

United Republic of Tanzania

Reducing Malnutrition in Tanzania Summary of Tanzania PROFILES 2014 Estimates

Reducing Malnutrition in Tanzania: Summary of Tanzania PROFILES 2014 Estimates to Support Nutrition Advocacy

Background

birth weight

2011b, and TFNC 2004.

In 2010, 42 percent of children under the age of 5 in Tanzania were stunted, according to the Tanzania Demographic and Health Survey (TDHS 2010), a decrease of only 2 percentage points from 44 percent in the 2004-5 TDHS. With stunting prevalence decreasing so slowly (Figures 1 and 2), the Government of Tanzania has committed to stepping up efforts to substantively reduce stunting and other forms of malnutrition.



Source: NBS and ICF Macro 2011a, NBS and ICF Macro

Figure 1. Malnutrition rates in Tanzania

Figure 2. Trends in malnutrition in Tanzania



Note: For comparison purposes, the 1999 and 2004–05 anthropometric indicators were based on the 2006 World Health Organization (WHO) standards, to match the 2010 indicators. The values in the graph indicate percentage of children with z-scores < -2.

Source: TDHS 1999 and TDHS 2004–5, with additional analysis from the WHO Global Database on Child Growth and Malnutrition. http://www.who.int/nutgrowthdb/database/countries/nchs_refer ence/tza.pdf?ua=1;TDHS 2010.

High-level commitment and momentum for multisectoral action on nutrition in Tanzania have been demonstrated by the establishment of a President's Task Force on Nutrition, as well as a High-Level Steering Committee for Nutrition that includes Permanent Secretaries from nine key line ministries and is chaired by the Permanent Secretary in the Prime Minister's Office (PMO). The National Food and Nutrition Policy is being revised to enable multisectoral action on nutrition, and nutrition advocacy activities are underway. However, additional efforts are needed to maximize the effectiveness of the efforts of the government and its partners. These efforts include continued national-level advocacy, as well as further decentralization of the advocacy process to create momentum for sustained change. Most important, there is a need to strengthen and expand nutrition service delivery across the country and to strengthen nutrition-sensitive actions through key sectors.

In 2014, the U.S. Agency for International Development (USAID)-funded Food and Nutrition Technical Assistance III Project (FANTA} was asked to support the Government of Tanzania by working with the PMO, the Tanzania Food and Nutrition Centre (TFNC) and other stakeholders to develop estimates of

the benefits of improved nutrition on health and development outcomes and the consequences if malnutrition does not improve. The estimates were calculated using PROFILES, an evidence-based tool that was developed for the purpose of nutrition advocacy. PROFILES consists of a set of computer-based models that calculate estimates of the benefits of improved nutrition on health and development outcomes and the consequences if malnutrition does not improve. The estimates are based on current country-specific nutrition data that are identified and agreed on by stakeholders in country.

The basic approach in PROFILES is to provide two scenarios: a 'status quo' scenario and an 'improved' scenario. The **status quo scenario** assumes there will be no change from the current situation throughout the chosen time period (the number of years for which estimates are calculated), aside from projected changes in population size and structure. The prevalence of each nutrition problem remains the same every year in the status quo scenario. In contrast, in the **improved scenario**—with results estimated for the same time period—it is expected that nutrition interventions that are known to be effective are implemented at scale and succeed in reaching the stated targets in terms of improvements in the prevalence of the various nutrition problems.

The targets reflect the proportion by which it is expected that nutrition problems will be reduced over the chosen time period and are determined and agreed on through stakeholder meetings and a PROFILES workshop. In the status quo scenario, the negative consequences are expressed, for example, in terms of lives lost, disabilities, human capital lost and economic productivity lost. The differences between the status quo and improved scenarios reflect the benefits of improved nutrition expressed as lives saved, disabilities averted, human capital gained and economic productivity gained (or, put another way, economic productivity losses averted).

In March 2014, FANTA worked with the PMO, TFNC, and United Nations' Renewed Efforts Against Child Hunger (UN REACH) to generate PROFILES estimates for nutrition advocacy in Tanzania. A 1-day meeting of key stakeholders was held on 10 March 2014, followed by a 4-day PROFILES workshop from 11 to 14 March 2014, during which 15 participants from the PMO, UN REACH, development partners, TFNC and various sectors mandated to support nutrition-sensitive actions collaborated to generate preliminary PROFILES estimates. Figure 3 shows the nutrition indicators for which estimates were calculated. The preliminary estimates generated during the PROFILES workshop were reviewed and discussed with more than 35 participants from the PMO, USAID, TFNC, key sectors, UNICEF, World Health Organization (WHO) and development partners during a meeting on 19 March 2014.

This document summarises the Tanzania PROFILES 2014 estimates that were later used to develop nutrition advocacy materials. A final report of the Tanzania PROFILES 2014 estimates is available at http://www.fantaproject.org.

