

briefing paper

Implementing Nutrition-Sensitive Development: Reaching Consensus

by Noreen Mucha, M.P.A.

Bread for the World Institute provides policy analysis on hunger and strategies to end it. The Institute educates opinion leaders, policy makers, and the public about hunger in the United States and abroad.

www.bread.org



Todd Post/Bread for the World

Abstract

The Scaling Up Nutrition (SUN) Movement is an unprecedented, multi-stakeholder global effort to improve maternal and child nutrition. Both the 2008 *Lancet* Series on Maternal and Child Undernutrition and SUN Framework for Action underscore the importance of both nutrition-specific and nutrition-sensitive interventions. Thanks to a large evidence base, nutrition-specific interventions are well-defined. They include treating acute malnutrition, increasing micronutrient intake, and promoting exclusive breastfeeding, addressing the immediate causes of undernutrition. Nutrition-sensitive development addresses the underlying factors that contribute to malnutrition—including hunger, poverty, gender inequality, and poor access to safe water and health services—by integrating nutrition actions into other sectors.² Unlike nutrition-specific interventions, nutrition-sensitive development lacks a common definition, which is needed for aligning efforts and measuring impact. More research and documentation of proven approaches to integrating nutrition-sensitive actions into multisectoral programs will build the evidence base. This policy brief seeks to contribute to a wider conversation that we hope will lead to some consensus.

Key Points

- In addition to nutrition-specific interventions, experts agree that reducing maternal and child undernutrition will require nutrition-sensitive¹ actions that take place in the context of multi-sectoral programs in agriculture, health, education, and social protection.
- Currently, there are varying definitions of nutrition-sensitive development.
- A common definition and measurement methods will facilitate nutrition investments, help coordinate efforts, and gather evidence on how best to improve nutrition through existing pathways.
- In designing nutrition-sensitive programs, it is important to specify nutrition objectives and to recognize that nutrition-specific actions may also be necessary to achieve nutrition objectives.
- A normative global body should undertake the task of building consensus around a definition and progress indicators for nutrition-sensitive development.

Key Terms and Definitions

High Burden (Stunting) Countries^{3,4,5}	<p>These countries have the highest burden of undernutrition, as defined by high prevalence rates⁶ of stunting among children younger than 5 (see stunting, below). In many high-burden countries, malnutrition rates are much higher than would be expected given their national income or economic growth rate. Examples of such countries include India (which has shown sustained and robust economic growth for more than a decade but no significant reductions in malnutrition), Guatemala, Angola, and Pakistan. The following 36 high-burden countries are home to 90 percent of the world's 178 million stunted children (2008 figure) younger than 5:^{7,8} Afghanistan (59.3% (prevalence), 2004), Angola (29.2%, 2007), Bangladesh (43.2%, 2007), Burkina Faso (35.1%, 2009), Burundi (57.7%, 2005), Cambodia (40.9%, 2010-11), Cameroon (36.4%, 2006), Côte d'Ivoire (39%, 2007), Democratic Republic of the Congo (45.8%, 2007), Egypt (30.7%, 2008), Ethiopia (44.2%, 2010-11), Ghana (28.6%, 2008), Guatemala (48%, 2008-9), India (47.9%, 2005-6), Indonesia (40.1%, 2007), Iraq (27.5%, 2006), Kenya (35.2%, 2008-9), Madagascar (49.2%, 2008-9), Malawi (47.8%, 2010), Mali (38.5%, 2006), Mozambique (43.7%, 2008), Myanmar (35.1%, 2009-10), Niger (54.8%, 2006), Nigeria (41%, 2008), Nepal (40.5%, 2011), Pakistan (43%, 2011), Peru (28.2%, 2007-8), Philippines (32.3%, 2008), South Africa (23.9%, 2008), Sudan (37.9%, 2006), United Republic of Tanzania (42.5%, 2009-10), Turkey (15.6%, 2003-4), Uganda (38.7%, 2006), Vietnam (30.5%, 2008), Yemen (57.7%, 2003), and Zambia (45.8%, 2007). By 2010, the estimate was that 171 million children (of whom 167 million live in developing countries) were stunted.⁹</p>
Nutrition Intervention	<p>A nutrition intervention¹⁰ is an action purposely planned and designed to change a nutrition-related behavior risk factor, environmental condition, or aspect of the health status of an individual, a target group, or a population at large. Nutrition interventions are generally actions taken within larger nutrition programs. If implemented at scale, an effective intervention is expected to significantly reduce the effects of maternal and child undernutrition. Nutrition interventions have been found to be effective in reducing underweight, stunting, wasting, micronutrient deficiencies, and child deaths.¹¹</p>
Direct Nutrition Interventions	<p>Direct interventions target the immediate causes of undernutrition: inadequate dietary intake and ill health. A series of high-impact direct interventions has been identified in peer-reviewed articles in <i>The Lancet</i> and other scientific publications. The 2008 <i>Lancet Series on Maternal and Child Undernutrition</i>¹² recommended 13 direct interventions¹³ to be implemented at scale in countries with high rates of undernutrition.</p>
Stunting	<p>Stunting¹⁴ is defined as a height-for-age ratio that is more than two standard deviations below the median for the population. (In other words, children are too short for their age). This is also the measure used to define chronic undernutrition. Stunting is caused by poor diet and frequent infections, generally occurs before age 2, and carries effects that are largely irreversible. These include delayed motor development, impaired cognitive function, and poor school performance.¹⁵ In total, 171 million children—27 percent of all children globally—are stunted (2010 data).¹⁶</p>
Undernutrition	<p>Undernutrition¹⁷ is the outcome of insufficient food intake and repeated infectious diseases. Being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted), and/or deficient in vitamins and minerals (micronutrient malnutrition) are all classed as undernutrition. Undernutrition¹⁸ can be identified by anthropometric indices (underweight, stunting, and wasting) and/or by the missing micronutrients in poor-quality diets.</p>
Wasting	<p>Wasting¹⁹ is a weight-for-height ratio that is too low (children weigh too little for their height). It indicates both long- and short-term nutritional deprivation. Wasting is a traumatic process of substantial weight loss that is usually associated with starvation and/or serious disease. Wasting is calculated by comparing a child's weight-for-height with those of a reference population of well-nourished and healthy children. Because wasting is strongly related to mortality,²⁰ wasting rates are often used to indicate the severity of hunger emergencies.</p>

