EXPLAINING CHILD MALNUTRITION IN DEVELOPING COUNTRIES: A CROSS-COUNTRY ANALYSIS

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One out of every three children under five in developing countries is malnourished. This unacceptable state of affairs leads to a great deal of human suffering, both physical and emotional. It is a major drain on developing countries’ prospects for development because malnourished children require more intense care from their parents and are less physically and intellectually productive as adults. It is also a violation of a child’s human rights. While there is no question that malnutrition must come to an end, debates continue to flourish over what the most important causes of malnutrition are and what types of policies will be most successful in reducing it.

The number of malnourished children in the developing world has remained fairly constant. However, while experience varies by region, the prevalence of malnutrition has been progressively declining: in 1970 the percent of underweight children under age five in developing countries was 46.5 percent; by 1995 this share had dropped to 31 percent (Figure 1). Explaining Child Malnutrition in Developing Countries: A Cross-Country Analysis, Research Report 111, by Lisa C. Smith and Lawrence Haddad, draws on the experience of 63 developing countries over this 25-year period to clarify the relative importance of the various determinants of child malnutrition for each developing region. Six factors are explored; the first four have a more direct influence on malnutrition. The four, ranked by their strength of impact, are women’s education, national food availability, women’s status relative to men’s, and health environment quality. These are termed “underlying determinants.” The other two, termed “basic determinants,” are national income and democracy, which influence malnutrition indirectly by facilitating investment in the direct determinants. The report concludes by identifying policy priorities for reducing child malnutrition at the fastest pace now and over the coming years to 2020 for each developing region. The method employed is country fixed-effects regression analysis.

WOMEN’S EDUCATION AND STATUS

Across the developing world women play key roles in maintaining household food security and in caring for children on a day-to-day basis, both of which are extremely important factors influencing a child’s nutritional status. Women, depending on the region, are often highly involved in food production and acquisition, thus boosting food security. Since childbirth and breast feeding can only be carried out by women, they are naturally the primary caregivers at the beginning of a child’s life. And women are most often the people who feed and bathe children, seek health care when they are sick, protect them from exposure to danger, and support their cognitive and social development. Given these key roles, women’s knowledge and abilities and their own physical well-being and decisionmaking power are crucial to children’s nutrition.
It is not surprising, then, that this report finds women's education and status relative to men's to be strongly associated with child malnutrition in developing countries. Improvements in female secondary school enrollment rates are estimated to be responsible for 43 percent of the total 15.5 percent reduction in the child underweight rate of developing countries during the period 1970–95. The estimated contribution of improvements in women's status relative to men's is only 12 percent, mainly because there has been little progress in this area during the period in spite of its strong influence (Figure 2). Women's relative status in the report is measured by the ratio of female life expectancy to male life expectancy.

**NATIONAL FOOD AVAILABILITY AND HEALTH ENVIRONMENT QUALITY**

Food security is achieved when a person has access to enough food to lead an active and healthy life. It is thus a prime determinant of a child's nutritional status. The report was unable to explore the influence of food security on child malnutrition directly due to lack of data. Instead, it considered national food availability, one of food security's main determinants, measured as per capita dietary energy supply. The report finds that national food availability has been a very important factor in reducing child malnutrition rates in the past, being responsible for roughly a quarter of the reduction over 1970–95 (Figure 2). However, it also finds that the strength of the impact of food availability depends on how high food supplies per person are. In countries with very low food supplies, such as those in Sub-Saharan Africa and South Asia, national food availability is as important as improving women's education. In countries where food supplies are relatively high, such as many countries in East Asia, the Near East and North Africa, and Latin America and the Caribbean, they are not as important a determinant of child malnutrition.

The quality of the health environment, such as water cleanliness, sanitation, and access to health services, is also known to be a prime determinant of children's...
Estimated contributions of underlying-determinant factors to reductions in developing-country child malnutrition, 1970–95

For developing countries as a whole, women's education and status have contributed to over 50 percent of the total reduction in child underweight rates from 1970 to 1995.

Regional distribution of underweight children, 1995 and 2020 status quo

Based on current trends, the numbers of underweight children in Sub-Saharan Africa are projected to be 55 percent higher by 2020 than they were in 1995, while the numbers are expected to decline in the rest of the developing-country regions.

NATIONAL INCOME AND DEMOCRACY

Per capita national income growth, one of the indirect (or basic) determinants, facilitates public and private investment in women's education and status, national food availability, and health environment quality. Democracy encourages investment in national food availability and health environment quality.

Growth in national income per person is an extremely potent force for reducing child malnutrition, and income growth was substantial in the developing world during 1970–95. The report estimates that about half of the total reduction in child malnutrition over the period came from income growth. Like national food availability, however, national income's impact declines as it rises. As countries' incomes increase, further income growth will contribute less to the reduction of child malnutrition. More effort will need to be placed on allocating income to the appropriate investments, such as increasing women's education and food supplies, or on increasing the efficiency with which they reduce malnutrition.

While democracy is a potent force for reducing child malnutrition, it is not as strong as national income growth. Because the developing countries on average saw no increase in democracy during the period, this factor made no contribution to reducing child malnutrition.

POLICY PRIORITIES FOR THE FUTURE

The future prevalence of child malnutrition obviously depends on the degree of effort exerted to reduce it. For each region,
Report presents three scenarios based on the projected evolution of the four underlying-determinant factors during 1995–2020 (Figure 3). In the status quo or "do-nothing-different" scenario, the determinants improve at roughly the same rates as they did during 1985–95. Under this scenario, the developing-country prevalence of child malnutrition is projected to fall to 18 percent (140 million children) by 2020. Under a pessimistic scenario, in which the rate of improvement of the determinants declines, the prevalence of child malnutrition will fall to 22 percent (155 million). Under an optimistic scenario, in which improvement in the determinants is accelerated, the projected child malnutrition prevalence is 15 percent (128 million).

Under all three scenarios, the absolute numbers of malnourished children in Sub-Saharan Africa are expected to be higher in 2020 than they were in 1995. A sharp regional shift in the location of child malnutrition is projected: South Asia’s share of the total numbers of children will fall from 51 percent to 47 percent, but Sub-Saharan Africa’s share will rise from 19 percent to near 35 percent (Figure 4).

But the future does not have to be a reflection of past trends. Geographical areas where child malnutrition is most severe should receive high priority as well as the types of interventions that will reduce it at a faster pace. The report concludes by identifying priorities for reducing child malnutrition in each developing region based on (1) the relative strengths of impact of the four underlying determinants considered (national food availability, women’s education, women’s status relative to men’s, and the health environment) and (2) the degree to which each is below its desirable level in that region. In Sub-Saharan Africa and South Asia, improvements in per capita food availability and women’s education offer the best hope for future reductions in child malnutrition. In South Asia, promotion of improved status for women should also be prioritized. In East Asia, the Near East and North Africa, and Latin America and the Caribbean, women’s education should be given top priority, followed by women’s status relative to men’s. Additional secondary priorities are food availability for East Asia and health environment improvements for Latin America and the Caribbean. However, if national incomes and democracy are not improved, the resources and political will necessary for investing in health environments, women’s education and status, and food availability will not be forthcoming. These areas must also be prioritized in order for child malnutrition to be reduced and eventually eliminated in the 21st century. Finally, the report emphasizes that investments in all the areas considered will support the crucial role of direct nutrition programs, such as community-based programs to improve home-based caring practices, micronutrient supplementation, and food fortification.

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