

Why Invest in Nutrition?

- Of the 190,000 children under 5 years of age in Timor Leste, approximately 110,000 (58%) are stunted. These undernourished children have an increased risk of mortality, illness and infections, delayed development, cognitive deficits, poorer school performance, and fewer years in school.
- The mortality rate for children under 5 is 64 per 1,000 live births—nearly 45% of these child deaths are attributable to various forms of undernutrition.
- Malnutrition undermines human capital and economic productivity and can limit progress in achieving at least 6 of the 8 Millennium Development Goals and targets set by the World Health Assembly.
- Investing in nutrition in Timor Leste is a necessary first step to support development and it can significantly reduce child mortality, improve children's school performance, and result in greater economic productivity for the nation.

Summary of Nutritional Status and Priorities

Timor Leste has one of the highest burdens of stunting globally, affecting 58% of children nationally (33% severely) and reaching levels as high as 73% in some districts. Stunting begins early and rises quickly—a quarter of children are stunted before 6 months of age and roughly half by 1 year of age. Wasting affects 20% of infants in the first 6 months of life, with levels in children under 5 in some districts characterizing levels seen in emergencies. These high rates indicate both prenatal and postnatal influences. Anemia and micronutrient deficiencies, particularly vitamin A and iodine, are also significant concerns, although improved data are needed. Approaches to improve nutrition need to address underlying and basic nutrition-sensitive causes, such as poverty (50% of the population lives below the national poverty line [United Nations]); low vaccination coverage; water, sanitation, and hygiene; health care access; and maternal education levels. Nutrition-specific interventions are also needed, especially to improve infant and young child feeding (IYCF) practices, micronutrient supplementation coverage, universal salt iodization, and child illness prevention and treatment through strengthened nutrition service delivery.

Stunting. Stunting levels are among the highest globally among children under 5 in Timor Leste and have increased in recent years—58% of children under 5 are stunted, 33% severely so, and levels reach 73% in some districts. Notably, stunting is high across all wealth quintiles in Timor Leste, ranging from 63% among children in the lowest and 47% in the highest.

Prenatal factors such as birth size and maternal thinness are associated with greater levels of stunting in Timor Leste. The proportion of stunted children increases sharply from birth—a quarter of children are already stunted in the first 6 months of life and roughly half are stunted by 1 year of age. Suboptimal IYCF practices (including a short duration of exclusive breastfeeding, low dietary diversity of complementary feeding, and insufficient feeding frequency) as well as infectious disease burden during the first 2 years of life (including malaria, diarrhea, and fever) are likely prime contributors.

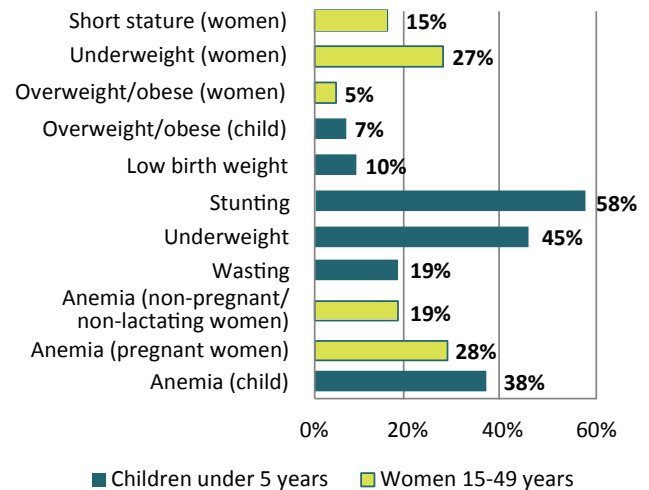
Wasting. Wasting levels are also among the highest globally and peak among children 12–17 and 48–59 months, among whom 22% are wasted, although children under 6 months of age are not far behind at 20%. Some districts have wasting levels that characterize emergency situations including Aileu (49% wasted, 30% severely wasted) and Manatuto (19% wasted, 11% severely wasted). Maternal thinness and small birth size are associated with wasting as are rural residence and lower wealth.