Important Caveat Regarding Emergency/ Humanitarian Settings:

The discussion in this paper does not necessarily apply to emergency settings. The *Lancet* series explained: “There is little published information on the impact of humanitarian response on nutrition outcomes or, more specifically, on the impact of nutrition interventions in emergencies.”²¹ Despite this lack of information and the dynamic nature of emergency environments, it is important to begin incorporating both nutrition-specific interventions and nutrition-sensitive development into those contexts. Operational standards for nutrition-sensitive interventions—supported by evidence and better coordination—will allow organizations to improve their emergency response efforts.

“A series of highly-effective and low-cost nutrition-specific interventions has been identified... [and] described in peer-reviewed articles... If implemented within the context of nutrition-sensitive development programs, they will have a major impact on nutritional status.”

— Committee on World Food Security, “Nurturing the Movement for Scaling Up Nutrition: A Proposition”

Introduction

A series of global events and government actions has elevated nutrition, especially for women and children, to the top of the development agenda. The 2008 *Lancet* Series on Maternal and Child Undernutrition²² demonstrated the devastating and largely irreversible impact of malnutrition on young children (from pregnancy to a child’s second birthday). It identified cost-effective, evidence-based nutrition interventions to prevent undernutrition in this critical 1,000-day window. The Copenhagen Consensus (a group of world-renowned economists) rated these nutrition investments^{23,24} a “best buy”²⁵ in development in both 2008²⁶ and 2012.²⁷ In 2008, micronutrient supplements for children (vitamin A and zinc), micronutrient fortification (iron and salt iodization), and biofortification were ranked among the top five investments (deworming and other nutrition programs at school, and community-based nutrition promotion, were also among the top 10 development “buys”).²⁸ In 2012, the Copenhagen Consensus reiterated that the single best nutrition investment is a specific set of bundled interventions to reduce undernutrition in preschoolers (micronutrient provision, complementary foods, treatment for parasites and diarrheal diseases, and behavior change).^{29,30} Also recom-

mended were deworming treatments for schoolchildren, and research and development to increase agricultural yields (crops and livestock).³¹

In addition to these proven, nutrition-specific interventions, there is a new global consensus that a multi-sectoral approach is required to tackle maternal and child undernutrition. This recognizes that there are a complex set of causes of pervasive or long-term undernutrition that include lack of access to nutritious foods and a diverse diet as well as gender and economic inequality.³² A study of 85 countries’ varied progress in reducing stunting looked at what factors have been most important in explaining their relative success. It concluded that progress in reducing the current high prevalence of stunting can best be made by investing in both long-term development and specific interventions.³³

The Scaling Up Nutrition (SUN) Movement, launched in 2010, has underscored the role of both nutrition-specific interventions and nutrition-sensitive development in improving maternal and child nutrition. *The Scaling Up Nutrition: A Framework for Action*, or SUN Framework, called them “complementary approaches” to reducing undernutrition.³⁴ The Framework “encourages investment in development strategies that will contribute to better nutrition within all societies (‘nutrition-sensitive development’), combined with universal access to a range of tried and tested interventions that directly contribute to less undernutrition, especially among pregnant women, children under the age of 2—the ‘1,000-day window of opportunity,’ and persons affected by illness or distress (‘nutrition-specific interventions’).”³⁵

The SUN Framework outlined key considerations, principles, and priorities for action on undernutrition and recommended “a multi-sectoral approach that includes integrating nutrition in related sectors and using indicators of



Catholic Relief Services/Sara Fajardo

This girl in Guatemala receives a nutrition-specific intervention.

undernutrition as one of the key measures of overall progress in these sectors.” The 2010 SUN Road Map identified priority areas in which to mainstream nutrition; they included agriculture, education, social protection, and health.³⁶

At the Sixty-Fifth Session of the World Health Assembly, held in Geneva, May 21–26, 2012, member states adopted for the first time six global nutrition targets as part of a Comprehensive Implementation Plan on Maternal, Infant, and Young Child Nutrition. The first target is a 40 percent reduction in the global number of stunted children younger than 5 by 2025. Achieving this goal will require a concerted effort by countries, donors, and program implementers to scale up both the nutrition-specific interventions identified by *The Lancet* and the Copenhagen Consensus and nutrition-sensitive development efforts.

When considered together, these global efforts reflect a historic tidal change in political will, promoting increased donor support and larger investments in nutrition to improve maternal and child nutritional status and reduce nutrition-related mortality. A number of initiatives are assisting countries in scaling up nutrition-specific and nutrition-sensitive programming. Since 2008, the U.N. Renewed Efforts against Child Hunger and Undernutrition (REACH) initiative has served as a catalyst for scaling up multi-sectoral (agriculture, health, education, etc.) nutrition interventions through country-led plans and activities along with the coordinated action of U.N. agencies, civil society, donors, and the private sector. The U.S. government’s Feed the Future (FTF) (2010) and Global Health (GHI) (2009)

initiatives share a goal of reducing child undernutrition by 20 to 30 percent in assisted food-insecure countries.³⁷

There is strong agreement on the cost-effective and proven direct, nutrition-specific interventions and how to bring them to scale. However, very few international organizations or donor governments have clear working definitions that specify which actions are considered nutrition-sensitive, and there is no standard definition across organizations and donors. Organizations tend to define nutrition-sensitive in the context of their own programs. Now, with increased nutrition programming, it is important to make sure that efforts are aligned and coordinated and that all stakeholders have a shared understanding of how to scale up nutrition.

