



FOOD SECURITY AND NUTRITION

VIEWPOINT PAPER



*Benefits and Costs of the Food Security and Nutrition
Targets for the Post-2015 Development Agenda*

Global Alliance for Improved Nutrition

Benefits and Costs of the Food Security and Nutrition Targets for the Post-2015 Development Agenda

Post-2015 Consensus

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Introduction

We've come a long way in our thinking about hunger and malnutrition since the Millennium Development Goals were set in 2000. Fundamentally, with a deeper understanding of the importance of good nutrition in a child's first 1,000 days from conception to age two, the dialogue has advanced from reducing hunger to preventing malnutrition, and particularly under-nutrition. Providing the right nutrients in this crucial 1,000 day window means the difference between a child merely surviving to thriving throughout life. Good nutrition plays a vital role in physical and mental growth and development, enabling a child to achieve their full potential and improving productivity and earnings in adulthood.

For these reasons, Susan Horton and John Hoddinott rightly establish that under the proposed Sustainable Development Goal (SDG) 2, "to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture;"¹ stunting – low height for age which categorizes chronic under-nutrition – is a more meaningful development indicator than underweight, which only considers hunger.² Horton and Hoddinott also affirm that nutrition investments aimed at reducing stunting are extremely cost-effective, estimating that every dollar spent on nutrition in the first 1,000 days of a child's life can give a saving of an average \$45 and in some cases as much as \$166.³

The relevant SDG target 2.2 states: "by 2030 end all forms of malnutrition, and by 2025 achieve the internationally agreed targets on stunting, wasting, and overweight and obesity in children under five years of age, and address the nutritional needs of pregnant and lactating women."⁴ While a stunting-reduction goal is fundamental to improving nutrition in the next fifteen years, it is not enough to guarantee success. There is still much to be done to ensure that nutrition is positioned within the post-2015 development agenda as a multi-sectorial issue with strong return on investments. In this viewpoint paper, we discuss: 1) an overview of the status of the SDGs as they relate to nutrition; and 2) the cost: benefit of micronutrient interventions, in particular food fortification.

Viewpoint

The critical importance of nutrition in the SDGs

The critical importance of improving nutrition in order to achieve sustainable development is virtually undisputed, yet it is still too often misunderstood. Improving nutrition reduces disease and prevents maternal and young child deaths, improves cognition and school attainment, increases productivity and earnings; and hence improves economic growth. In their working paper, Horton and Hoddinott summarize well how addressing stunting can

¹ <https://sustainabledevelopment.un.org/content/documents/4438mgscompilationowg13.pdf> Accessed 20 January 2015

² Horton S, Hoddinott J. Food Security and Nutrition Perspective Paper. Benefits and Costs of the Food Security and Nutrition Targets for the Post-2015 Development Agenda. Copenhagen Consensus Center Working Paper, November 2014.

³ Hoddinott J, Alderman H, Behrman JR, Haddad L, Horton S. The economic rationale for investing in stunting. *Maternal and Child Nutrition* 9 (S2): 69-82, 2013.

⁴ <https://sustainabledevelopment.un.org/content/documents/4438mgscompilationowg13.pdf> Accessed 13 January 2015

have high economic returns for individuals and nations.⁵ They note that there is a marked improvement between the MDGs nutrition targets and the new SDG nutrition targets. However stunting, which affects 162 million children under five (2012),⁶ is just “the tip of the iceberg” with an estimated two billion people undernourished beneath the visible surface. The reason under-nutrition is often referred to as “hidden hunger,” is that most people affected do not look ill, but still suffer from health and development consequences. For example, iodine deficiency is one of the leading causes of preventable mental handicap worldwide, and leads to a typical reduction in IQ of 10-15 points. But the visible symptom of iodine deficiency – goiter, or an enlarged thyroid gland – only affects a small subset of those iodine deficient.

