



Country Context

HDI ranking: 131st out of 182 countries¹

Life expectancy: 66 years²

Under-five mortality rate: 98 per 1,000 live births²

Global ranking of stunting prevalence: 56th highest out of 136 countries²

The Costs of Undernutrition

- Over one-third of child deaths are due to undernutrition, mostly from increased severity of disease.²
- Children who are undernourished between conception and age two are at high risk for impaired cognitive development, which adversely affects the country's productivity and growth.
- Childhood anemia alone is associated with a 2.5% drop in adult wages.³

Where Does Sao Tome and Principe Stand?

- 29% of children under the age of five are stunted, 7% are underweight, and 9% are wasted.²
- 8% of infants are born with a low birth weight.²
- Sao Tome and Principe is currently on track to meet MDG 1c (halving 1990 rates of child underweight by 2015).⁴

Most of the irreversible damage due to malnutrition happens during gestation and in the first 24 months of life.⁴

As seen in **Figure 1**, compared to Sao Tome and Principe, countries with lower per capita incomes such as Togo and The Gambia exhibit reduced rates of child stunting. This shows that it is possible to achieve better nutrition outcomes despite low income.

Vitamin and Mineral Deficiencies Cause Hidden Hunger

Although they may not be visible to the naked eye, micronutrient deficiencies are widespread in Sao Tome and Principe, as shown in **Figure 2**.

- **Vitamin A:** Available data suggest that nearly all preschool aged children (96%) and 18% of pregnant women are deficient in vitamin A.⁶ Supplementation of young children and dietary diversification can eliminate this deficiency.
- **Iron:** Current rates of anemia among preschool aged children and pregnant women are 37% and 40% respectively.⁷ Iron-folic acid supplementation of pregnant women, deworming, provision of multiple micronutrient supplements to infants and young children, and fortification of staple foods are effective strategies to improve the iron status of these vulnerable subgroups.
- **Iodine:** Close to two-thirds of households do not consume iodized salt,⁴ leaving children in those

Scaling up core micronutrient interventions in Sao Tome and Principe would cost approximately US\$112,000 per year.

(See *Technical Notes* for more information.)

Key Actions to Address Malnutrition:

Increase coverage of vitamin A supplementation for young children.

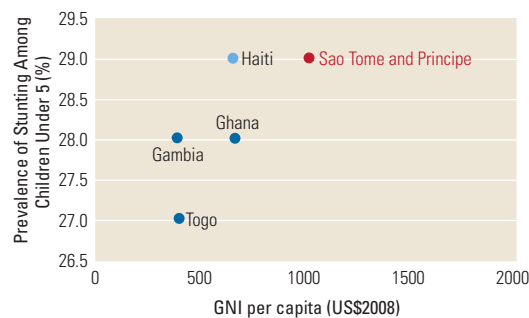
Increase nutrition capacity within the Ministries of Health and Agriculture.

Improve infant and young child feeding through effective education and counseling services.

Achieve universal salt iodization.

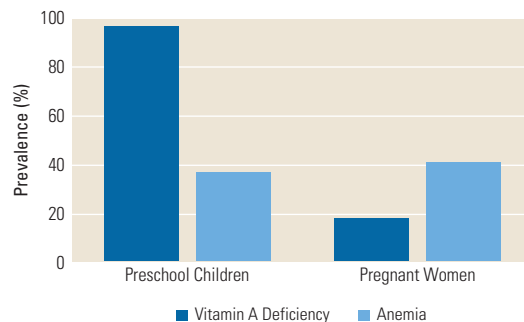
Improve dietary diversity through promoting home production of a diversity of foods and market and infrastructure development.

FIGURE 1 Sao Tome and Principe Has Higher Rates of Stunting than Lower-Income Peers



Source: Stunting rates were obtained from WHO Global Database on Child Growth and Malnutrition. GNI data were obtained from the World Bank's World Development Indicators.

FIGURE 2 High Rates of Vitamin A and Iron Deficiency Contribute to Lost Lives and Diminished Productivity



Source: 1995–2005 data from the WHO Global Database on Child Growth and Malnutrition.