Coordination is particularly important when it comes to integrating nutrition into multi-sectoral programming. Lawrence Haddad, director of the U.K.-based Institute of Development Studies, notes that the challenge is that each agency is using different ways of classifying and reporting on which indirect actions are nutrition-sensitive and which are not.”³⁸ Without a standard definition, it has been difficult to build the evidence base for what works and what does not—which is important when setting funding priorities—or to get an accurate measure of the efforts made so far to scale up and their impact. Additionally, with little guidance on how to design and implement a multi-sectoral approach to nutrition, inconsistencies in implementation add to the complexity of measuring the impact of a particular intervention. We hope this paper will contribute to a broader discussion about these issues and encourage experts to develop working definitions

Case Study: Orange Sweet Potato and Nutrition-Sensitive Development

Orange-fleshed sweet potato (OSP) is the first biofortified crop to be released commercially. It has been bred to increase the amounts of Vitamin A available to those who have micronutrient deficiencies. This is the case in most of Africa, where the prevalence of vitamin A deficiency is high; traditional white and yellow potatoes contain little of this important micronutrient. Lessons learned from OSP delivery can be applied to scale up other biofortified crops to ensure that target groups (primarily women and children) are consuming adequate amounts of vitamins and minerals to improve their nutritional status.³⁹

The International Food Policy Research Institute (IFPRI) found that for a strategy—in this case, crop biofortification—to become viable, the costs of delivering nutrients through crops must be lower than the costs of nutrition-specific interventions such as food supplementation and fortification. It also found that educational components such as behavior change communications need to focus on key messages related to OSP, not on other messaging such as general nutrition or improving farming practices. Using

the World Bank’s Disability-Adjusted Life Years (DALYs) as a measure, this agricultural nutrition-sensitive program was considered highly cost-effective.

Other nutrition-sensitive activities contributed to the success of OSP and helped improve nutrition. These included efforts to define gender roles in production, consumption, and marketing; well-focused nutrition messaging; and consideration of how to brand OSP to differentiate it from traditional potatoes and encourage a growing number of producers to accept the product. Complimentary activities included sanitation/hygiene and education.

The agriculture sector needs to assume more responsibility for improving nutrition, and “better nutrition through food” needs to be a core component of global research and product development. Existing frameworks such as SUN and the Comprehensive African Agriculture Development Program (CAADP) can be an important means of mainstreaming nutrition-sensitive programs to build successful indicators, measures, and outcomes.

and guidance that will serve aid agencies, implementers, and most importantly, SUN countries.

Nutrition-Sensitive Development

Nutrition interventions work to address both malnutrition's immediate (direct) causes and underlying (indirect) factors.⁴⁰ Nutrition-specific interventions that address the direct causes of malnutrition have been well defined in the *Lancet* series and the SUN Framework. Yet there is currently no commonly-used technical definition of indirect nutrition-sensitive actions. Various communities of practice and professional groups use the term in ways that emphasize specific outcomes. The meaning of nutrition-sensitive actions can change from one sector to the next (for example, education and agriculture). These differences need to be considered when planning an integrated approach across sectors to reducing undernutrition.

Nutrition-sensitive development⁴¹ is multi-sectoral⁴² and addresses the “determinants” of malnutrition.⁴³ These interventions aim to address poverty, gender inequality, food insecurity, and/or lack of access to education, health, clean water, and other basic services—for example, they may be agriculture, education, or water/sanitation programs. Action Contre la Faim (ACF, Anti-Hunger Action) International defines a nutrition-sensitive approach as an approach that “tackles the determinants of undernutrition by promoting agriculture and food security, access to and consumption of nutritious foods, improving social protection and care practices, and ensuring access to health care.”⁴⁴ Examples of nutrition-sensitive development include: homestead food production to increase dietary diversity, improved water sources, sanitation practices such as appropriate hand washing to reduce disease, livelihoods diversification to increase resilience, conditional cash transfer programs to increase income, other income generation interventions, and rearing livestock.⁴⁵ Other examples of nutrition-sensitive activities include food fortification policies, biofortification, food price subsidies, gender-based programs, food-for-work programs, school feeding programs, and nutrition education in schools.⁴⁶

Nutrition-sensitive development can be incorporated into a range of development sectors, such as health, environment, food security and agriculture, gender, social protection, economic development (e.g., microfinance and credit schemes to benefit women), education, and water, sanitation, and hygiene. Derek Headey of IFPRI recently wrote, “Evidence suggests that the most robust nutrition-sensitive elements of social sector development are poverty reduction and health, education, and family planning outcomes.”⁴⁷ While the *Lancet* series emphasizes the benefits of known direct nutrition-specific interventions, it recognizes that long-term



David Snyder

Agriculture is a critical sector for nutrition-sensitive development.

investments in education, improvements in economic status, and women's empowerment are also necessary to reduce the high levels of stunting that persist in many countries.⁴⁸

The United Kingdom's Department for International Development's position paper on undernutrition recognizes that “the evidence challenge for these nutrition-sensitive programs is greater than for the nutrition-specific interventions because these programs have long causal chains, and different contexts can influence the outcomes.”⁴⁹ SUN partners have agreed that one of the biggest challenges for scaling up nutrition globally is developing the capacity for nutrition-sensitive development in other sectors.⁵⁰

