

Misleading about hunger in the world

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The UN agency for food and agriculture, the FAO, has over the years conducted the important task of bringing our attention to one of the most deplorable problems in the world: chronic undernutrition in the developing countries. In numerous publications, the agency has reported terrifying estimates of the prevalence and severity of undernourishment. The FAO estimates are routinely cited in the media world-wide and have become the conventional view of the problem.

In its latest report, to be presented here in Stockholm on Monday [October 15th], the FAO asserts that 800 million people are undernourished and that the number has not changed much since the early 1990s. It also conjectures that the UN's objective of reducing the number by half before the year 2015 will be missed by a large margin.

The questions to be addressed in this article are how reliable the FAO estimates are and for what urgent policy purposes they provide relevant guidance.

The FAO estimates of undernourishment are based on the per-capita availability of food (converted into calories) in individual countries (own production and imports). The distribution of the available calories across households is estimated by the FAO from household food surveys. Subsequently, the FAO establishes a norm for the minimum per-person calorie requirement of an average household. This minimum norm is set so as to allow the household members to maintain health-consistent body weights and to exert some light physical activity (work). The share of the households in the distribution that has an availability of calories below the norm is classified as undernourished.

The FAO method for estimating undernutrition may seem plausible at first sight. Every step in the calculation is based, however, on a number of ambiguous assumptions and unreliable data—in some instances even non-existent. This means that the FAO calculations of undernutrition are not only unreliable; they also lead to overestimation.

One of the reasons why the FAO has overstated the prevalence of undernutrition is that its norm for minimum calorie requirement is based on at least two misconceptions.

One is that the FAO has failed to recognise that the nutritionists have revised downward the number of calories that a person needs to maintain a body weight that is consistent with health. The other is that FAO's norm does not take into account that households have different per-capita calorie requirements because they differ in terms of age- and sex composition. The FAO has hence ignored the fact that households with many young children have lower calorie requirements *per person* than the "average" household. Yet another reason why the FAO has overestimated undernutrition is that much of the food produced in developing countries is for subsistence, which tend not to be fully recorded.

Does it really matter much if the FAO has overestimated the prevalence of undernutrition in the world? Is the problem still not so serious that immediate action must be taken? Sure enough, but in order to be able to design and target interventions in an efficient manner, governments and the international organisations need reliable answers to a number of crucial questions. They need insightful knowledge of what undernutrition is all about, and they need to know how widespread undernutrition is, where it is concentrated, who the undernourished are, and why they are undernourished. The FAO leads us astray on all these questions.

According to the FAO analysis, undernutrition is equivalent to a low calorie intake. This is a crude simplification. Whether a person with a certain habitual calorie intake becomes undernourished or not also depends on her body constitution, health status, physical activity level, and whether her diet contains sufficient amounts of crucial minerals, vitamins and proteins. The question whether a person is undernourished can only be settled through clinical examination. In its very simplest form, such an examination is confined to observing people's height and weight for their age.

The question of the prevalence of undernutrition is important for deciding at what level interventions are best made. If the incidence of undernutrition is on the scale purported by the FAO—30-50 per cent of the population in many countries—interventions have to be undertaken at the national level (e.g. through food prices). If the prevalence is lower, 10-15 per cent, interventions can be targeted directly to the ones in need (e.g. through income support).

We also have to know towards what countries interventions are the most urgent. The FAO claims that the prevalence of undernutrition in the Sub-Saharan African

countries is about twice as high as in India and most other countries in South Asia. We can get an idea of how reliable this map of undernutrition is by consulting the evidence on how large shares of the population in these regions that show direct symptoms of undernutrition. These are children and adults who are abnormally short for their age and have body weights below what is consistent with health.

The nowadays relatively reliable data on the share of pre-school children and women of fertile age who are stunted and underweight show these shares to be more than twice as high in South Asia as compared to Sub-Saharan Africa—exactly the opposite to what is reported by the FAO (see graph).

Furthermore, in order to be able to target the interventions towards the undernourished in a country, one needs to know who the undernourished households are, and also what age- and sex categories are the most affected. The FAO is silent on this questions. As the agency admits itself, its method is only aimed at estimating the *share* of households that falls below its calorie norm. More precise targeting is hence beyond the scope of the FAO approach—even if the details may be improved in the future.

The common belief is that young children and women of fertile age, the two categories that have been examined in most countries, are the main victims of undernutrition. This may well be so, but we do not know for certain since the equivalent information on the height and weight of school-age children, teenagers, adult men and elderly people is simply not available.

Finally, on the question of the reasons for undernutrition, the FAO' analysis is totally misleading. The basic reason for undernutrition, as estimated by the FAO, is insufficient availability of food (calories) in countries. Modern research, headed by Nobel laureate Amartya Sen, has very convincingly demonstrated that the chief reason is low incomes on behalf of the poor. Except in connection with war and large natural disasters, there is no scarcity of food in any country for those who can afford to buy it—with the possible exception of North Korea. Undernutrition is further reinforced by the fact that basic health care is not available to the poorest in many developing countries.