Anemia. Anemia among children has increased in Timor Leste since 2003, affecting 53% of children under 2 in 2010 (38% of children under 5), with the highest levels among children 9–11 months, of whom 67% are anemic. Anemia is slightly higher in rural areas than in urban areas (39% versus 33% of children under 5) and highest in Manatuto district (68% of children under 5), but does not vary hugely by maternal education or wealth level. Over a quarter of pregnant women also suffer from anemia.

Maternal malnutrition and low birth weight.

More than a quarter of women of reproductive age are underweight in Timor Leste (and 33% of women 15–19 years of age), which declined from more than a third of women in 2003. Short stature, in contrast, increased 2 percentage points between 2003 and 2010. Low birth weight was estimated to be 12% in 2003 (UNICEF 2013) and 10% in 2010 (however, the 2010 data was not adjusted for under-reporting of birth weight—the proportion of births registered and weighed in Timor Leste is quite low, 13% in 2003 and 26% in 2010).

Micronutrient deficiencies. Data on vitamin A deficiency are unavailable, but coverage with vitamin A supplements among women and children is estimated at about 50%. In addition, 7 to 12% of children 1–5 years of age and 2% of pregnant women were reported to have signs of night blindness (e.g., bumping or tripping over objects in the evening). Iodine deficiency remains a concern in Timor Leste—the goiter rate is estimated at 5% nationally, reaching 20% in some districts, indicative of a public health problem according to WHO standards (MDG Achievement Fund 2009). Legislation has been drafted for mandatory salt iodization (Begin and Codling 2013).

Maternal and Child Malnutrition Indicators in Timor Leste

Source: DHS 2009–10

Key Drivers of Maternal and Child Malnutrition in Timor Leste**Immediate and Underlying**

- Suboptimal IYCF practices including a short duration of exclusive breastfeeding, low dietary diversity of complementary feeding, and low feeding frequency
- Low vaccination coverage among children
- High burden of disease, including fever, malaria, acute respiratory infection, diarrhea, and intestinal parasites
- Maternal malnutrition and low birth weight
- Inadequate access to health services due to long distances, poor/destroyed infrastructure, limited health personnel, and poor communication and referral systems
- Limited access to safe water and appropriate sanitation facilities
- Low intake of iron and protein-rich food among women and short duration of iron supplement use during pregnancy
- Chronic food insecurity for a large proportion of the population but particularly during the lean season

(October to March), in upland areas, among female-headed households, among subsistence farmer households, and among households experiencing a sudden crisis

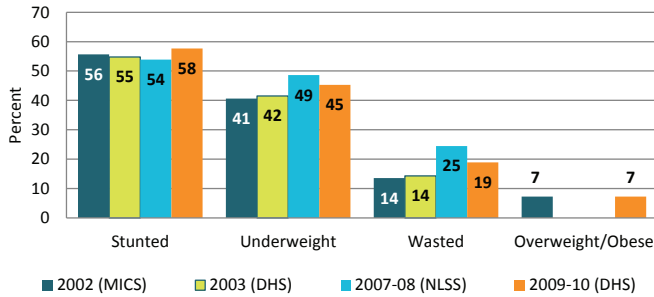
- High fertility and early child-bearing

Basic

- Low levels of education among women in particular
- High levels of poverty (close to 50% live below the poverty line of US\$1.25 per capita per day)
- Discrimination of women in asset ownership (including land), access to social and economic services, and decision making
- Insecurity, population displacement, and destroyed infrastructure due to long-term foreign occupation, prolonged conflict, and violence during and after the independence process
- Landlessness due to land disputes and unresolved land tenure system
- Weaknesses and logistical/administrative challenges in governance due to newness of Timor Leste government