Setting Nutrition as an Objective of Multi-Sectoral Programs

It is often difficult to assess the impact of nutrition-sensitive development, since it generally does not measure nutrition outcomes against indicators and related targets. Yet the nutritional impact of agriculture, food security, and social protection interventions is improved when the nutrition-sensitive aspects of the program are emphasized with clearly defined nutrition outcomes. The U.N. Food and Agriculture Organization (FAO) concluded from a number of contributions it collected that the ultimate goal of both providing nutritious food to subsistence farmers and consumers, and of increasing the income of producers, is to improve nutritional well-being.⁵¹

The objective of nutrition-sensitive development is to apply a “nutrition lens” in sectoral programs in order to improve or protect nutritional status (protection means

Case Study: U.S. Government Implementation of Nutrition-Sensitive Development

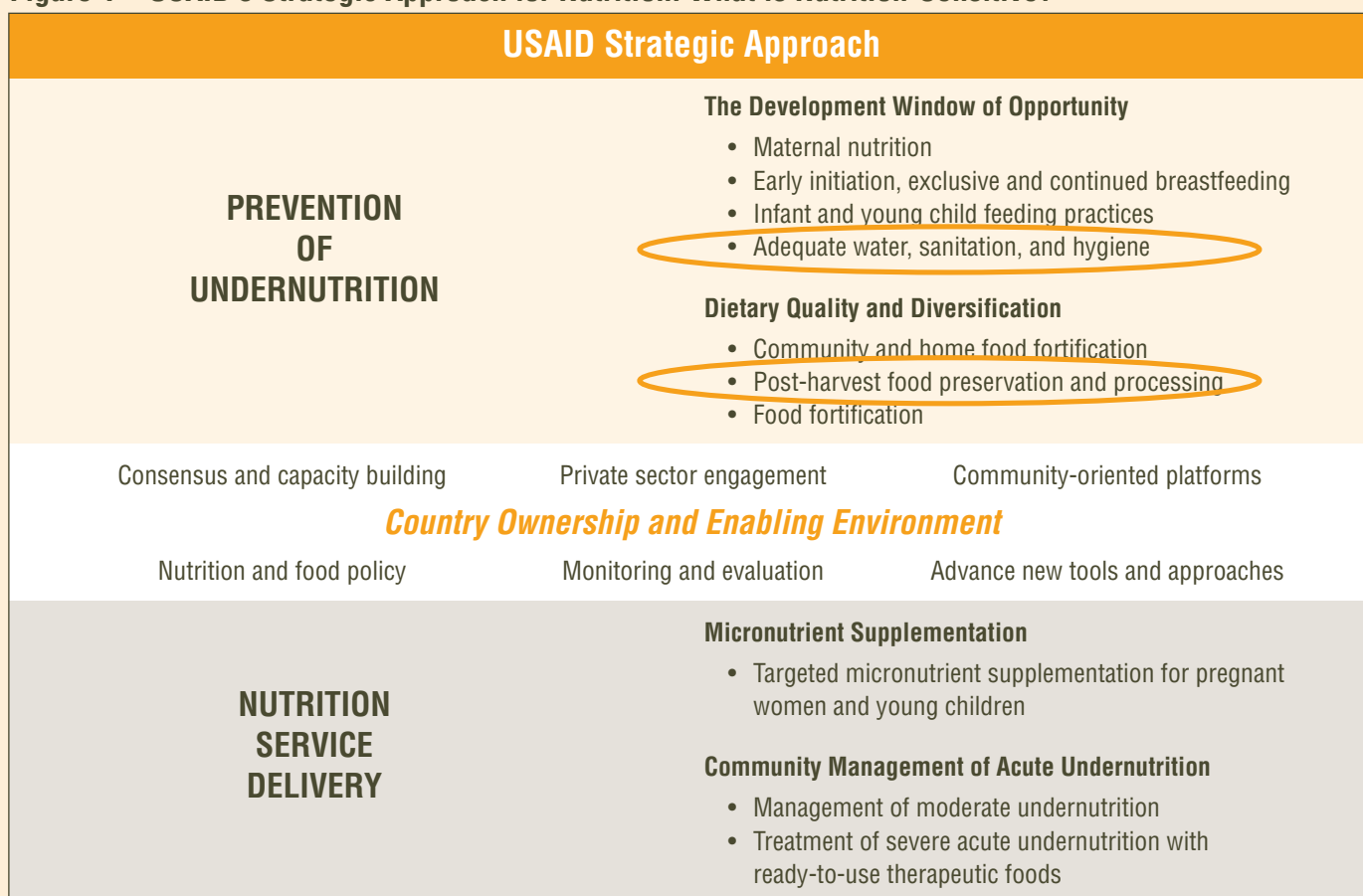
The United States has recently made efforts to synergize the expertise of multiple government agencies through Feed the Future (FTF) and the Global Health Initiative (GHI) to make U.S. development efforts more nutrition-sensitive, especially in the critical 1,000-day window of opportunity.⁵² Currently, the U.S. government categorizes GHI and FTF nutrition interventions⁵³ as either nutrition-sensitive or nutrition-focused, but it has not clearly defined or provided guidance on the implementation of these interventions, nor has it articulated how such activities contribute to improving nutrition outcomes.

A harmonized nutrition strategy should explicitly incorporate government-wide definitions of nutrition-sensitive development and nutrition-specific (direct) interventions. The Nutrition, Assessment, Counseling, and Support (NACS)⁵⁴ approach—mainly implemented through the President's Emergency Plan for AIDS Relief (PEPFAR)—strengthens the capacity of facility- and community-based healthcare providers to deliver nutrition-specific services while also linking clients to nutrition-sensitive development efforts provided by the health, agriculture, food security, social protection, education, and rural development sectors.