Figure 3. Nutrition problems and benefits of their reduction



Time Period, Prevalence and Targets Used for Tanzania PROFILES 2014 Estimates

For the Tanzania estimates, stakeholders and workshop participants chose a 12-year time period starting in 2014 and running through 2025 to coincide with the Tanzania Development Vision 2015 and World Health Assembly Global Nutrition Targets. Table 1 shows the initial prevalence (2014) used for the *status quo scenario* and the first year of the *improved scenario* and the target prevalence (2025) for each nutrition problem in PROFILES. For the *improved scenario*, a linear improvement is assumed for the time period 2014–2025 unless otherwise noted.

Table 1. Summary of prevalence and targets used for Tanzania PROFILES 2014 estimates

Indicator	Initial prevalence (2014) (used for the <i>status quo</i> <i>scenario</i> and the first year of the <i>improved scenario</i>) (%)	Target prevalence (2025) (%)
Anthropometric indicators*		
Moderate and severe underweight among children 0–59 months (weight-for-age z-score < -2)	15.8	9.5
Moderate and severe stunting among children 24–35 months (height-for-age z-score < −2)	53.0	31.8
Moderate and severe stunting among children 0–59 months (height-for-age z-score < −2)	42.0	25.2
Moderate and severe wasting among children 0–59 months (weight-for-height z-score < -2)	4.8	Remain < 5.0%
Vitamin A		
Children 6–59 months with vitamin A deficiency (including subclinical)	33.0	0.0
lodine		
Population with goitre	7.0	0.2
Anaemia (including anaemia related to iron deficiency)		
Pregnant women with anaemia (Hb < 11)	52.7	26.4
Non-pregnant women 15–49 years with anaemia (Hb < 12)	38.8	19.4
Men 15–64 years with anaemia (Hb < 13)	No data	No data

Indicator	Initial prevalence (2014) (used for the <i>status quo</i> <i>scenario</i> and the first year of the <i>improved scenario</i>) (%)	Target prevalence (2025) (%)
Children 5–14 years with anaemia (Hb < 12)	No data	No data
Low birth weight		
Babies weighing < 2,500 g at birth	7.0	4.9
Breastfeeding practices		
Exclusive breastfeeding of children 0–5 months	49.8	70.0
Predominant breastfeeding of children 0–5 months	10.4	6.0
Partial breastfeeding of children 0–5 months	38.0	23.0
No breastfeeding of children 0–5 months	1.8	1.0
Any breastfeeding of children 6–23 months	79.7	95.0
No breastfeeding of children 6–23 months	20.3	5.0

Source: TDHS 2010 with the exception of goitre. The 'Population with Goitre' figure is from TFNC. 2004. *Iodine Deficiency Disorder Survey. Tanzania Food and Nutrition Centre Report No. 2001.* Dar es Salaam, Tanzania: TFNC.

*The anthropometric indicators reflect a summary to indicate the information used by the PROFILES spreadsheet models.

Tanzania PROFILES 2014 Estimates

Table 2 shows the number of deaths that would result if the current nutrition situation continues in Tanzania (**status quo scenario**) and the number of lives that would be saved over the time period if the nutrition situation improves and the targeted reductions for each nutrition problem are reached (**improved scenario**).

Table 2. Deaths attributable to various nutrition problems and lives saved related toimproved nutrition

Nutrition problem	Number of deaths that would result if the current situation continues	Number of lives that would be saved if nutrition situation improves	
	Status quo scenario 2014–2025	Improved scenario 2014–2025*	
Anthropometric indicators			
Deaths/lives saved attributable to stunting (severe, moderate and mild) among children under 5 years	580,687	120,633	
Deaths/lives saved attributable to wasting (severe, moderate, and mild) among children under 5 years	There are no estimates related to wasting, as overall prevalence of wasting was not expected to change**		
Low birth weight			
Infant deaths/lives saved	148,873	20,460	
Iron deficiency anaemia			
Maternal deaths/lives saved	26,290	15,484	
Perinatal deaths/lives saved	113,082	72,739	
Vitamin A deficiency			
Child deaths/lives saved	209,638	101,859	
Breastfeeding practices			
Deaths/lives saved attributable to suboptimal breastfeeding practices among children under 2 years	360,487	85,519	

*These numbers assume that at-scale implementation of effective nutrition interventions will succeed in reaching the stated targets in terms of reductions (or increase in the case of exclusive breastfeeding) in the prevalence of the various nutrition problems. ** The current prevalence of wasting in children under 5 in Tanzania (4.8%) is at the World Health Assembly target to 'reduce and maintain childhood wasting to less than 5%' and thus the PROFILES team felt it was best to keep the target at < 5% for wasting.

Table 3 shows the number of children who would be permanently disabled as a result of maternal iodine deficiency if the current maternal iodine deficiency during pregnancy situation continues in Tanzania (**status quo scenario**) and the number of children who would be prevented from having permanent disabilities over the time period if the maternal iodine situation improves and the targeted reduction is reached (**improved scenario**).

