

Why Invest in Nutrition?

- Of the 1.7 million children under 5 years of age in Cambodia, approximately 660,000 (40%) 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 54 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 Cambodia is essential for the country's development—improved nutrition will significantly reduce child mortality, improve children's school performance, and will result in greater economic productivity for the nation.

Summary of Nutritional Status and Priorities

Stunting and wasting affect 40% and 11% of Cambodian children under 5, respectively, with little progress in reducing stunting since 2005 and an increase in wasting between 2005 and 2010. Anemia (caused by iron and vitamin A deficiency, as well as genetic hemoglobin disorders) affects 55% of children under 5, more than three-quarters of children under 2, and more than half of pregnant women. The proportion of women of reproductive age who are underweight is 19% and is highest among adolescent women (28%). Approaches to reduce malnutrition in Cambodia need to address underlying contributors through multisectoral efforts, particularly improving water, sanitation, and hygiene; increasing access to more diverse food (for women and children); addressing suboptimal infant and young child feeding (IYCF) practices; and supporting livelihood and social safety net programs that can help reduce poverty. Although poverty has been reduced from 50% in 1992 to 21% in 2011, it remains an important driver of malnutrition (United Nations).

Stunting. As of 2010, 40% of children under 5 in Cambodia were stunted. Stunting has clear prenatal components in Cambodia evidenced by its association with low birth weight and maternal nutritional status, however the increase in stunting between 9 and 23 months of age indicates a large contribution of postnatal factors as well, including suboptimal IYCF practices and infection. Stunting is substantially higher among rural children (42% rural versus 29%

urban) and in the lowest wealth quintile (51% in the lowest versus 23% in the highest), and also varies by maternal education and geographic region. Although the prevalence of stunting in Cambodia has decreased since 2000, greater progress was made between 2000 and 2005 than between 2005 and 2010. This stagnation, which was seen across urban and rural areas as well as across wealth levels, has been partially attributed to rising food prices, although continued poor dietary practices and inadequate sanitation, primarily in rural areas, are also primary contributors (UNICEF 2013).

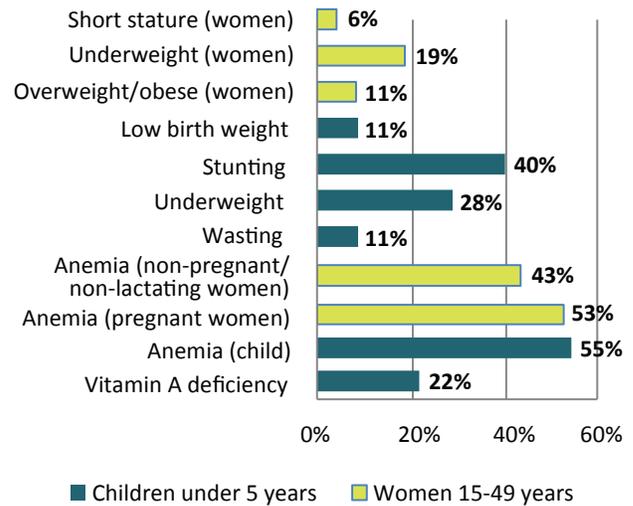
Anemia. The prevalence of anemia is a critical public health problem, affecting more than 3 in 4 children under 2 and more than half of children under 5 and pregnant women. From a study published in 2012, determinants of anemia among Cambodian children 6–59 months of age include iron deficiency, vitamin A deficiency, genetic hemoglobin disorders (which affected 60% of rural children), and general infection/inflammation (George et al. 2012). Two out of every five anemic children in this study were also iron deficient.

Wasting. Wasting is highest among children under 6 months of age, of which 16% are wasted, and 5% severely so. Wasting is also higher among children born with low birth weight and children born to mothers who are underweight. Wasting decreased between 2000 and 2005, but actually increased from 8% in 2005 to 11% in 2010.

Maternal malnutrition and low birth weight.

Among women of reproductive age, roughly 1 in 5 is underweight—a prevalence that has remained essentially the same since 2000. Underweight among women is most common in adolescents (28%). Anemia affects more than half of pregnant women and low birth weight was estimated to affect 11% of births in 2005.

