The Costs of Malnutrition

- 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.
- The Africa region is anticipated to lose at least a cumulative US$4.0 billion to chronic disease by 2015.5
- The economic costs of undernutrition and overweight include direct costs such as the increased burden on the health care system, and indirect costs of lost productivity.
- Childhood anemia alone is associated with a 2.5% drop in adult wages.6

Where Does Botswana Stand?

- 29% of children under the age of five are stunted, 11% are underweight, and 6% are wasted.2
- 48% of those aged 15 and above are overweight or obese.7
- 10% of infants are born with a low birth weight.2

As seen in Figure 1, Botswana has similar rates of stunting to other countries in its region with much lower national income. Countries with lower per capita incomes in other regions, such as Albania and Iraq exhibit reduced rates of child stunting. This demonstrates that stunting is not a function of income alone.

**FIGURE 1** Botswana has Higher Rates of Stunting than Expected Given its National Income

The Double Burden of Undernutrition and Overweight

Though Botswana is currently on track to meet MDG 1c (halving 1990 rates of child underweight by 2015)9 it has seen a recent increase in a different nutritional problem, adult obesity. The coexistence of undernutrition and overnutrition may lead to particular risks: low-birth weight infants and stunted children may be at greater risk of chronic diseases such as diabetes and heart disease than children who start out well-nourished.10

This “double burden” is the result of various factors. Progress in improving community infrastructure and development of sound public health systems has been slow, thwarting efforts to reduce undernutrition; while rapid urbanization and the adoption of Western diets high in refined carbohydrates, saturated fats and sugars, combined with a...
Poorn Infant Feeding Practices

- Two thirds 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, 43% 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. In high HIV settings, follow WHO 2009 HIV and infant feeding revised principles and recommendations.15

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

- 26% of households are food insecure, using a measure of per capita access to calories.8 Many more households likely lack access to diverse diets year round.
- Achieving food security means ensuring quality and continuity of food access, in addition to quantity, for all household members.
- Dietary diversity is essential for food security.

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

References

7. WHD. 2009. WHO Global Infobase (Database).

Vitamin and Mineral Deficiencies Cause Hidden Hunger

Although they may not be visible to the naked eye, vitamin and mineral deficiencies impact well-being and are prevalent in Botswana, as indicated in Figure 2.

- **Vitamin A**: 26% of preschool aged children and 19% of pregnant women are deficient in vitamin A.11 Supplementation for young children and dietary diversification can eliminate this deficiency.

- **Iron**: Current rates of anemia among preschool aged children and pregnant women are 38% and 21%, respectively.13 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**: One third of households do not consume iodized salt, leaving children in those households unprotected from iodine deficiency disorders.

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

World Bank Nutrition-Related Activities in Botswana

The Japan Trust Fund for Scaling-Up Nutrition is expected to finance the development of recommendations and best practices for infant feeding practices in the context of high HIV/AIDs.

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.14