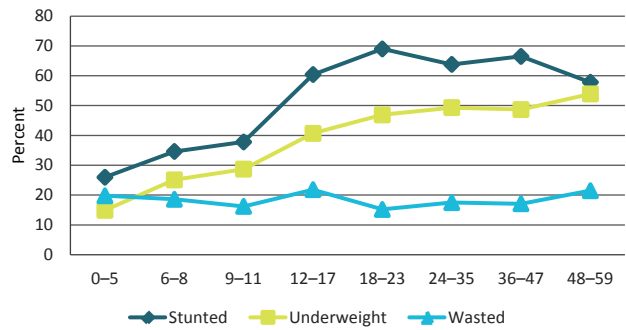
Child Nutrition

Trends in Nutritional Status of Children Under 5, 2002–2010



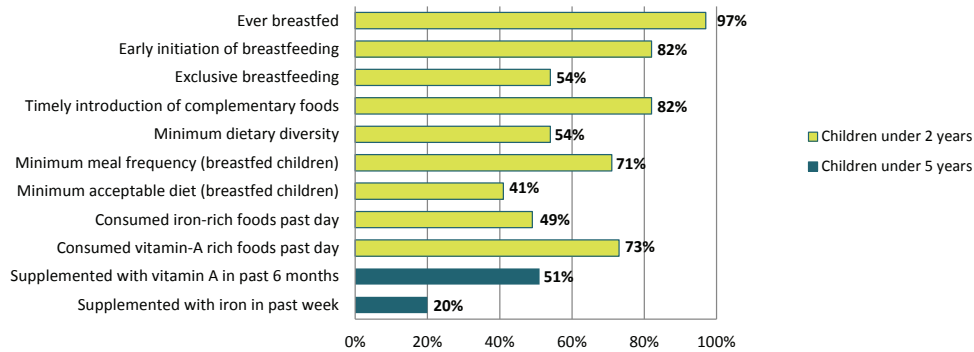
Sources: Multiple Indicator Cluster Survey 2002; 2003 DHS; Timor-Leste Survey of Living Standards 2007; DHS 2009–10

Nutritional Status of Children by Age (in Months)



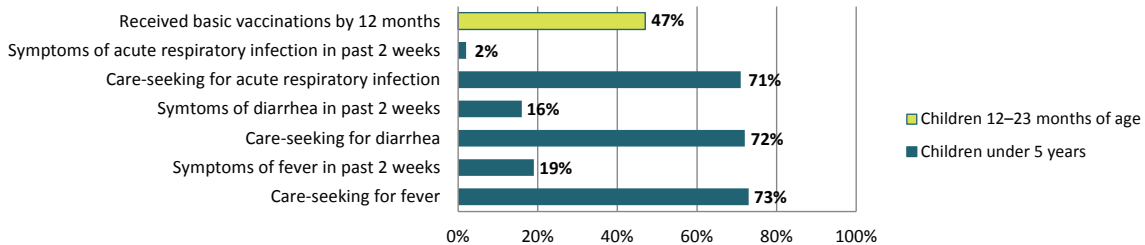
Source: DHS 2009–10

Dietary Practices of Children



Source: DHS 2009–10

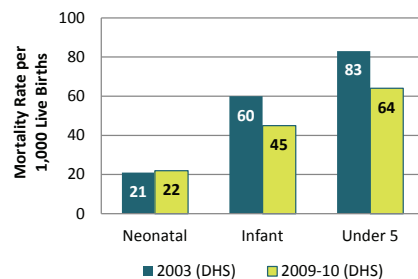
Child Health Indicators



Source: DHS 2009–10

Note: Basic vaccinations include BCG, measles, and three doses each of DPT and polio vaccine.

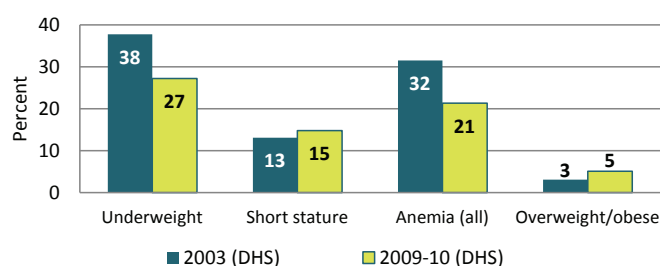
Child Mortality, 2003–2010



Note: Data are for the time period within the previous 4 years of the survey.

