April 2010

Save the Children

Investing in children's nutrition – the economic benefits

Policy brief

Undernutrition kills more than 3 million children every year and prevents hundreds of millions from achieving their full potential. At the national level, undernutrition can reduce gross domestic product (GDP) by as much as 6% a year. Globally, the direct cost of child undernutrition is estimated at between $20 and $30 billion. Investing in and improving the nutrition of children can accelerate economic development and poverty reduction.

Child undernutrition – a staggering and persistent problem in low- and middle-income countries – is seriously undermining progress towards wider human development goals. Undernutrition is the leading cause of child death – contributing to more than 3 million deaths each year. And it stops children who survive from fulfilling their full productivity potential as adults.

One child in three in developing countries – around 195 million under-fives[1] – is chronically undernourished or 'stunted'. Stunted children's physical growth and mental development are impaired because they have not absorbed the nutrients the body and brain need to develop to their full potential. Poor families are often only able to afford and provide a narrow diet for their children, focusing on food that gives energy such as corn and rice, which lack essential elements that promote growth. Not enough meat, milk, fruit and vegetables, along with inadequate breastfeeding, contribute heavily to the sheer extent of child undernutrition. Millions of children's diets are also deficient in micronutrients, which has a devastating impact on their chances of survival, growth and development.

Children are most vulnerable to the long-term damage resulting from undernutrition between conception and their second birthday. Indeed, children can begin their path of undernourishment when they are still in the womb, as a result of their mother's inadequate diet. Maternal undernutrition impairs the physical growth and brain development of the newborn baby. It contributes to the high number of low-birth-weight babies, as well as to high levels of maternal and child deaths.

The economic costs of child undernutrition

The sheer scale of children not reaching their full productive potential because of undernutrition is seriously undermining human productivity – which is vital to economic development – in many developing countries. Undernutrition means children are more vulnerable to illness throughout their lives, achieve less at school and have a reduced capacity to work, culminating in less income when they are adults.[2] Undernutrition plays a terrible catalytic role in reinforcing this pattern from one generation to another and transmitting poverty into the future. The enormous economic consequences of undernutrition to nations, governments and businesses are outlined below.

High cost of child mortality Every year, more than 3 million children die from causes related to undernutrition.[3] Undernutrition contributes as a direct or underlying cause of deaths by making children's immune systems less resistant to infection, worsening the disease condition, and also hampering recovery. Low birth weight, which is in part caused by maternal undernutrition, contributes to 60% of neonatal deaths.[4] There are clear estimated economic benefits of reducing infant mortality associated with low birth weight.[5]

Children achieve less at school Undernourished children find it harder to learn and therefore do less well at school than their better nourished counterparts. A multi-country study has shown that stunting at age two is associated with a reduction in schooling of almost one year, with a 16% increase in risk of failing at least one grade.[6] The economic effect of this on families is significant. In Zimbabwe, undernutrition is judged to have reduced lifetime earnings of individuals by 12% due to its impact on educational achievement.[7]

Severe impact in adulthood through lost productivity, earnings and disease burden Adults affected by undernutrition throughout their lives have been judged to earn almost 20% less than their non-affected counterparts.[8] A 1% loss in adult height due to childhood stunting is associated with a 1.4% loss in productivity.[9] Iron deficiency anaemia has been associated with a 17% loss of productivity in heavy manual labour.[6] The economic losses due to mental impairment are also pervasive – undernutrition in early life has been estimated to be associated with a 15 point decrease in IQ, which in turn is associated with a 10% drop in earnings.[10] Productivity loss due to foregone waged employment was estimated to be US$2.3 billion in India.[11]

Early childhood undernutrition also takes its toll on health later in life. Individuals are more likely to suffer from non-communicable diseases like heart and kidney disease, obesity and diabetes. Estimates suggest that 11% of the total global disease burden relates back to undernutrition.[12] Developing countries are spending 2–7% of their healthcare budgets on the direct costs of treating obesity and associated chronic diseases.[13]

National economic growth is negatively affected Undernutrition can lead to losses in GDP by poor nations commonly by as much as 2% to 3% and sometimes as much as

6% per annum, translating into losses of several billions of dollars a year.[14] Productivity losses (manual work only) from stunting, iodine deficiency and iron deficiency together are estimated to be responsible for a los of almost 3% of Indian GDP.[15] Globally it is estimated that the direct cost of child undernutrition is between $20 to $30 billion per year.[16]

The economic rewards of investing in children's nutrition

There are already more than 1 billion hungry people, almost 200 million stunted children and the full consequences of the food and financial crises on child undernutrition is not yet calculated. Governments and donors must invest in children's nutrition urgently. As well as delivering results in the short term, this will make investments in other sectors such as education and health more effective. This in turn will have a significant and long-term impact on national economies.

Improved nutrition contributes to sustainable and equitable growth, leading to poverty reduction. Guatemalan men who received highly nutritious food supplements from nought to two years of age earn US$0.67 per hour more, which equates to a 46% increase in average wages.[17] Eliminating anaemia results in a 5–7% increase in adult productivity, which adds up to 2% of GDP in the worst-affected countries.[18] In addition, good nutrition significantly decreases maternal and childhood deaths, improves maternal health, gender equality and treatment of HIV and AIDS. Investing in nutrition, therefore, is central to achieving the Millennium Development Goals and overall development.

Investing to improve nutrition is cost effective. Benefit-cost ratios of such programmes for the economy can be as high as 200:1. The Copenhagen Consensus 2008, produced by a panel of leading economists including Nobel Laureates, listed combating undernutrition as the *best* development investment considering its benefit-cost ratio. Each dollar spent on micronutrient programmes for children aged under two years would realise gains of more than $17 in terms of fewer deaths, better health and increased future earnings.[19]

What we are calling for

At national level and within communities, children's undernutrition is often hidden (particularly stunting and micronutrient deficiencies). Apart from undernourished children being slightly shorter than well-nourished children, there are few obvious physical signs. Indeed, tackling undernutrition is rarely a glamorous choice for politicians and policy-makers, but investing in it is vital for economic growth and human development. National leaders and finance ministers in developing countries can play a role in unleashing the economic potential of their populations by directing policy and investment towards nutrition.

Nutrition must become a top political and developmental priority for governments and donors and a central measure for national human development progress. Governments of the countries with the highest burden of undernutrition should put nutrition high up their political and development agendas and assign top political leaders to ensure a coordinated cross-ministerial effort under a credible national nutrition plan.

The plan should include a comprehensive approach integrating direct nutrition interventions with other development strategies such as social protection, agriculture, education, water and sanitation to achieve lasting change.

New and existing resources to strengthen world food security and agriculture – such as those provided by G8 countries through the L'Aquila Initiative to be channelled partly through the World Bank Trust Fund – must be re-focused with the aim of reducing undernutrition and not simply increasing the availability of food.

Adequate funds from governments and donors should be made available to support large-scale cross-sectoral nutrition interventions and food security and health programmes. Save the Children estimates $8.8 billion is necessary to achieve a package of measures to tackle undernutrition in eight countries that hold 50% of the world's undernutrition burden.[20] Bilateral and multilateral donors must ensure that no credible government plan to reduce hunger and mortality fails due to lack of funds. Nutrition should be a significant aim in the international partnerships for health or food security.

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