The stunting reduction goal is necessary; but as pointed out in the Global Nutrition Report (GNR), out of the 169 draft targets in the SDGs – it is the only one directly related to malnutrition.⁷ Considering the clear returns of investing in nutrition, how can we ensure improving nutrition is adequately covered in the SDGs? Lawrence Haddad of the International Food Policy Research Institute (IFPRI) has argued that nutrition indicators should be embedded “horizontally” in other goals and targets.⁸ This makes sense, because under-nutrition has many interrelated immediate and basic causes including poverty, disease, lack of sanitation, and the social and economic context.⁹ Some examples of how nutrition can be embedded across the SDG targets are listed in the GNR. For example, Target 3.2, “by 2030 end preventable deaths of newborns and under 5 children” could embed a nutrition-related target of reducing anemia in women of reproductive age. Target 3.8 to “achieve universal health coverage” could embed a nutrition-related target to increase coverage of nutrition-specific interventions.¹⁰

In addition to embedding nutrition targets in other goals, there is also opportunity to include more specific targets in the existing SDG 2, particularly those set by the World Health Assembly (WHA) to achieve by 2025¹¹. Stunting and wasting targets are already included, but the other WHA target areas include a reduction in anemia in women of reproductive age, reduction in low birth weight, no increase in child overweight, and increase in the rate of exclusive breast feeding in the first six months of life. Nutritional causes of anemia include iron, folate, and B12 deficiencies, and nutritional status before and during pregnancy is recognized as an important cause of low birth weight. In order to achieve results against the WHA targets we need to focus on addressing one of the key underlying determinants: low quality diets that do not provide sufficient micronutrients throughout the life cycle. Micronutrient interventions are therefore critical.

⁵ Horton S, Hoddinott J. Food Security and Nutrition Perspective Paper. Benefits and Costs of the Food Security and Nutrition Targets for the Post-2015 Development Agenda. Copenhagen Consensus Center Working Paper, November 2014.

⁶ Global Nutrition Report: Actions and Accountability to Accelerate the World’s Progress on Nutrition.

⁷ Ibid.

⁸ Haddad L. “How should nutrition be positioned in the post-2015 agenda?” *Food Policy*, 2013, vol. 43, issue C, pages 341-352

⁹ <http://www.unicef.org/nutrition/training/2.5/4.html>

¹⁰ Global Nutrition Report: Actions and Accountability to Accelerate the World’s Progress on Nutrition.

¹¹ http://www.who.int/nutrition/topics/nutrition_globaltargets2025/en/

The cost: benefit of micronutrient interventions, in particular food fortification

We have the opportunity to set priorities based on getting the biggest development benefit for our dollars. Investing in nutrition -- including through micronutrient interventions -- has been affirmed by the Copenhagen Consensus as one of the most worthwhile development investments in 2004, 2008, and 2012.¹²¹³ Thanks to *The Lancet*, we have evidence of the interventions that are working to tackle under-nutrition most effectively. These include targeted micronutrient supplementation, promotion of exclusive breastfeeding and best complementary feeding practices, micronutrient fortification of staple foods, and nutrition-sensitive interventions including de-worming and water and sanitation interventions.¹⁴ Of these, food fortification; or the addition of small amounts of micronutrients to staple foods such as flour, vegetable oil, or salt; is a stand-out in terms of cost-effectiveness. It is inherently low-cost compared to other nutrition interventions because the production and distribution system is already in place to reach a large proportion of the population, and generally requires no knowledge or behavioral change among consumers.

In an ideal world everyone would have access to diverse diets, with a mix of fruits, vegetables and whole grains that provide the nutrients we need to live productive, healthy lives. That ideal, however, is still some way off. A diet consisting of micronutrient-rich foods is often prohibitively expensive, while energy-dense but nutrient “empty” calories such as refined flour, rice, and vegetable oil are affordable and highly consumed. If these staples were fortified, these populations would upgrade their nutritional status and become less vulnerable to crippling deficiencies. The additional costs to fortify foods such as wheat flour and vegetable oil vary, but are usually less than a fraction of 1 percent more than the non-fortified food. This cost is then diluted across the entire market, reducing individual costs even further.