Maternal Nutrition

Trends in Nutritional Status of Women (15–49 years), 2003–2010



Maternal Health Indicators		
Maternal mortality ratio (per 100,000 live births)	300	
Total fertility rate (children per women)	5.7	
Median age at first marriage (of women 25–49 years)	20.9	
Median age at first birth (of women 25–49 years)	22.4	
% of women 15–19 years who have begun childbearing by 19	20.3	
Median number of months since preceding birth (of women 15–49 years)	29.0	
% of married women using any method of family planning	31.5	
% of married women with an unmet need for family planning	30.8	
% of women 15–49 years with live birth in the past 5 years receiving antenatal care from a “medically-trained” or “skilled” provider (doctor, nurse, midwife, or assistant nurse)	86.0	
% of women 15–49 years with birth in the past 5 years who delivered in a health facility	22.1	
% of women 15–49 years with birth in the past 5 years who delivered with a “medically-trained” or “skilled” provider (doctor, nurse, midwife, or assistant nurse)	29.9	
Maternal Nutrition Indicators		
% anemic (pregnant: Hb < 11 g/dL; non-pregnant: Hb < 12 g/dL)	Overall	21.3
	Pregnant	27.8
	Non-pregnant/non-lactating	19.4
% of women with birth in the last 5 years given vitamin A supplementation for 2 months after birth of last child	54.7	
% of women with birth in the last 5 years given any iron supplementation during last pregnancy	61.2	
% of women with birth in the last 5 years who took at least 90 days of iron supplementation during pregnancy of last child	16.2	
% of women with birth in the last 5 years who took deworming medication in last pregnancy	13.3	
% living in houses with iodized salt	No data	

Sources: DHS 2009–10; maternal mortality: UNICEF 2012

Food Security; Diet Diversity; and Water, Sanitation, and Hygiene

Food Security Indicators	
Global Hunger Index (2013)	29.6 (alarming level of hunger)
% of households with poor or limited food consumption (food insecure) (2006)	20.0
% undernourished in total population (2011–2013)	38.3
Food supply (kcal/capita/day) (2009)	2,076
Depth of food deficit (kcal/capita/day) (2011–2013)	254
Diet Diversity Indicators	
% of dietary energy supply from cereals, roots, and tubers (2008–2010)	72
Average supply of protein from an animal source (grams/capita/day) (2008–2010)	15
Water, Sanitation, and Hygiene Indicators	
% of population with access to improved drinking water sources (2011)	64
% of population with access to sanitation facilities (2011)	43
% of population using appropriate treatment method for drinking water (2011)	84

Sources: FAO 2013; Global Hunger Index: von Grebmer et al. 2013; food insecure: WFP 2006; food supply: FAOSTAT (<http://faostat3.fao.org/faostat-gateway/go/to/browse/FB/FB/E>); water, sanitation, and hygiene indicators: DHS 2009–10

Gender

The long-standing conflict in Timor Leste that ended in 2002 continues to affect progress on gender equality. On the one hand, DHS data indicate that women in Timor Leste participate significantly in household decision making, but at the same time nearly 40% of women report experiencing gender-based violence. It is plausible that the conflict enabled women to become more empowered but at the same time exacerbated violence against women, the effects of which still linger. Marriage occurs relatively early for women—24% of women 25–49 years of age are married by the age of 18 compared to only 5% of men 30–49 years—and 20% of adolescent women 15–19 years have given birth to a child by the age of 19. In the 2009–10 DHS, 44% of married women 15–49 years of age reported being employed and among them only 36% reported being able to decide on their own

how to dispose of their income. Domestic violence is pervasive and 39% of women of childbearing age reported ever having experienced various forms of domestic violence in their lifetime. Yet 74% of women of childbearing age (15–49 years) reported participating in decisions about their own health, major household decisions, making purchases for daily household needs, and visiting relatives. The fertility rate is one of the highest in the region, in part due to lack of contraceptive use and lack of family planning services. In addition, it is possible that the high rate of domestic violence adversely affects the fertility rate through sexual violence. The high fertility rate not only has an impact on the nutritional status of every subsequent child a mother has, but also further limits the time she has available to provide optimum care which increases the risk of malnutrition in children.

