAT 2013c, INSTAT and ICF Macro 2010). This has serious consequences because adolescent girls are more likely to be malnourished and have a low birth weight baby who is more likely to become malnourished, and be at increased risk of illness and death, than those born to older mothers. The risk of stunting is 33 percent higher among first born children of mothers under 18 years in sub-Saharan Africa, and as such early motherhood is a key driver of malnutrition (Fink et al. 2014). Wasting levels are highest among children born to adolescent mothers (10.1 percent) and among those born with low birth weight (15.6 percent). Stunting levels are also highest among children with low birth weight (60.7 percent) (INSTAT 2013a).

Madagascar Nutrition Data (DHS 2008–2009, ENSOMD 2012–2013)		
Population 2016 (UNICEF 2017)	24.9 million	
Population under 5 years (0–59 months) 2016 (UNICEF 2017)	3.8 million	
	DHS 2008 - 2009	ENSOMD 2012 - 2013
Prevalence of stunting among children under 5 years (0–59 months)	50%	47%
Prevalence of underweight among children under 5 years (0–59 months)	39% (DHS 2003–2004)	32%
Prevalence of wasting among children under 5 years (0–59 months)	10% (DHS 2003–2004)	8%
Prevalence of low birth weight (less than 2.5 kg) (of children whose birth weights are known)	13%	11%
Prevalence of anemia among children 6–59 months	50%	NA
Prevalence of anemia among women of reproductive age (15–49 years)	35%	NA
Prevalence of thinness among women of reproductive age (15–49 years)	27%	NA
Prevalence of thinness among adolescent girls (15–19 years)	28%	NA
Prevalence of children 0–5 months exclusively breastfed	51%	42%
Prevalence of children 4–5 months exclusively breastfed	30%	NA
Prevalence of early initiation of breastfeeding (i.e., put to the breast within one hour of birth)	72%	66%

Prevalence of children who receive a pre-lacteal feed	24%	25%
Prevalence of breastfed children 6–23 months receiving minimum acceptable diet	3%	NA
Prevalence of overweight/obesity among children under 5 years (0–59 months)	NA	NA
Prevalence of overweight/obesity among women of reproductive age (15–49 years)	6%	NA
Coverage of iron for pregnant women (for at least 90 days)	8%	7%
Coverage of vitamin A supplements for children (6–59 months in the last 6 months)	72%	43%
Percentage of children 6–59 months living in households with iodized salt	47%	NA

NA: Not Available

Global and Regional Commitment to Nutrition and Agriculture

Madagascar has made the following global and regional commitments to nutrition and agriculture:

Year of Commitment	Name	Description
2012	Ending Preventable Child and Maternal Deaths: A Promise Renewed	Madagascar pledged to reduce under-5 mortality to 20 or fewer deaths per 1,000 live births by 2035 by reducing the leading preventable causes of child mortality, including undernutrition (A Promise Renewed 2017).
2012	Scaling Up Nutrition (SUN) Movement	SUN is a global movement that unites national leaders, civil society, bilateral and multilateral organizations, donors, businesses, and researchers in a collective effort to improve nutrition. Madagascar has a private sector platform (Anjaramasoandro), a researcher's platform (Mikasa), a United Nations and Donor platform, and a decentralized civil society network (HINA). There is also a champion's network, comprising artists and athletes and a pool of nutrition-aware journalists (SUN 2017).
2013	Comprehensive Africa Agriculture Development Programme (CAADP) Compact	CAADP is an Africa-led program bringing together governments and diverse stakeholders to reduce hunger and poverty and promote economic growth in African countries through agricultural development (New Partnership for Africa's Development 2009).