Vitamin A and iodine deficiencies. In 2000, 22% of preschool-age children were vitamin A deficient (UNSCN 2010) (more recent data are not available), however, the 2010 DHS reported that vitamin A supplementation coverage among children 1–5 years of age increased from 29% in 2000 to 71% in 2010. The Cambodia Survey on Iodine Nutrition conducted in 2011 found the median urinary iodine concentration for school-age children was 236 ug/L, considered more than adequate as classified by WHO, indicating that iodine deficiency is not a significant public health problem (Conkle et al. 2013; WHO et al. 2007). In 2010, 84% of households with young children had adequately iodized salt.

Maternal and Child Malnutrition Indicators in Cambodia

Sources: DHS 2010; vitamin A deficiency: UNSCN 2010; low birth weight: 2010 DHS data re-analyzed by UNICEF (http://www.childinfo.org/low_birthweight_table.php)

Notes: Data for women include all women of reproductive age (15–49 years).

The median urinary iodine concentration (UIC) for school-age children is 236 ug/L ; the proportion of school aged children with UIC < 100 ug/L is 17% (2011 Cambodian Survey on Iodine Nutrition).

Key Drivers of Maternal and Child Malnutrition in Cambodia**Immediate and Underlying**

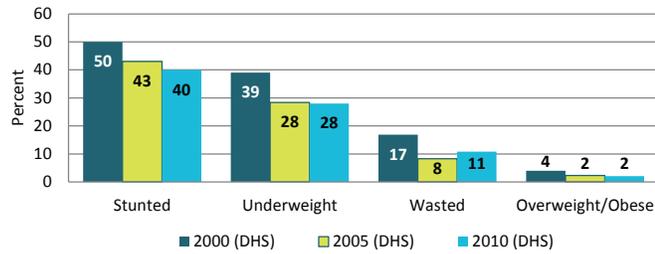
- Maternal malnutrition (underweight and anemia) and low birth weight
- Suboptimal infant feeding practices, particularly low dietary diversity of complementary feeding diets and delayed initiation of breastfeeding
- Inadequate water, sanitation, and hygiene practices, particularly access to hygienic private latrine/toilet facilities
- Disease burden among children under 5, particularly diarrhea and fever, and potentially intestinal parasite load
- Food insecurity, particularly food access
- Low dietary diversity for women, particularly of iron-rich food

Basic

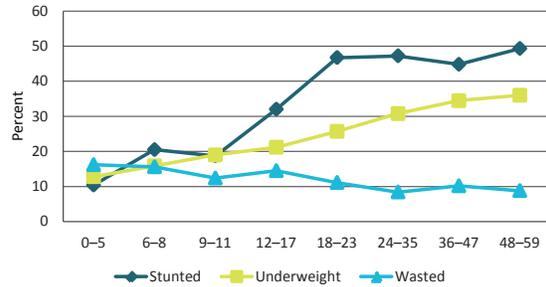
- Low parental education levels
- Poverty that affects the lowest wealth quintile
- Cultural beliefs that prohibit consumption of micronutrient-rich foods (e.g., green leafy vegetables, fruits, and meat) during the complementary feeding period
- Long history of brutal violence and repressive living conditions that have passed malnutrition on to the next generation (e.g., women born during the Khmer Rouge regime are more likely to have stunted children)

Child Nutrition

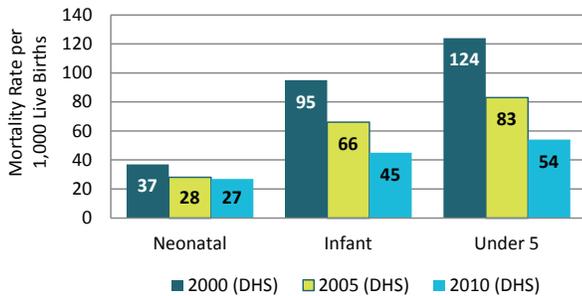
Trends in Nutritional Status of Children Under 5, 2000–2010



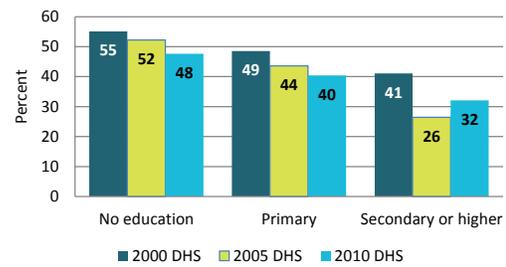
Nutritional Status of Children by Age in Months (2010 DHS)



