



Child Anthropometrics and Malnutrition- ERSS Wave 1

In 2011/2012, Ethiopia's Central Statistical Agency, in collaboration with the World Bank, conducted the first wave of the Ethiopia Rural Socioeconomic Survey (ERSS), which collects detailed data on household welfare and income-generating activity. The ERSS' sample includes 4,000 households that are representative of small towns and rural areas; wave 2 will be expanded to include urban areas and will run from 2013 to 2014. This note summarizes the anthropometric data and resulting malnutrition indicators from ERSS-wave 1¹.

Background on Child Anthropometrics

The three anthropometric indicators most often referenced for monitoring malnutrition in children are: stunting, or low height-for-age; underweight, low weight-for-age; and wasting, low weight-for-height. More specifically, these figures represent children whose height-for-age, weight-for-age, and weight-for-height fall more than two standard deviations below the median of internationally accepted growth standards. Thus, a child is labeled stunted if he or she has a height-for-age z-score that is less than -2.

Table 1 shows the stunting, underweight, and wasting, prevalence estimates for rural and small town areas. The data reveal that 48 percent, 26 percent, and 11 percent of children 6-59 months old, are stunted, underweight, and wasted, respectively.

Table 1: Malnutrition estimates

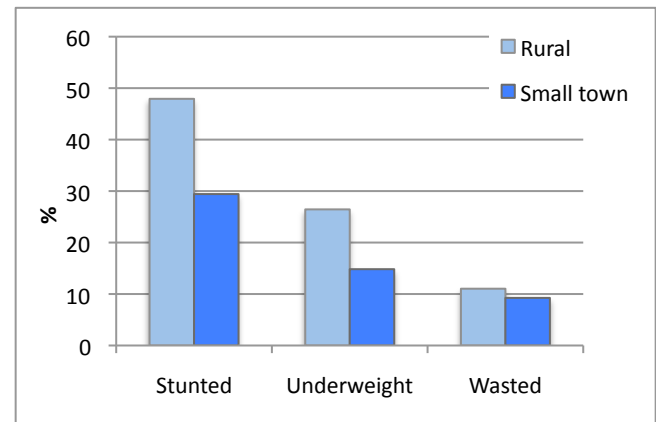
	Prevalence (Std. Error)
Stunted	48 (2)
Underweight	26 (2)
Wasted	11 (1)

¹ The final sample for this analysis included 2,232 children aged 6-59 months.

Geographic Differences in Malnutrition

Looking at the data further, we can identify geographic areas with particularly high rates of malnutrition. The data show that areas face a higher burden of malnutrition than do small town areas. Forty-eight percent of under-5 children in rural Ethiopia are stunted, compared to 29 percent of children in small towns. Similarly, the underweight prevalence of 26 percent in rural areas is almost double the small town estimate, which stands at 15 percent (see Figure 1).

Figure 1: Malnutrition estimates, by rural and small town



The ERSS was stratified regionally and has five domains of analysis. These domains include the four largest regions, Tigray, Amhara, Oromia, and the Southern Nations, Nationalities, and Peoples (SNNP), as well as one domain representing all other regions. Table 2 shows the stunting and wasting prevalence estimates for these five domains of analysis. Note that the differences in prevalence points between domains of analysis are not as pronounced as in the case of rural vs. small town comparisons; Tigray, Amhara, Oromia, and SNNP all have stunting rates above 50 percent. However, we do find that these three regions together have a significantly higher stunting prevalence than the remaining regions.

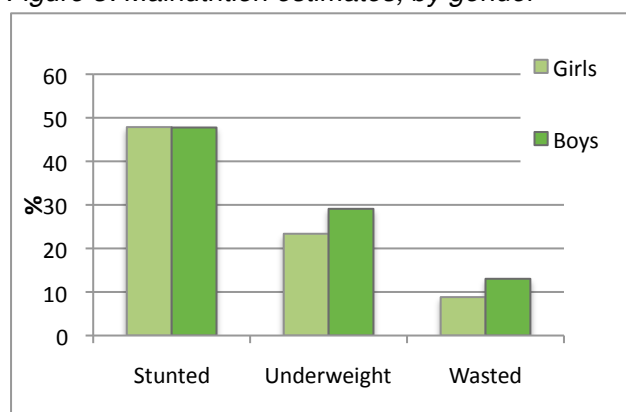
Table 2: Stunting and Wasting, by region

Region	Stunted (%) (Std. Error)	Wasted (%) (Std. Error)
Tigray	53 (5)	7 (3)
Amhara	52 (4)	10 (2)
Oromia	43 (3)	10 (2)
SNNP	53 (4)	14 (2)
All other regions	39 (4)	10 (2)

Identifying Vulnerable Sub-Populations

In developing countries, boys typically exhibit higher rates of malnutrition than girls. Ethiopia proves to be no exception; 29 percent of under-5 boys are underweight, compared to only 23 percent of under-5 girls. Similarly, as shown in Figure 3, there are 1.5 times as many wasted boys than girls, with male and female wasting estimates falling at 13 and 9 percent, respectively.

Figure 3: Malnutrition estimates, by gender



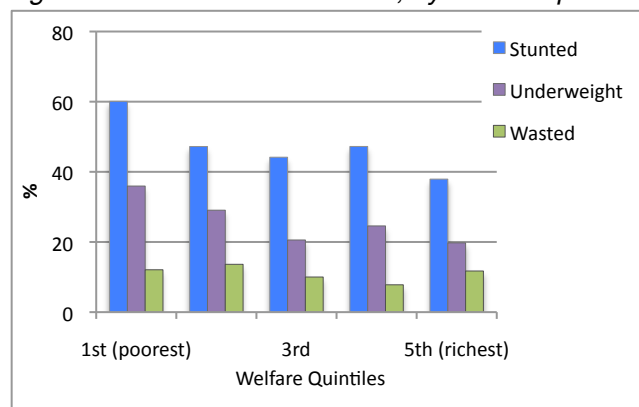
We also find that household head characteristics play a role in childhood malnutrition. On average, children living under household heads that can read and write in at least one language exhibit better outcomes for all three indicators. Table 3 outlines the differences in malnutrition for children with male vs. female household heads. Although children with male household heads exhibit lower rates of stunting, they are more likely to be underweight and wasted. The wasting prevalence for children in female-headed households is half that of male-headed households (6 vs. 12 percent).

Table 3: Stunted, underweight, wasted- by household (HH) head's gender

	HH head is male (Std. error)	HH head is female (Std. error)
Stunted	47% (2)	52% (5)
Underweight	27% (2)	21% (4)
Wasted	12% (1)	6% (2)

We used household consumption to create welfare quintiles. The poorest households are grouped into the 1st quintile and the richest households fall into the 5th quintile. Overall, stunting and underweight prevalence decreases as one moves from the poorest to the top quintile. Interestingly, we do not observe the same trend for wasting (see Figure 4).

Figure 4: Malnutrition estimates, by welfare quintile



Analysis of the ERSS wave 1 anthropometric data suggests that Ethiopia face a very high burden of malnutrition, a conclusion that matches that of the current literature. Identifying particularly vulnerable groups, such as children in rural areas, boys, and those living in households with illiterate heads, can help policy makers target nutrition programs more effectively.

This brief is based on data collected by the Central Statistical Agency as part of the Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA) project. The full dataset is available for download at CSA via <http://www.csa.gov.et>.

The findings outlined in this brief are drawn from...

Revisiting z-scores: A review of LSMS-ISA Anthropometric Data, The World Bank, as presented at the LSMS-ISA Annual Workshop 2013, Addis Ababa, Ethiopia



THE WORLD BANK