National Nutrition Policies/Legislation, Strategies and Initiatives

Madagascar's commitment to improving nutrition is outlined in the following documents, which are aligned with the government's National Development Plan (NDP) 2015–2019:

- National Food and Nutrition Plan 2017-2021 (PNAN III)
- National Plan for Investment in Agriculture, Livestock and Fisheries 2016–2020 (PNIAEP)
- Malagasy Government's Universal Health Coverage Strategy (2015)

The Government of Madagascar is in the process of finalizing an implementation plan, budget, and monitoring and evaluation plan to accompany the recently approved PNAN III. The Government is also finalizing a new 15-year National Nutrition Policy. Madagascar's National Community Nutrition Program (*Programme National de Nutrition Communautaire*) (PNNC) was institutionalized by the government in 2004/2005 and has been scaled up to all districts. Program services are contracted to local nongovernmental organizations that report to regional units of the National Nutrition Office. Services are provided by community nutrition workers (*agent communautaire de la nutrition [ACN])*, who are usually women elected by the communities. The program conducts monthly growth monitoring sessions attended by pregnant and lactating women and children under 5, during which behavior change messages are shared and cooking demonstrations are conducted (Fernald et al. 2016).

USAID Programs: Accelerating Progress in Nutrition

As of January 2018, the following USAID programs with a focus on nutrition were active in Madagascar.

Selected Projects and Programs Incorporating Nutrition in Madagascar		
Name	**Dates**	**Description**
Integrated Social Marketing Project (ISM)	2012–2018	ISM promotes cross-cutting health behaviors that prevent diarrhea, pneumonia, and malnutrition. ISM has used "Healthy Family" campaigns, nationwide radio dramas, and mass SMS via mobile phone to promote care-seeking behaviors, improvements to infant and child nutrition, and cost-effective diarrhea prevention and treatment. ISM also has worked with the Mikolo and Mahefa Miaraka projects to provide health information to people in remote parts of the country. ISM also has promoted breastfeeding in the work place and supported hospitals to become Baby Friendly. In addition, ISM has distributed micronutrient powders in communities and through private clinics.
USAID MIKOLO Project	2013–2018	The MIKOLO project aims to increase use of community-based primary health care services and the adoption of healthy behaviors, specifically in the areas of family planning; reproductive health; maternal, newborn, and child health; and malaria services (InterAction 2018c).
Food for Peace (FFP) ASOTRY	2014–2019	ASOTRY is an FFP development food security activity (DFSA) that seeks to reduce food insecurity and vulnerability among food insecure households and communities in the Amoron'l Mania, Haute Matsiatra, and Atsimo Andrefana regions (InterAction 2018a). This will be achieved through the following program areas: improving health and nutrition status of women of reproductive age and children under 5; increasing sustainable access to food for vulnerable households; and improving disaster preparedness, response, and natural resource management in vulnerable communities.
FFP FARARANO	2014–2019	Fararano is an FFP DFSA that aims to reduce food insecurity and chronic undernutrition in 45 communes in rural Madagascar's Atsinanana, Vatovavy Fitovinany, and Atsimo Andrefana regions by preventing undernutrition in children during the first 1,000 days and improving the nutritional status of children under 5; increasing and diversifying agriculture production for households and sustainable economic well-being; and enhancing communities' resilience to shocks as well as reducing natural resource degradation (InterAction 2018b).
USAID Community Capacity for Health Program (*Mahefa Miaraka)*	2016–2021	The aim of the Community Capacity for Health Program is to increase access to and use of key health services, including maternal, neonatal, and child health; family planning and reproductive health; malaria prevention and treatment; water, sanitation, and hygiene; and nutrition.
FFP Households Averting Vulnerability by Expanding Livelihood Opportunities (HAVELO)	2017–2019	HAVELO aims to prevent acute undernutrition by increasing access to and use of basic health and nutrition services and by improving households' access to food in sufficient quantity and quality. The main activities include general food distribution, food for assets, cash for work, and promotion of Essential Nutrition Actions including food diversification. HAVELO conducts growth monitoring and promotion, cooking demonstrations, distribution of fresh food vouchers, and training on livelihood activities. HAVELO supports 60,000 beneficiaries in Androy and Anosy regions in the districts of Tsihombe, Amboasary, and Beloha.
Supporting Health Outcomes through Private	2017–2021	SHOPS Plus focuses on expanding access to and use of priority family planning and reproductive health products. There are four main program