Government Policies and Program Environment: Needs and Challenges

Policies. Political commitment to reducing malnutrition appears to have increased since 2007, when commitment to tackle malnutrition was assessed to be generally lacking and was believed to be adequately addressed through economic development alone (Noji 2011). Timor Leste's Strategic Development Plan 2011–2030 specifically recognizes the importance of nutrition for the health and development of children, the immense malnutrition problem among women and children, and the need for multisectoral action to address it (ibid). The plan promotes greater dietary diversity and consumption of locally-produced food

and aims to improve mother and child nutrition care practices, improve access to and quality of nutrition services at health facilities in the community, and address nutrition behavior change programs. Community-based health service delivery, focused on maternal and child health, is a priority area in the health sector with special attention to skilled attendance at birth, increased immunization coverage, increased coverage of treatment of common childhood illnesses, and increased coverage of essential nutrition interventions (ibid). The main nutrition policy, the National Nutrition Strategy adopted by the Ministry

of Health in 2004 and revised in 2012, aims to reduce by a third the prevalence of maternal anemia, low birth weight, and child underweight and aims to eliminate iodine and vitamin A deficiencies (WHO 2009). Identifying three levels of action—central/national, facility service delivery, and community/family participation—the strategy focuses on maternal and child nutrition and food security. The maternal and child nutrition component includes ensuring adequate health and nutrition services for fetal and infant growth, improved caring practices, and community participation processes. The food security component includes multisectoral interventions, nutrition advocacy, and creating legislation that supports optimal nutrition.

Programs. Since 2008, the Government of Timor Leste has made a major effort to increase service delivery at the community level through a program that has established health posts at the village level where health care staff make monthly visits to provide outreach services with help from community family health promoters (WHO 2009). Each month, health staff and family health promoters organize health and nutrition services around a six table assistance system. Services include community registration, nutrition assistance (largely limited to weighing, although deworming and vitamin A supplementation also occur), assistance to pregnant mothers and children, information on personal hygiene and sanitation, health services from health workers, and health education (ibid). There are currently 604 program health posts covering the country's 13 districts (Ministry of Health). Community health centers also provide nutrition services including measuring height and weight (and mid-upper arm circumference in some cases for provision of supplementary feeding) and curative services such as zinc for diarrhea (WHO 2009).

Needs and challenges. Although greater political commitment to investing in malnutrition appears to have been built in the past few years, a shared vision of what malnutrition is, what its causes are, and how it

can be addressed was not well-established as recently as 2009 according to a WHO assessment. Stunting was “invisible” to many in Timor Leste, thought to be a result of genetic variation rather than environmental factors. Thus continued advocacy of government officials in particular may be needed to ensure sustained commitment to malnutrition reduction. Although nutrition knowledge of government technical staff at the central level has been assessed as good, at lower levels of government, greater nutrition knowledge and training is needed (WHO 2009). In addition, the reach of health care services is poor due to the lack of health infrastructure, qualified health professionals, poor communication infrastructure, and low quality of primary health care services and referral systems (MDG Achievement Fund 2009). However, the government has committed to increasing the accessibility of health posts to communities that are far from any facility and committed to increasing the number of health professionals in more remote areas, particularly midwives, to whom they will provide incentives to remain in these areas for at least 3 years (Government of Timor-Leste). At the community health centers, the WHO assessment observed that greater emphasis on counseling of breastfeeding and complementary feeding practices was needed, as was strengthened efforts to address maternal malnutrition, including addressing anemia and adequate maternal weight gain.

Development Partner Support

- The EU funds an Integrated Nutrition Project through 2017 with the goal to improve the quality of the nutrition situation among children 0–5 years (specifically reducing underweight by 5%) by the end of 2017. It aims to reach its goal through the improvement of the quality and coverage of Ministry of Health policies and services related to children under 5 years and pregnant and lactating women, including the implementation of a high impact nutrition intervention package and through community-based activities. Project activities include: the promotion of optimal IYCF practices; treatment of moderately and severely malnourished children through therapeutic feeding programs and supplementary food programs; increasing the percentage of children under 5 years and women of reproductive age receiving a high impact nutrition package; developing behavior change communication materials; enhancing the capacity of the Nutrition Department of the Ministry of Health; supporting district and sub-district planning of integrated nutrition activities; and nutrition advocacy. The project will be jointly managed by UNICEF and WFP.
- The World Bank in partnership with the Japanese Social Development Fund seeks to improve the

Nutrition-Specific Policies

2011–2030 Strategic Development Plan

The Health Sector Strategic Plan (2008–2012)

Breastfeeding Promotion Policy (2009)

National Food Security Policy (2005)

National Nutrition Strategy (2004)

National Strategy for Infant and Young Child Feeding (2003)

provision of nutrition services and supports the creation of a Food and Nutrition Security and Agriculture Policy.