Feed the Future programs do not clearly outline and emphasize the integration of nutrition-specific complementary interventions and objectives into agricultural programs; rather, nutrition and agriculture interventions are proposed in parallel structures. Feed the Future programs should demonstrate which direct nutrition-specific interventions and programs address the underlying determinants of nutrition by means of clear reporting of indicators, targets, and documented impact. Feed the Future recently posed the following “learning agenda”⁵⁵ questions related to nutrition-sensitive development:

- What have been the impacts of different approaches linking agriculture, nutrition, and health on dietary diversity and nutritional status (i.e., geographic co-location of programs, integration of interventions, and a combination of agriculture, nutrition, and health)?
- Have programs to increase farmers' incomes resulted in improved nutrition when not coupled with nutrition (specific) programming?
- What activities have enabled value chain investments to lead to improved consumption of diverse diets?
- Which agriculture technology interventions have improved diets and nutrition outcomes?

Figure 1 USAID's Strategic Approach for Nutrition: What is Nutrition-Sensitive?



The circled interventions are considered nutrition-sensitive interventions within the USAID strategic approach for nutrition.

Source: Nutrition Operational Guidance for Missions, February 2010

ensuring that no harm is done to the nutritional status of people who are affected by the program). How does a “nutrition lens” work? Take the example of agricultural value chains. Clearly stating that improved nutrition is an objective of a project focused on agriculture value chains ensures that nutritional changes and outcomes are measured all along the value chain; moreover, opportunities to reduce the potential for harm and to create positive nutritional outcomes can be identified.⁵⁶

The difficulty is that improving maternal/child nutrition is an objective of few, if any, projects or programs in other sectors. Therefore, measures of nutritional impact have not been built into the design and evaluation of projects. As a result, it has been difficult to demonstrate improved nutrition outcomes through nutrition-sensitive actions in other development sectors. Two recent systematic reviews—Webb Girard, et al. (2012)⁵⁷ and Masset, et al. (2011)⁵⁸—underscore the lack of available evidence that agricultural programs improve nutritional outcomes.⁵⁹ Masset concluded, “... agricultural interventions improve the production and consumption of nutritious food among poor households but could not identify a direct impact on the nutritional status of children.... the absence of any reported statistically significant impact of agricultural interventions on children’s nutritional status found by this review, as well as by other reviews that preceded this one, should not be attributed to the inefficacy of these interventions. Rather it is the lack of power of the studies reviewed that could have prevented the identification of such impact, if any.”⁶⁰

Costing and Investing in Nutrition-Sensitive Development

A June 2012 IFPRI policy brief noted that SUN countries “need more information on the cost and value-added of incorporating a nutrition-lens (nutrition-sensitive) into complementary sectors and development sectors.”⁶¹ A 2010 forum on agriculture and nutrition collaboration⁶² attempted to look at entry points along the agricultural value chain where nutrition outcomes might be considered. The report states, “There were certainly as many questions raised as there were answers offered and in the end, it was clear that there is as great a need to unify thoughts around the subject as there is a call for specific actions.”

Lack of consensus about what constitutes nutrition-sensitive development and what are its contributions to reducing undernutrition has made it challenging to establish the relative cost effectiveness of different approaches. Quantifying the cost effectiveness of nutrition-specific interventions—activities that lead to direct impact on stunting and wasting rates, specific micronutrient deficiencies, and/or nutrition-related chronic diseases—is

much easier and more straightforward than identifying and attributing the costs of a package of indirect activities to an impact that is the result of several actions working together.⁶³ For this reason, the SUN movement recognizes the limited evidence base for nutrition-sensitive development. World Vision International⁶⁴ recommends: “Based on input from all stakeholders, the war on undernutrition must include the costing of direct and indirect nutrition interventions and outline the responsibilities of each sector for delivering improved nutrition for children.”

Pathways to Improving Nutrition through Nutrition-Sensitive Development

A 2003 World Bank Economic Review article on child malnutrition concluded that delivery of “indirect” (nutrition-sensitive) actions for income growth through food security and agriculture interventions alone is not enough to reach the Millennium Development Goal of halving the prevalence of underweight children by 2015.⁶⁵ The SUN movement has built on the consensus that improving maternal and child nutrition will require a multi-sectoral approach. This provides an opportunity to think, plan, and implement in new ways to take advantage of all the tools in the tool kit. This could be done through multi-sectoral planning around nutrition goals or by adding nutrition-specific interventions to projects—for example, a homestead gardening project could include nutrition education and behavior change communications to maximize its impact. Or homestead gardening activities could be provided to caregivers of orphans and vulnerable children as part of a savings and loan program to increase income and improve household nutritional status.

NOTE: *We recognize that successful nutrition-sensitive development will need to take into account other factors beyond the scope of this paper, including local leadership and governance, capacities to scale up, existing systems, and the point of service delivery for nutrition-specific services. Investment will also be needed to identify and test opportunities to explore synergies among nutrition-sensitive programs and nutrition-specific interventions.*

Figure 2 (next page) is an illustrative model for implementing nutrition-sensitive programming.

Conducting a Nutrition Analysis

A brief nutrition situation analysis can be conducted in the program design phase, looking mainly at existing data sources and initiating a stock-taking exercise that is the first phase in scaling up nutrition. This includes an analysis of existing strategies, institutions, stakeholders, and programs that helps gauge the current nutrition response within a sector and the current state of operations and coordination.

