The MDG on poverty and hunger: How reliable are the hunger estimates?

Wijnand Klaver & Maarten Nubé

Two hunger related indicators are used for tracking progress towards MDG-1. The prevalence of people with inadequate food intake (undernourishment) is based on national food statistics, which are not very reliable in Sub-Saharan Africa. The other indicator (prevalence of underweight among underfives, based on anthropometric surveys) appears to be more reliable. The measurement of height in addition to weight allows a more refined classification of anthropometric failure. A specially designed cross-tabulation (called ‘Anthro Table’) facilitates the inspection of the resulting interconnected prevalence data. An example from Kenya confirms the reliability of underweight as a sound overall indicator of child growth, while the prevalence of stunting (low height) remains a useful additional indicator that can help attribute any trends in underweight to chronic and/or acute undernutrition.

Introduction

The first of the eight Millennium Development Goals (MDG) is to eradicate extreme poverty and hunger, with one of the targets being to halve the proportion of people suffering from hunger by 2015 compared to the 1990 figure. To measure progress, two indicators have been selected by the United Nations: the proportion of children under five whose weight-for-age is below the WHO

---

1 The other targets of MDG-1 are to ‘Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day’ and to ‘Achieve full and productive employment and decent work for all, including women and young people’ (United Nations Statistics Division 2008).
cut-off point for undernutrition,\textsuperscript{2} and the proportion of the population whose food consumption is below minimum dietary energy requirements. In this chapter, the first is referred to as ‘prevalence\textsuperscript{3} of underweight in children’ or ‘prevalence of underweight’ and the second is referred to as ‘prevalence of undernourishment among the population’ or ‘prevalence of undernourishment’.

The first part of the chapter questions whether these two indicators are indeed measurable and reliable, and how they relate to each other, while the second takes a closer look at the first of the two indicators and considers how weight-for-age combines the effects of two distinct dimensions of child growth: growth in body stature with age, and fluctuations in body proportions. Each of these dimensions has its own indicator, namely the number of children with a height too low for their age, and the proportion of children with a weight below what would be expected for their height. Although the chapter focuses on the merits of these indicators for monitoring purposes, their relationship with indicators for other development targets and background conditions over time is an important issue. The monitoring of MDG targets should be combined with interpreting national trends appropriately, including attributing changes to likely explanatory factors such as the impact of different policies, economic opportunities or constraints, and natural or manmade changes or disasters. This chapter takes a first step towards developing new reporting tools to allow a better analysis of the ‘prevalence of underweight’ indicator.

Underweight vs. undernourishment: Measurement issues

The hunger-related target of MDG-1 is being monitored using two indicators. The first is derived from anthropometric surveys among children under five and the second is based on statistics about food availability for human consumption. The chapter starts with information on the relationship between the two indicators. This is followed by a brief overview of the procedure used to estimate the prevalence of undernourishment among the population and an assessment of the reliability of the prevalence of undernutrition using the results of successive anthropometric surveys that were undertaken over a relatively short period of time in the same country. Information is presented on the degree of stability of

\textsuperscript{2} The cut-off point used internationally is $-2$ Z-scores below the reference population median.

\textsuperscript{3} A ‘prevalence rate’ (in %) describes the percentage of people in a given area who are suffering from a condition at a particular time. In epidemiology, this rate is distinguished from the ‘incidence rate’, which is the percentage of people in a given area who become ill in a certain period (e.g. one year). The monitoring of MDG-1 relies on prevalence percentages and not on incidence rates.