- AusAID provides funding for improving access to nutrition services, for the provision of fortified flour to targeted women and children (with WFP), and for providing access to seeds for nutritious foods such as sweet potato and cassava.
- FAO, with joint partnerships with UNICEF and WFP, promote several nutrition programs including the promotion of home and school gardens, nutrition education, emergency relief including food security and bio-security, animal health services, and support to the fishery and forestry sectors with a nutrition focus.
- UNICEF is working to revise the National Nutrition Strategy to incorporate IYCF; strengthen the community component of community-based management of acute malnutrition, including

supportive supervision; improve micronutrient supplementation including expansion of salt iodization; introduce micronutrient powders (sprinkles); and support emergency preparedness and response, including revising the Emergency Nutrition Cluster contingency plan.

- WFP provides blanket feeding to all children 6–23 months and provides targeted feeding to moderately malnourished children 24–59 months and to malnourished mothers. WFP also assists the government with capacity development for its national school feeding program, implements a food-for-assets program, and is working to assist the government in supply chain management.
- WHO is supporting the creation of a lab for iodine deficiency, is providing training on the new WHO growth standards, is supporting moderate and severe acute malnutrition treatment efforts, and is supporting emergency preparedness.

Recommended Nutrition Priorities

Key nutrition priorities for Timor Leste include focusing on stunting and wasting, anemia, maternal malnutrition and low birth weight, micronutrient deficiencies, and food security. USAID has invested in health programs and activities, however none of these resources were allocated to nutrition specifically. Given the exceedingly high levels of stunting, wasting, and high fertility rates, increasing the allocation for nutrition, food security, and family planning could help bolster efforts to reduce malnutrition. Among existing USAID-funded activities and programs this includes integrating evidence-based nutrition-specific interventions and actions. Additional opportunities for investment include:

- Supporting and undertaking nutrition advocacy to augment accountability and governance for nutrition and strengthen multisectoral coordination
- Investing in nutrition interventions focused on the first 1,000 days (from pregnancy through the first 2 years of life), with a particular focus on improving early initiation of breastfeeding, exclusive breastfeeding, and IYCF practices (particularly dietary diversity and feeding frequency) as well as micronutrient provision (through supplementation and fortification)
- Investing in interventions to manage and mitigate acute malnutrition

- Expanding technical assistance and support for food security, water and sanitation, and family planning
- Building the capacity of health staff at lower levels of government in nutrition (e.g., establishing a short course/diploma program in nutrition for health staff)
- Providing direct technical assistance on nutrition

In terms of opportunities to support the Government of Timor Leste, opportunities include:

- Engaging with the government to promote investment and commitment to and accountability for nutrition
- Engaging with the government to expand nutrition service delivery and improve quality of services in nutrition

USAID can also work in close coordination with other donors to:

- Support government initiatives to promote greater coordination for nutrition service delivery across the health system
- Align on a policy level to advocate for critical investments in nutrition
- Align resource allocation to limit duplication of activities and leverage donor investments to strategically invest in nutrition, focusing on areas that need added resources such as advocacy for nutrition of children under 2 years of age.

Recommended Indicators to Monitor Nutritional Impact

It is recommended that USAID incorporate the following key nutrition indicators into new and existing implementation plans in order to specifically monitor the impact of USAID programs on maternal and child nutrition status.

1. Prevalence of underweight children under 5 years of age (< -2 SD)
2. Prevalence of stunted children under 5 years of age (< -2 SD)
3. Prevalence of stunted children under 2 years of age (< -2 SD)
4. Prevalence of wasted children under 5 years of age (< -2 SD)
5. Prevalence of underweight women (BMI < 18.5)
6. Women's dietary diversity: mean number of food groups consumed by women of reproductive age
7. Prevalence of exclusive breastfeeding of children under 6 months of age
8. Prevalence of children 6–23 months receiving a minimum acceptable diet

While nutrition-sensitive interventions can have an impact on the indicators listed, it is critical to implement nutrition-specific activities that address the direct causes of malnutrition in order to see reductions in these key indicators.