This analysis is an essential step to assist in analyzing the current situation and identifying needs, areas of gaps, and opportunities to inform strategies and key priority areas for nutrition-sensitive development. A preliminary assessment of how extensive a nutrition-sensitive analysis will be needed can be made using existing information and discussions with key stakeholders involved in program design and implementation. Health and food security information systems are likely to be important sources of information, together with any existing nutrition-specific data.⁶⁶

Table 1 (next page) provides an example of the data considered in a nutrition-sensitive analysis within a food security program.

Determine and Define Target Population Groups

Before planning nutrition-sensitive activities, it is necessary to determine and define the primary and secondary targeted populations.⁶⁷ The most vulnerable populations are prioritized according to the scientific evidence (e.g., those in the 1,000-day window of opportunity) and the country context (e.g., national malnutrition data). The secondary targeted populations should be selected and defined based

on which service providers, groups, and individuals have the most influence on the primary targeted populations and the greatest potential to reach as many beneficiaries/clients as possible. Vulnerable populations at increased risk of hunger and malnutrition include: agricultural smallholders; landless, female-headed households; pregnant women; non-breastfed children; children from very poor households; people living with HIV/AIDS; individuals with severe acute malnutrition; and/or populations living in emergency conditions. The type or mix of interventions will vary with the target population.

There are six critical contact periods in the lifecycle of young children and women when nutrition support is most important:

1. Pregnancy
2. Delivery and the early neonatal period
3. Post-natal, lactation, and reproductive health/family planning contacts
4. Well child visits (growth monitoring)
5. Sick child visits
6. Immunization contacts

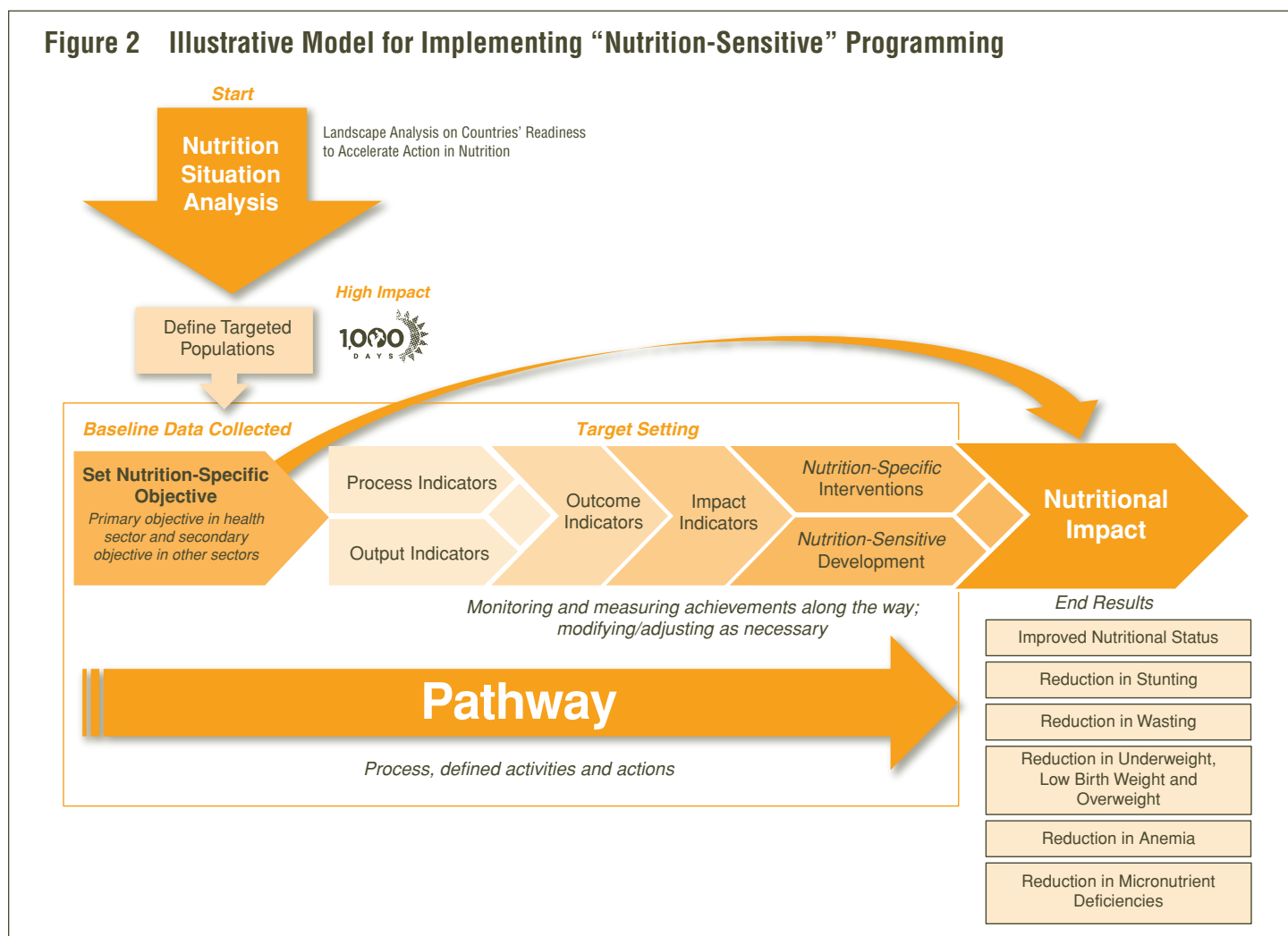


Table 1 Nutrition-Sensitive Analysis to Maximize the Nutritional Impact of an Agriculture Program⁶⁸

Assess food consumption patterns and dietary intake.

- Use the Household Dietary Diversity Score (HDDS)^{69, 70, 71} as a proxy indicator of household access to food, and the Individual Dietary Diversity Score (IDDS) as a proxy measure of the nutritional quality of an individual's diet.

Assess care practices and capacities as well as health and environmental conditions.