Child Mortality Rates, 2000–2010



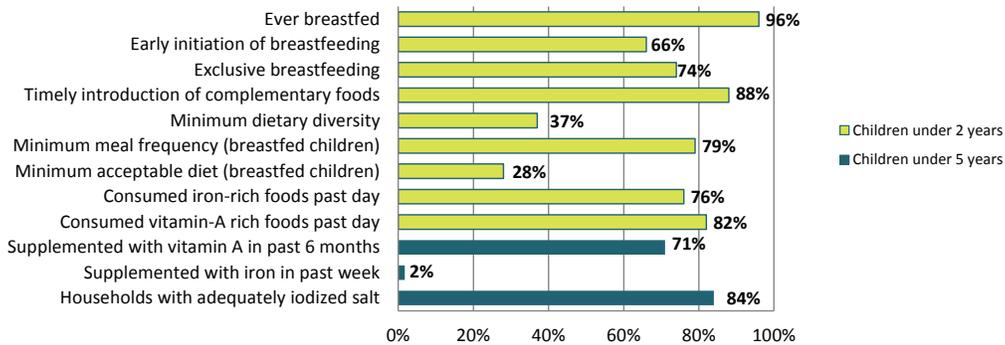
Under-5 Stunting Rates by Maternal Education Levels, 2000–2010



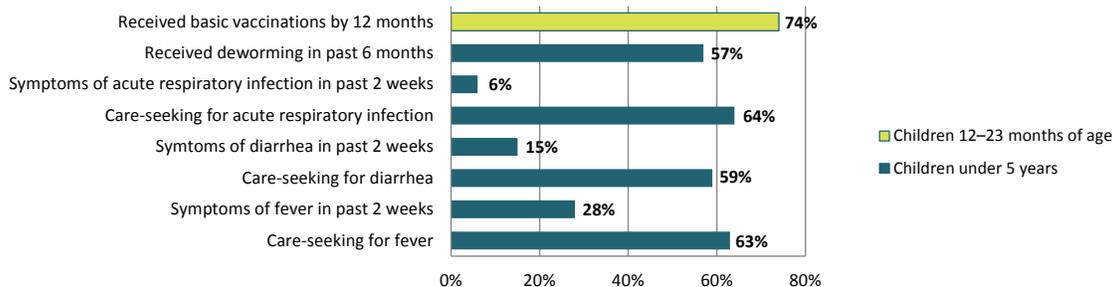
Note: Data are for the time period within the previous 4 years of the survey.

Note: In 2010, 16% of women 15–49 years had no education, 49% had some or completed primary education, and 35% had some or completed secondary education.

Dietary Practices of Children (2010 DHS)



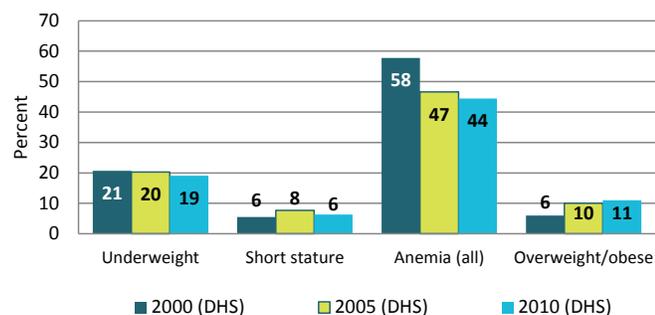
Child Health Indicators (2010 DHS)



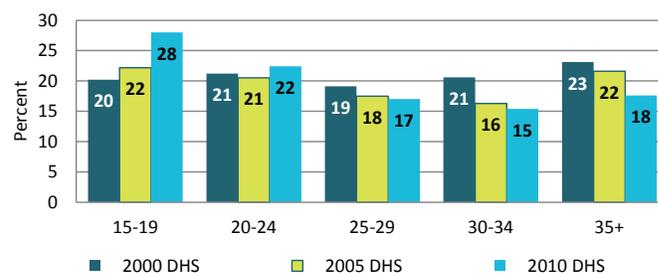
Note: Basic vaccinations include BCG, measles, and three doses each of DPT and polio vaccine.