Nutrition problem	Number of children who would have mild to severe permanent brain damage if the current situation continues Status quo scenario 2014–2025	Number of children for whom disability as a result of maternal iodine deficiency would be prevented if prevalence of iodine deficiency is reduced Improved scenario 2014–2025*
Child disability related to maternal iodine deficiency	1,730,000 or 1.73 million	869,800

Table 3. Iodine deficiency and child disability

* These numbers assume that at-scale implementation of effective nutrition interventions will succeed in reaching the stated targets in terms of reduction in the prevalence of the various nutrition problems.

Table 4 shows that human capital losses in terms of learning related to stunting would amount to 87.7 million equivalent school years of learning if there is no change in the nutrition situation (**status quo scenario**). Conversely, if stunting is reduced over the 2014–2025 time period (**improved scenario**), the gains would be 24.7 million equivalent school years of learning.

Table 4. Human capital losses and gains in terms of learning

Nutrition problem	Losses in learning if the current situation continues <i>Status quo scenario</i> 2014–2025	Gains in learning if nutrition situation improves Improved scenario 2014–2025*
Stunting	87,700,000 or 87.7 million equivalent school years of learning	24,700,000 or 24.7 million equivalent school years of learning

* These numbers assume that at-scale implementation of effective nutrition interventions will succeed in reaching the stated targets in terms of reductions in the prevalence of the various nutrition problems.

Table 5 shows the productivity losses related to stunting, anaemia and iodine deficiency that would result if the current nutrition situation continues in Tanzania (status quo scenario) and the productivity gains (economic productivity losses averted) over the time period if the stunting, anaemia and iodine deficiency situation improves and the targeted reductions are reached (improved scenario).

Table 5. Economic productivity losses and gains

Nutrition	Economic productivity losses if the current situation continues	Economic productivity gains if nutrition situation improves
problem	Status quo scenario 2014–2025	Improved scenario 2014–2025*
Stunting	28,796,000,000,000 or 28.796 trillion TZS (US\$17.997 billion)	6,237,000,000,000 or 6.237 trillion TZS (US\$3.898 billion)
Iron deficiency anaemia	2,285,000,000,000 or 2.285 trillion TZS (US\$1.428 billion)	611,000,000,000 or 611 billion TZS (US\$381.681 million)
lodine deficiency	1,521,000,000,000 or 1.521 trillion TZS (US\$950.722 million)	767,000,000,000 or 767 billion TZS (US\$479.108 million)

Note: Productivity gains that could result from reduction in stunting related to improvement in the low birth weight indicator are not shown separately (they would overlap with the productivity gains shown here associated with improvement in stunting). Productivity losses/gains related to anaemia refer to adult women. Numbers in TZS and US\$ are rounded. Exchange rate used is 1,600 TZS = US\$1.

* These numbers assume that at-scale implementation of effective nutrition interventions will succeed in reaching the stated targets in terms of reductions in the prevalence of the various nutrition problems.

Status Quo Scenario: Adverse Consequences of Nutrition Problems if There Is No Change during the Time Period (2014–2025)

Estimates of future lives lost, economic productivity lost, permanent disabilities, and human capital lost associated with various nutrition problems, 2014–2025



580,687

lives of children under 5 lost related to stunting

148,873

lives of children under 5 lost related to low birth weight

26,290

women's lives lost related to maternal anaemia

113,082

lives lost during the perinatal period related to maternal anaemia

209,638

lives of children under 5 lost related to vitamin A deficiency

360,487

infants' lives lost related to suboptimal breastfeeding practices

ECONOMIC PRODUCTIVITY LOST

28.8T TZS

(US\$18 billion) lost related to stunting

2.3T TZS

(US\$1.4 billion) lost related to iron deficiency anaemia among adult, nonpregnant women

1.5T TZS

(US\$950.7 million) lost related to iodine deficiency

PERMANENT DISABILITIES

1.73 million

children born with irreversible brain damage (ranging from severe brain damage to a decrease in IQ) related to maternal iodine deficiency



87.7 million

equivalent school years of learning lost related to stunting

Improved Scenario: Benefits if the Nutrition Situation Improves (if Specified Targets Are Reached) by the End of the Time Period (2014–2025)

Estimates of future lives saved, economic productivity gained, permanent disabilities averted and human capital gained, 2014–2025

LIVES SAVED

120,633

lives of children under 5 saved related to a reduction in stunting

20,460

infants' lives saved related to increases in birth weight

15,484

women's lives saved related to a reduction in maternal anaemia

72,739

lives saved in the perinatal period related to a reduction in maternal anaemia

101,859

lives of children under 5 saved related to improvements in vitamin A status

85,519

infants' lives saved related to decreased suboptimal breastfeeding practices

ECONOMIC PRODUCTIVITY GAINED

6.2T TZS

(US\$3.9 billion) gained related to a reduction in stunting

611B TZS

(US\$381.7 million)

gained related to improvements in iron deficiency anaemia among adult, non-pregnant women

767B TZS

(US\$479.1 million)

gained related to improvements in iodine deficiency

PERMANENT DISABILITIES AVERTED

869,800

children saved from irreversible brain damage related to a reduction in maternal iodine deficiency



24.7 million

equivalent school years of learning gained related to a reduction in stunting

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