- Care refers to the behaviors and practices of caregivers (mothers, siblings, fathers, and childcare providers) to provide the food, health care, stimulation, and emotional support necessary for children's healthy survival, growth, and development.
- Consider gender, decision-making, and the roles and responsibilities of women in the household and community.*

Explore local perceptions of malnutrition.

Assess the risk of cyclical phenomena and disasters and their impact on nutrition.

Explore the need to conduct an in-depth micronutrient assessment.

- Determine the prevalence of deficiencies in key micronutrients such as vitamin A, iron, and zinc.

Source: ACF International, 2011. Maximizing the Nutritional Impact of Food Security and Livelihoods Interventions: A Manual for Field Workers.

*See Bread for the World Institute, Briefing Paper Number 16, March 2012: *Enabling and Equipping Women to Improve Nutrition* (<http://www.bread.org/institute/papers/briefing-paper-16.pdf>)

At each of these stages, malnutrition carries consequences for the next generation. Malnourished mothers are more likely to have low birth weight babies who face higher mortality and disease rates and, later, impaired mental and physical development and increased risk of adult chronic diseases. Stunted children with inadequate food and care and poor health become stunted adolescents, with girls poised to become the next generation of malnourished mothers. Evidence has shown that in the 1,000-day “window of opportunity,” interventions that address the underlying and basic causes of malnutrition (e.g., those that are agriculture-focused) must be accompanied by nutrition-specific interventions if they are to significantly improve maternal/child nutritional status.⁷²

Examples of high-impact^{73, 74} nutrition-specific interventions in the 1,000-day window are given in Table 2 (next page).

A particularly vulnerable group is orphans and vulnerable children (OVC). Nutrition support is a critical component of successful care for such children, their family members, and their households. Nutrition Assessment, Counseling, and Support (NACS) is a best-practice approach to integrating nutrition into OVC services as an essential component of a comprehensive response. Ensuring that basic nutritional assessments and effective nutrition counseling are regularly offered will help prevent malnutrition and facilitate timely treatment of moderate and severe acute malnutrition.

Food insecure households are, of course, especially vulnerable to malnutrition. To prevent individuals and households from slipping back into malnutrition and/or anemia, we need to look at the household's overall food consumption, dietary diversity, and how best to improve nutritional status. Depending on the context, programs such as conditional cash transfers, food for work, in-kind transfers of food, and nutrition education campaigns (e.g., explaining the importance of dietary diversity) can help raise household income and consumption. Nutrition-specific interventions should also be targeted to these vulnerable households to improve nutrition outcomes (e.g., micronutrient supplementation, encouraging exclusive breastfeeding).

People's ability to fight diseases and infections such as HIV and malaria is influenced by their nutritional status. Infections and malnutrition exacerbate each other, potentially creating a vicious spiral into ill health and ultimately death.⁷⁵ Improved nutrition reduces the maternal and child mortality caused by the interaction of undernutrition with HIV/AIDS and other infectious diseases.

Collect Baseline Data

Next, baseline data should be collected on the current nutritional status, child care and feeding practices, food consumption, and dietary practices of the primary targeted populations. The existing official governance, coordination, policies, and guidelines also need to be collected and reviewed in order to prioritize key nutrition interventions and capacity development activities. A clear baseline against which progress and results can be evaluated is necessary. Baseline data not only help plan, manage, and assess program progress, but also provide information needed to meet reporting requirements and build the evidence base of what works.

Setting Nutrition Objectives

After conducting a situation analysis, determining the targeted population groups, and reviewing baseline data, it is important to set both primary nutrition-specific objectives in the health sector and secondary nutrition-

specific objective(s) in other relevant sectors. These objectives are directly related to improving the nutritional status of beneficiaries, and they help inform the design of the activities and interventions. To maximize the impact of other sectors on nutrition, nutrition-specific interventions addressing the immediate causes of nutrition should be incorporated into—or specifically linked to—interventions in important other sectors (agriculture, health, education).

As a recent European Union reference document on addressing undernutrition in external assistance states, “Nutrition-specific objectives need to be incorporated in the design of assistance programs—whatever the sector or aid modality—thereby seeking and measuring specific results on nutrition.”⁷⁶ SUN partners have also agreed on the need for

nutrition-sensitive development strategies with clearly defined (secondary) nutrition goals and objectives. The World Bank knowledge platform for nutrition, “Secure Nutrition,” states that “nutritional goals must be explicitly incorporated into the design and implementation of agricultural and rural development projects and policies.”⁷⁷ Finally, a 2007 World Bank/IFPRI review concluded that agricultural programs are most likely to have an impact on nutrition outcomes when they move beyond a narrow focus on agriculture for food production, and when they incorporate nutrition-specific objectives and interventions targeted to the most vulnerable people.

Set Nutrition Targets

After the nutrition objective(s) are determined, it is time

to begin setting targets. Targets are needed to hold the program or activity accountable for the results achieved; they can also serve as a way to highlight and promote program progress. Targets should be drawn from national and/or sectoral nutrition strategies and should be consistent with global objectives (especially Millennium Development Goals (MDGs) 1, 4, and 5).