Maternal Health and Nutrition

Trends in Nutritional Status Among Women of Reproductive Age (15–49 Years), 2000–2010



Underweight by Age Group Among Women with a Birth in the 3 Years Prior to the Survey, 2000–2010



Maternal Health Indicators

Maternal mortality ratio (per 100,000 live births)	79
Total fertility rate (children per women)	3.0
Median age at first marriage (of women 25–49 years)	20.3
Median age at first birth (of women 25–49 years)	22.3
% of women 15–19 years who have begun childbearing by age 19	25.5
Median number of months since preceding birth (of women 15–49 years)	40.0
% of married women 15–49 years currently using any method of family planning	50.5
% of married women with an unmet need for family planning	16.9
% 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, or midwife)	89.1
% of women 15–49 years with birth in the past 5 years who delivered in a health facility	53.8
% of women 15–49 years with birth in the past 5 years who delivered with a “medically-trained” or “skilled” provider (doctor, nurse, or midwife)	71.0

Maternal Nutrition Indicators

% anemic (pregnant : Hb < 11 g/dL; non-pregnant/non-lactating: Hb < 12 g/dL)	overall	44.4
	pregnant	52.7
	non-pregnant/non-lactating	43.4
% of women with birth in the last 5 years given vitamin A supplementation after birth of last child		43.8
% of women with birth in the last 5 years given any iron supplementation during last pregnancy		86.7
% of women with birth in the last 5 years who took at least 90 days of iron supplementation during pregnancy of last child		56.9
% of women with birth in the last 5 years who took deworming medication in last pregnancy		44.5
% living in houses with iodized salt		83.6

Source: Cambodia DHS 2010; maternal mortality: UNICEF 2012

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

Food Security Indicators	
Global Hunger Index (2013)	16.8 (serious level of hunger)
% of households with poor or limited food consumption (food insecure) (2008)	11.1
% undernourished in total population (2011–2013)	15.4
Food supply (kcal/capita/day) (2009)	2,382
Depth of food deficit (kcal/capita/day) (2011–2013)	102
Diet Diversity Indicators	
% of dietary energy supply from cereals, roots, and tubers (2008–2010)	74
Average supply of protein from an animal source (grams/capita/day) (2008–2010)	18
Water, Sanitation, and Hygiene Indicators	
% of population with access to improved drinking water sources (2010)	58 (dry season); 79 (rainy season)
% of population with access to sanitation facilities (2010)	35*
% of population using appropriate treatment method for drinking water (2010)	74

Sources: FAO 2013; Global Hunger Index: von Grebmer et al. 2013; food insecure: WFP 2008; food supply: FAOSTAT (<http://faostat3.fao.org/faostat-gateway/go/to/browse/FB/FB/E>); water, sanitation, and hygiene indicators: DHS 2010

* Compilation of all improved, not shared facilities.

Gender

Cambodia is making steady progress on gender equality in some respects. The median age at marriage has steadily increased and is currently 20.3 years. Adolescent pregnancy (women 15–19 years of age who have begun childbearing by 19) has steadily declined to 26%. Nearly 81% of women report being employed. Among those who are employed, 68% report being able to decide by themselves how to dispose of their income, however, 49% report earning less than their husbands. The 2010 DHS found that more women (46%) than men (22%) felt that domestic violence was acceptable for reasons such as burning food, going out without telling her spouse, neglecting her children, arguing with her spouse, refusing sex, and asking her spouse to use a condom. There is significant regional variation in attitudes toward domestic violence, but overall, men's attitudes are revealing in that far fewer men accept the use of domestic violence for any of the reasons mentioned. This suggests an environment that favors women's empowerment. This is also consistent with women's high level of participation in decision making across all age groups—86% of women 15–49 years report participating in decisions about their own health, major household decisions, and visiting relatives.

Government Policies and Program Environment: Needs and Challenges

Policies. Cambodia's first long-term National Nutrition Strategy covers the period of 2009–2015 and provides activities to be carried out by the Ministry of Health. It aims to reduce “protein-energy malnutrition” and micronutrient deficiencies (particularly vitamin A, iron, iodine, and zinc) among women and young children and also aims to strengthen leadership, multisectoral collaboration, and resource allocation for food and nutrition security (Ministry of Health). Its main strategic approaches include increasing the coverage of evidence-based interventions for women and young children through health system strengthening, mainstreaming nutrition into all health programs, strengthening community involvement in nutrition activities (including IYCF), strengthening multisector linkages, improving collaboration between government and civil society, improving leadership and technical capacity in nutrition, and improving information availability through better monitoring, evaluation, and research (Ministry of Health). Other policies cover specific nutrition interventions, which are brought together in the National Nutrition Strategy.