The FAO deserves appreciation for bringing more attention to undernutrition than it would otherwise have received. But the method it uses for estimating undernutrition is far too unreliable for the results to be trusted. Moreover, the overly crude and aggregate

estimates provide no guidance for the important policy-decisions that the international community must take if the universally agreed objective to reduce by half the number of undernourished people by the year 2015 is to be realised.

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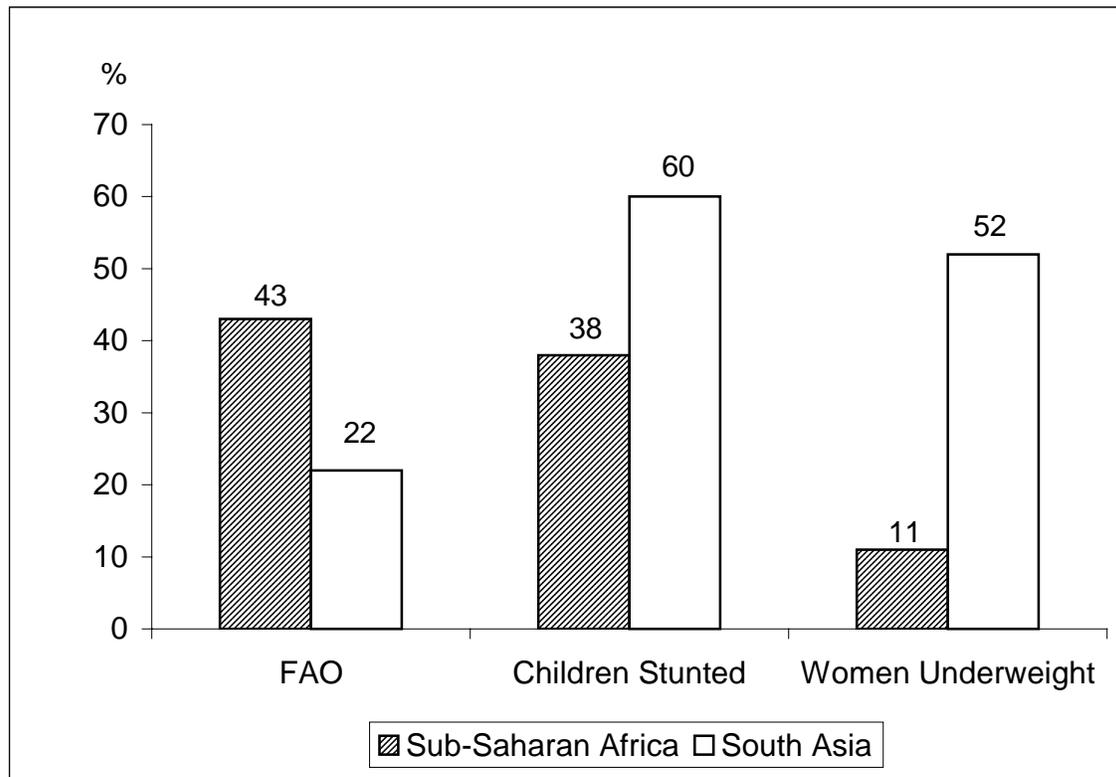
This article is based on my published research:

Poverty and Undernutrition: Theory, Measurement, and Policy, Oxford University Press, 2000 (with a foreword by Amartya Sen).

”841 Million Undernourished?”, *World Development*, 1999:12 (Swedish version in *Ekonomisk Debatt*, 1999:1).

”Undernutrition Overestimated”, *Economic Development and Cultural Change*, 2001, Chicago University Press (in press). The manuscript can be downloaded from <http://www.iies.su.se/publications/seminarpapers/693.pdf>.

Graph 1: Prevalence of undernutrition as indicated by the FAO and by selected anthropometric measures in Sub-Saharan Africa and South Asia, early 1990s



Sources: The share of undernourished households is from *The Sixth World Food Survey*, FAO. The estimates of the share of stunted children are from the WHO's *Global Database on Child Growth and Malnutrition*. The data on the share of underweight women are originally from the *Demographic and Health Surveys (DHS)*, estimated by Macroint (Washington DC), as processed by the ACC/SCN (WHO sub-division) in the *Fourth Report on The World Nutrition Situation, 2000*, and M. Nubé, "Confronting Dietary Energy Supply with Anthropometry in the Assessment of Undernutrition Prevalence at the Level of Countries", *World Development*, 2001. The averaging of the various DHS data is reported in Svedberg, P., "Undernutrition Overestimated", forthcoming in the journal *Economic Development and Cultural Change*, Chicago University Press (can be downloaded from the IIES website cited above).