References

Begin, F. and Codling, K. 2013. "Iodized salt legislation in South and East Asia and the Pacific: an overview." *IDD Newsletter*. Vol. 41, No. 2, pp. 16–17.

FAO. 2013. "Statistics: Food Security Indicators." Available at <http://www.fao.org/economic/ess/ess-fs/fs-data/en/#.UwY1EvidXT0>.

Government of Timor-Leste. "Program of the V Constitutional Government 2012-2017 Legislature 2.1 Health." Available at <http://timor-leste.gov.tl/?cat=39&lang=en#toc335313398>.

MDG Achievement Fund. 2009. *Joint Program Promoting Sustainable Food and Nutrition Security in Timor Leste*.

Ministry of Health. "SISCa Health Service." Available at <http://www.moh.gov.tl/?q=node/82>.

Ministry of Health et al. 2004. *Timor-Leste 2003 Demographic and Health Survey*. Newcastle, Australia: University of Newcastle.

National Statistics Directorate et al. 2010. *Timor-Leste Demographic and Health Survey 2009-10*. Dili, Timor-Leste: National Statistics Directorate and ICF Macro.

Noji, F. 2011. *Joint Program Promoting Sustainable Food and Nutrition Security in Timor-Leste Mid-Term Evaluation*. MDG Achievement Fund.

Office of Statistics and Ministry of Finance. 2008. *Timor-Leste Survey of Living Standards (TLSLS) 2007*. Dili, Timor-Leste: Office of Statistics and Ministry of Finance.

UNICEF. 2012. "Information by Country and Program." Available at <http://www.unicef.org/infobycountry/>.

UNICEF. 2013. "Statistics by Area/Child Nutrition: Low birthweight." Available at http://www.childinfo.org/low_birthweight_table.php.

UNICEF and Office of Statistics. 2003. *Timor-Leste Multiple Indicator Cluster Survey (MICS) 2002*. Dili, Timor-Leste: UNICEF.

United Nations. "Millennium Development Goals Indicators." Available at <http://mdgs.un.org/unsd/mdg/data.aspx>.

von Grebmer, K., et al. 2013. *2013 Global Hunger Index: The Challenge of Hunger: Building Resilience to Achieve Food and Nutrition Security*. Bonn, Washington, DC, and Dublin: Welthungerhilfe, International Food Policy Research Institute, and Concern Worldwide.

WFP. 2006. *Timor Leste: Comprehensive Food Security and Vulnerability Analysis (CFSVA)*. Italy: WFP.

WHO. 2009. *A landscape analysis of readiness to act in nutrition: report of the country assessment in Timor Leste*. Available at http://www.who.int/nutrition/landscape_analysis/TimorLesteLandscapeAnalysisCountryAssessmentReport.pdf.



Contact Information:

Food and Nutrition Technical Assistance III Project (FANTA)
FHI 360
1825 Connecticut Avenue, NW
Washington, DC 20009-5721
Tel: 202-884-8000
Fax: 202-884-8432
Email: fantamail@fhi360.org
Website: www.fantaproject.org

Recommended Citation:

Chaparro, C.; Oot, L.; and Sethuraman, K. 2014. *Timor Leste Nutrition Profile*. Washington, DC: FHI 360/FANTA.

This nutrition profile is made possible by the generous support of the American people through the support of the Office of Health, Infectious Diseases, and Nutrition, Bureau for Global Health, U.S. Agency for International Development (USAID) and USAID Bureau for Asia under terms of Cooperative Agreement No. AID-OAA-A-12-00005, through the Food and Nutrition Technical Assistance III Project (FANTA), managed by FHI 360.

The contents are the responsibility of FHI 360 and do not necessarily reflect the views of USAID or the United States Government.

The intended purpose of this profile is to provide a broad overview of the status of nutrition in Timor Leste in order to inform potential US-supported efforts. For more information on USAID health programming in Timor Leste, please visit: www.usaid.gov/timor-leste. To view USAID's Global Health nutrition portfolio and its extensive contributions, please visit: www.usaid.gov/what-we-do/global-health/nutrition.