Programs. The National Nutrition Program unit within the Ministry of Health is responsible for nutrition services provided through health centers/posts and hospitals providing primary care to the rural population (80% of the Cambodian population). There are four main areas of focus of the National Nutrition Program. The first is IYCF, which includes expansion of the Baby-Friendly Hospital Initiative and Baby-Friendly Community Initiative as well as greater promotion of optimal complementary feeding practices. The second is management of acute malnutrition, which includes scaling up inpatient management at the hospital level and outpatient management at health centers, and development of community-based management of acute malnutrition. The third is micronutrient supplementation, which includes improved targeting of vitamin A

supplementation and deworming to hard-to-reach areas and populations as well as scaling up of provision of micronutrient powder to children 6–23 months of age. The fourth is maternal nutrition, which includes strengthening iron and folic acid supplementation and deworming during antenatal care for pregnant women, promotion of dietary intake and weight gain during pregnancy, and scaling up of iron supplementation for women of reproductive age (Kevanna 2012).

Needs and challenges. Several program implementation challenges have been identified by National Nutrition Program staff. These include:

- Procurement of needed commodities such as micronutrient powder and ready-to-use therapeutic food (currently provided by nongovernmental organizations)
- Inadequate financial and human resources to implement new nutrition interventions (such as provision of micronutrient powders and management of acute malnutrition)
- Maintaining both high coverage and high quality of interventions
- Weak community-based programs due to lack of incentives for village health support groups (which support health center staff in the community)
- Insufficient linkages with other sectors
- A need for better planning between national and subnational levels (Kevanna 2012)

Nutrition-Specific Policies

United Nations Development Assistance Framework in Cambodia (2011–2015)

Fast Track Initiative Road Map for Reducing Maternal and Newborn Mortality (2010–2015)

Health Strategic Plan II (2008–2015)

National Policy and Guidelines for Micronutrient Supplementation to Prevent and Control Deficiencies in Cambodia (2011)

Strategic Framework for Food Security and Nutrition in Cambodia (2008–2012)

Cambodia Nutrition Investment Plan (2008–2012)

National Policy on Infant and Young Child Feeding (2008)

Joint Prakas on Implementation of Sub-Decree on Marketing of Products for Infant and Young Child Feeding (2007)

National Programme for Household Food Security and Poverty Reduction (2007–2011)

National Strategic Development Plan (2006–2010)

Cambodia Child Survival Strategy (2006–2015)

Strategy for Agriculture and Water (2006–2010)

Strategy for Agriculture, Forestry, and Fisheries (2006–2010)

National Vitamin A Policy Guidelines (2007)

Development Partner Support

- Through the Second Health Sector Support Program Project, the World Bank, AusAID, and DFID support the Government of Cambodia's Health Strategic Plan 2008–2015, which includes a comprehensive approach to scale up and improve nutrition services for mothers and children across the country.
- Funding is also provided by the Asian Development Bank for emergency food assistance, the European Union (Cambodia's largest grant development partner) for food security, and JICA in support of UNICEF for vitamin A supplementation.
- UNICEF provides nutrient powders for children, supports IYCF behavior change communication activities, supports the Food Security and Nutrition Information Management System, and supports the sustainability of salt iodization within the country. Through the Millennium Development Goal Joint Program for Child, Food Security and Nutrition (with the Government of Spain, WFP, and WHO), UNICEF supports a therapeutic treatment center for severely malnourished children.

- UNFPA supports increased equitable coverage, at national and subnational levels, of good-quality reproductive, maternal, newborn, and child health and nutrition services.
- WHO works with the Cambodian Government and other donors to implement the Child Survival Strategy, which includes improved nutrition.
- WFP provides food assistance to pregnant and lactating women and children 6–23 months through the provision of highly nutritious fortified blended foods, education on best practices in nutrition, and linking to government health

services. WFP supports the government and nongovernmental organizations in providing nutritional assistance to people living with HIV and orphans and vulnerable children. WFP also implements school feeding programs in the most food-insecure areas and provides monthly food or cash scholarships (take-home rations) to children from the most vulnerable/poorest families.

- FAO works to improve food security within the country, through micro and small group enterprises to generate income and diversify available food in communities.