The cost: benefit ratio of fortification is outstanding. In Chile, research on the annual cost of the rehabilitation and treatment of children with spina bifida compared with the cost of adding folic acid to flour showed that, for every \$1 invested in adding folic acid to flour, \$12 were saved in medical treatment and care.¹⁵ The benefits of fortification are calculated by aggregating the avoided costs of population cognition, productivity, and life losses over projected lifetimes, plus the increased healthcare costs of severe micronutrient deficiencies. Some have estimated that the costs of under-nutrition can lower GDP by as much as 12 percent.¹⁶

¹² <http://thousanddays.org/wp-content/uploads/2011/05/Copenhagen-Consensus-2008-summary.pdf> accessed 13 January 2015.

¹³ <http://www.copenhagenconsensus.com/sites/default/files/hungerandmalnutrition.pdf> accessed 19 January 2015

¹⁴ Bhutta ZA, Das JK, Riiyvi A, Gaffey MF, Walker N, Horton S, Webb P, Lartey A, Black RE for Lancet Maternal and Child Nutrition & Interventions Review Groups Evidence based interventions for improving maternal and child nutrition : what can be done and at what cost ? Lancet 382 (9890): 452-477, 2013.

¹⁵ Llanos, A., et. al., *Cost-effectiveness of a Folic Acid Fortification Program in Chile*. Health Policy 83 2007:295-303.

¹⁶ Horton, S., and R. H. Steckel. 2011. *Malnutrition: Global Economic Losses Attributable to Malnutrition 1900–2000 and Projections to 2050*. Copenhagen: Copenhagen Consensus on Human Challenges. <http://www.copenhagenconsensus.com/sites/default/files/malnutrition.pdf> accessed 11 February 2015.

Food fortification has been used safely and effectively to prevent micronutrient deficiencies for more than a century. In the USA, salt iodization and fortification of margarine with vitamin A from the 1920s; fortification of milk with vitamins A and D from the 1930s; and enrichment of flour and bread with iron and B complex from the 1940s all contributed to virtually eliminating vitamin and mineral deficiency diseases including goiter, rickets, beriberi, and pellagra.¹⁷ Ninety years after food fortification was first used in the USA, the practice is starting to achieve scale and impact in the developing world. However, available resources to scale up these efforts are limited. Setting clear, appropriate nutrition SDG targets will help to inspire political leaders and guide resources towards proven nutrition interventions that can deliver cost-effective solutions to malnutrition at scale.

Summary

Given the linkages of nutrition with poverty, disease, sanitation, and social and economic development, it is right that nutrition features prominently in the SDGs. We have the opportunity to shape the next development agenda, based on proven nutrition interventions that can deliver cost-effective solutions to malnutrition at scale. While food fortification is not a standalone tool — dietary diversity and affordable access to nutritious foods both remain crucial in the fight against malnutrition — it is a powerful tool enabling schoolchildren to achieve their academic potential, preparing mothers for healthy pregnancies and fighting disease. As one important nutrition intervention, it also has one of the best cost: benefit ratios with huge potential to benefit populations at risk of micronutrient deficiencies at scale and in a sustainable manner. If we are to be successful in tackling malnutrition the SDG framework must enable and guide investments towards proven and scalable nutrition interventions which achieve the most impact for our investment.

¹⁷ Bishai D, Nalubola R. The History of Food Fortification in the United States: Its Relevance for Current Fortification Efforts in Developing Countries. *Economic Development and Cultural Change* 2002; 51: 37-53.

This paper was written by Rebecca Spohrer, International Nutrition Program Manager at Global Alliance for Improved Nutrition (GAIN). The project brings together more than 60 teams of economists with NGOs, international agencies and businesses to identify the goals with the greatest benefit-to-cost ratio for the next set of UN development goals.

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