Technical Notes

Stunting is low height for age (too short).

Underweight is low weight for age (too small).

Wasting is low weight for height (too thin).

Current stunting, underweight, and wasting estimates are based on comparison of the most recent survey data with the WHO Child Growth Standards, released in 2006.

Low birth weight is a birth weight less than 2500g.

The methodology for calculating nationwide costs of vitamin and mineral deficiencies, and interventions included in the cost of scaling up, can be found at: www.worldbank.org/nutrition/profiles

Poor Infant Feeding Practices

- 65% of all newborns do not receive breast milk within one hour of birth.²
- 40% of infants under six months are not exclusively breastfed.²
- During the important transition period to a mix of breast milk and solid foods between six and nine months of age, 40% of infants are not fed appropriately with both breast milk and other foods.²

Solution: Support women and their families to practice optimal breastfeeding and ensure timely and adequate complementary feeding. Breast milk fulfills all nutritional needs of infants up to six months of age, boosts their immunity, and reduces exposure to infections.

High Disease Burden

- Undernutrition increases the likelihood of falling sick and severity of disease.
- Undernourished children who fall sick are much more likely to die from illness than well-nourished children.
- Parasitic infestation diverts nutrients from the body and can cause blood loss and anemia.

Solution: Prevent and treat childhood infection and other disease. Hand-washing, deworming, zinc supplements during and after diarrhea, and continued feeding during illness are important.

Limited Access to Nutritious Food

- Access to adequate calories is not generally a problem in Sao Tome and Principe.⁵ However, achieving food security is defined as ensuring not only quantity, but quality and continuity of food access for all household members.
- Dietary diversity is essential for food security. High rates of micronutrient deficiencies indicate that dietary diversity may be inadequate.

Solution: Involve multiple sectors including agriculture, education, social protection, transport, gender, the food industry, health and other sectors, to ensure that diverse, nutritious diets are available and accessible to all household members.

References

1. UNDP. 2009. *Human Development Report*.
2. UNICEF. 2009. *State of the World's Children*.
3. Horton S, Ross J. 2003. *The Economics of Iron Deficiency*. Food Policy 28: 51–75.
4. UNICEF. 2009. *Tracking Progress on Child and Maternal Nutrition*.
5. FAO. 2009. *The State of Food Insecurity in the World: Economic Crises – Impacts and Lessons Learned*.
6. WHO. 2009. *Global Prevalence of Vitamin A Deficiency in Populations at Risk 1995–2005*. WHO Global Database on Vitamin A Deficiency.
7. WHO. 2008. *Worldwide Prevalence of Anemia 1993–2005: WHO Global Database on Anemia*.
8. Micronutrient Initiative. 2009. *Investing in the Future: A United Call to Action on Vitamin and Mineral Deficiencies*.
9. Bhandari N., et al. 2008. *Effectiveness of Zinc Supplementation Plus Oral Rehydration Salts Compared With Oral Rehydration Salts Alone as a Treatment for Acute Diarrhea in a Primary Care Setting: A Cluster Randomized Trial*. Pediatrics 121:e1279–e1285.
10. Horton S. et al. 2009. *Scaling Up Nutrition: What Will it Cost?*

households unprotected from iodine deficiency disorders.

- **Zinc:** 37% of the population is at risk for insufficient zinc intake.⁸ Zinc supplementation during diarrheal episodes can reduce diarrhea morbidity by more than 40%.⁹

Addressing undernutrition is cost effective: Costs of core micronutrient interventions are as low as US\$0.05–3.60 per person annually. Returns on investment are as high as 8–30 times the costs.¹⁰

- Adequate intake of micronutrients, particularly iron, vitamin A, iodine and zinc, from conception to age 24 months is critical for child growth and mineral development.

World Bank Nutrition-Related Activities in Sao Tome and Principe

The World Bank is not currently supporting any nutrition-related activities in Sao Tome and Principe.