Sectors (SHOPS) Plus Activity		components: assess the family planning commodities and services market; collaborate with private companies to expand corporate social responsibility initiatives for health; increase provider access to finance through partnerships with local financial institutions; and strengthen government systems, particularly the commodities, logistics, and supply system (SHOPS Plus 2017). SHOPS Plus is working with Population Services International (PSI), the Ministry of Health, the National Nutrition Office, and the MIKOLO project to distribute Zazatomady, a micronutrient powder product, through communities, a network of private clinics, and pharmaceutical channels. Distribution through PSI will end in September 2018.
FFP contribution to World Food Programme (WFP) Transitional Interim Country Strategic Plan (T-ICSP)	2018–2019	FFP is providing support through WFP to provide food assistance and nutritional support in five southern and south-eastern regions of Madagascar.

References

A Promise Renewed. 2017. "Madagascar." Available at: http://www.apromiserenewed.org/countries/madagascar/

FAO. 2018. "GIEWS Country Brief–Madagascar." Available at: https://reliefweb.int/sites/reliefweb.int/files/resources/MDG11-January-2018.pdf

Fernald LCH, Galasso E, Qamruddin J, et al. 2016. "A cluster-randomized, controlled trial of nutritional supplementation and promotion of responsive parenting in Madagascar: the MAHAY study design and rationale." *BMC Public Health*. 2016;16:466. doi:10.1186/s12889-016-3097-7. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4891833/

FEWS NET. 2017. "Madagascar." Available at: http://www.fews.net/southern-africa/madagascar

Fink, G., Sudfeld, C.R., Danaei, G., Ezzati, M., and Fawzi, W.W. 2014. "Scaling-Up Access to Family Planning May Improve Linear Growth and Child Development in Low and Middle Income Countries." *PLoS ONE* 9(7): e102391. Doi: 10.1371/journal.pone.0102391.

Institut National de la Statistique (INSTAT). 2013a. *Enquête Nationale sur le Suivi des Objectifs du Millénaire pour le Développement à Madagascar: Objectif: 01*.

Institut National de la Statistique (INSTAT). 2013b. *Enquête Nationale sur le Suivi des Objectifs du Millénaire pour le Développement à Madagascar: Objectif: 04*.

Institut National de la Statistique (INSTAT). 2013c. *Enquête Nationale sur le Suivi des Objectifs du Millénaire pour le Développement à Madagascar: Objectif: 05*.

Institut National de la Statistique (INSTAT) and ICF Macro. 2010. *Enquête Démographique et de Santé de Madagascar 2008-2009*. Antananarivo, Madagascar: INSTAT and ICF Macro

InterAction. 2018a. "ASOTRY NGO Aid Map." Available at: https://www.ngoaidmap.org/projects/20865

InterAction. 2018b. "Fararano NGO Aid Map." Available at: https://www.ngoaidmap.org/projects/18655

InterAction. 2018c. "Madagascar MIKOLO Project." Available at: https://www.ngoaidmap.org/projects/5734

Population Reference Bureau. 2017. "2017 World Population Data Sheet." Available at: http://www.prb.org/pdf17/2017_World_Population.pdf

Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacre, D., and Teksoz, K. 2017. *SDG Index and Dashboards Report 2017*. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

Scaling Up Nutrition. 2017. "Madagascar." Available at: http://scalingupnutrition.org/sun-countries/madagascar/

SHOPS Plus. 2017. "Madagascar." Available at: https://www.shopsplusproject.org/where-we-work/africa/madagascar

UNICEF. 2017. *The State of the World's Children 2017*. Available at: https://www.unicef.org/sowc/

USAID. 2017. "Moving Forward with the Government of Madagascar." Available at: https://www.usaid.gov/madagascar/global-health/moving-forward-government-madagascar

World Bank. 2017a. "Madagascar Country Overview." Available at: http://www.worldbank.org/en/country/madagascar/overview

World Bank. 2017b. "World Development Indicators." Available at: http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators

WHO and UNICEF. 2017. *Report of the Fourth Meeting of the WHO-UNICEF Technical Expert Advisory Group on Nutrition Monitoring (TEAM)*. Geneva: WHO and New York: UNICEF.