Recommended Nutrition Priorities

Key nutrition priorities for Cambodia include focusing on stunting and wasting, maternal underweight and low birth weight, anemia, vitamin A deficiency, and potentially more than adequate iodine intake in areas of the country. Programs and activities should be focused on women and children in the lowest wealth quintile, who are disproportionately affected. USAID has invested in health programs and activities, however little is allocated to nutrition specifically. Given the high prevalence of stunting, increasing the allocation for nutrition could be used to implement key targeted activities. Among existing USAID-funded activities and programs this includes integrating evidence-based nutrition-specific interventions and actions. Additional opportunities include:

- Addressing anemia in children under 2 and women of reproductive age
- Expanding efforts to manage and mitigate acute malnutrition
- Expanding efforts to improve IYCF practices, specifically related to complementary feeding, dietary quality, and dietary diversity
- Strengthening community level nutrition service delivery and strengthening community health worker skills in nutrition
- Providing support to integrate nutrition into infectious disease efforts, e.g., supporting malaria prevention and treatment among pregnant women and young children for anemia reduction and expanding micronutrient supplementation
- Expanding technical assistance and support for water and sanitation
- Supporting and expanding access to micronutrient supplements and fortified foods

In terms of opportunities to support the Government of Cambodia, opportunities include:

- Supporting the government to effectively implement the National Nutrition Strategy, specifically supporting coordination between government sectors and planning efforts between national and lower levels of government
- Engaging with the government to strengthen multisectoral coordination at the national and community level to improve nutrition service delivery

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

- Strengthen coordination of nutrition efforts at both the national and state levels
- Align and strategically invest resources and leverage resources for greater coordinated impact on reducing malnutrition, focusing on areas such as management of acute malnutrition, adolescent and maternal nutrition, micronutrient supplementation, and quality nutrition service delivery

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

Conkle, J. et al. 2013. "Cambodian children have ample iodine intake but 70% of households are covered by iodized salt." *IDD Newsletter*. Vol. 41, No. 2, pp. 4–6.

FAO. 2013. "Statistics: Food Security Indicators." Available at <http://www.fao.org/economic/ess/ess-fs/fs-data/en/#.UwY1EvdXT0>.

George, J. et al. 2012. "Genetic hemoglobin disorders, infection, and deficiencies of iron and vitamin A determine anemia in young Cambodian children." *Journal of Nutrition*. Vol. 142, pp. 781–787.

Kevanna, O. 2012. "Current Nutrition Policies, Strategies and Plans." Paper read at MEDICAM Annual Meeting.

Ministry of Health. *National Nutrition Strategy 2009-2015*. Available at <http://www.gafspfund.org/sites/gafspfund.org/>

files/Documents/Cambodia_5_of_16_STRATEGY_National_Nutrition_Strategy_0.pdf.

National Institute of Public Health et al. 2006. *Cambodia Demographic and Health Survey 2005*. Phnom Penh, Cambodia and Calverton, Maryland, USA: National Institute of Public Health, National Institute of Statistics and ORC Macro.

National Institute of Statistics et al. 2001. *Cambodia Demographic and Health Survey 2000*. Phnom Penh, Cambodia and Calverton, Maryland USA: National Institute of Statistics, Directorate General for Health, and ORC Macro.

———. 2011. *Cambodia Demographic and Health Survey 2010*. Phnom Penh and Calverton, Maryland: National Institute of Statistics, Directorate General for Health, and ICF Macro.

National Sub-Committee on Iodine Deficiency Disorders. 2011. *Cambodia Survey on Iodine Nutrition: 2008-2011 Trend Analysis*.

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

UNICEF. 2013. *Secondary Analysis of 2010 Cambodia Demographic and Health Survey—Nutrition*.

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. 2008. *Kingdom of Cambodia: Comprehensive Food Security and Vulnerability Analysis (CFSVA)*. Italy, WFP.

WHO, UNICEF, International Council for the Control of Iodine Deficiency Disorders. 2007. *Assessment of iodine deficiency disorders and monitoring their elimination*. Third edition. Geneva: WHO.



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The intended purpose of this profile is to provide a broad overview of the status of nutrition in Cambodia in order to inform potential US-supported efforts. To view more information about USAID's Global Health and Feed the Future (FTF) initiatives and their extensive nutrition contributions in Cambodia, please visit: www.usaid.gov/what-we-do/global-health/nutrition.