Pathway to Nutritional Impact

After the high-level impact targets are set, the “pathway” to nutritional impact should be planned. The pathway should be documented and detailed in an implementation plan that includes the many intermediate steps and activities along the way to achieve the nutrition-sensitive strategic objectives. The pathway to nutritional impact also includes: 1. Identifying nutrition-specific objectives—primary objectives in the health sector and secondary objectives in other sectors. 2. Planning and implementing nutrition-specific activities and actions (especially in the health sector) and nutrition-sensitive development activities and actions to reach the

Table 2

The 1,000-Day “Window of Opportunity”



The period in the life cycle from a mother’s pregnancy to a child’s second birthday is a critical window of opportunity in which nutrition-specific interventions to improve maternal and child nutrition can significantly improve children’s prospects for survival, growth, and development, especially in countries with a high burden of undernutrition.⁷⁸ Much of the child mortality in developing countries occurs in the first two years after birth. Undernutrition in these early years causes irreversible cognitive impairment, leading to poor school performance and loss of productivity. After birth, a child’s ability to meet growth standards is determined by the adequacy of dietary intake (which depends on infant and young child feeding, care practices, and food security), as well as the extent of exposure to disease.⁷⁹ A number of simple, nutrition-specific interventions are available to reduce undernutrition⁸⁰ in the critical period between pregnancy and age 2.⁸¹

Maternal Nutrition	Newborn Nutrition	Maternal & Young Child Nutrition
<ul style="list-style-type: none"> • Iron fortification of staple foods • Micronutrient intake in the 18 months following birth (vitamin A, Iron) • Iodized salt consumption and iodine supplementation through iodized oil as needed • Increased and diverse dietary intake • Reduced workload, especially in heavy physical activity 	<ul style="list-style-type: none"> • Promotion of Breastfeeding within one hour of birth • Neonatal Vitamin A supplementation (in specific, situational contexts) 	<ul style="list-style-type: none"> • Exclusive breastfeeding for the first six months of life • Continued breastfeeding • Deworming • Timely, adequate, safe, and appropriate complementary feeding⁸² • Preventative zinc supplementation • Therapeutic zinc supplements for diarrhea management • Prevention and treatment of severe acute malnutrition • Hand washing for improved hygiene • Vitamin A supplementation • Iron/folate supplementation or maternal supplementation with multiple micronutrients

intended outcomes.

The pathway addresses questions that affect overall nutrition outcomes (for example: How are the planned activities going to bring about a change in nutrition status?). When mapping out the pathway to nutritional impact, other factors should also be taken into consideration (e.g., equity factors such as the time, income, and control over resources of the participating women; other types of support they may need, such as micronutrient supplementation).

Select, Implement, and Monitor Program Activities

The pathway to making an impact on nutrition should be explained in a detailed implementation plan that covers the whole “path,” including intermediate steps and activities to achieve the program objectives. The implementation plan should include well-defined nutrition-sensitive and nutrition-specific interventions and state how intermediate results or outputs (program results achieved throughout the execution of activities) will be tracked, including building in-country capacity to monitor and evaluate program implementation and results, and will lead to the expected nutrition improvements. The project framework or pathway should state clearly the assumptions made about how these activities will improve nutrition outcomes. After the path has been defined, program strategies and activities will be identified.

Set, Track, and Monitor Process (Output), Outcome, and Impact Indicators

The precise mix of indicators selected for a nutrition-sensitive development assistance program or activity will vary depending on its context and desired impact. Indicators will be a blend of process, outcome, and impact indicators. The impact indicators will be linked to both process and outcome indicators, since each contributes to the results and the overall nutritional impact.

Nutrition Outcome Indicators

“Outcome” indicators measure the short/medium-term changes attributed to a program (e.g., the percentage change in the prevalence of anemia among women of reproductive age). The SUN Movement agrees that nutrition-sensitive development strategies need defined nutrition outcome indicators.^{86,87} FAO and WHO concur, calling for a consistent focus on nutrition outcomes and indicators in local and national initiatives to end hunger and improve food and nu-

Prioritizing Nutrition Interventions

The process of selecting, prioritizing, and designing country- or targeted population-specific interventions needs to take into account many different criteria, including identifying high-impact priority interventions and mobilizing resources to scale up progress toward the MDGs. As the *Lancet* series summarizes... “*The charge to nutrition leaders at country level is to review their existing strategies and programs to ensure that priority is given to interventions with demonstrated impact on undernutrition among pregnant women and children less than 2 years of age, and then to develop feasible strategies for increasing public demand for these interventions and delivering them at scale.*”⁸³ Clear definitions and understanding of nutrition-sensitive and nutrition-specific nutrition actions need to be accompanied by a standard set of assumptions and operational constraints that are defined, addressed, and monitored.

Successful implementation of priority nutrition interventions requires four conditions:

1. Target populations’ access to services or supplies
2. Services or supplies of acceptable quality
3. Target populations’ demand for and capacity to use the services and/or adopt the promoted behaviors (this will generally require specific knowledge and skills along with favorable attitudes)
4. An accommodating social and policy environment⁸⁴

More attention is needed to the institutional capacity and governance arrangements required to enable successful implementation of nutrition programs on a large scale (Bryce et al. 2008).⁸⁵

trition security.⁸⁸ Nutrition outcome indicators should be tracked throughout the life of the program. Since there is no one-size-fits-all solution, the indicators will vary according to the nature and the duration of the intervention. Examples of nutrition outcome indicators that are linked to nutrition-specific interventions include:

- Minimum dietary diversity (children 6–23 months)
- Minimum acceptable diet (children 6–23 months)
- Individual dietary diversity score (for women of reproductive age)
- Proportion of children covered by vitamin A supplementation
- Proportion of pregnant women covered by iron/folate supplementation
- Proportion of people with severe acute malnutrition who receive treatment

“Process” indicators monitor the status of ongoing activities⁸⁹ and are useful in showing changes in variables while a program’s “pathway to nutritional impact” is in progress. These indicators are especially helpful where sample sizes and the duration of the intervention do not allow evaluation of changes in nutritional status.

Careful consideration of which nutrition process indica-

tors to include will be needed. Decisions can be guided by discussions with government and other stakeholders, taking into consideration the initial data gathered by the nutrition analysis as well as national and/or program capacities and budgets. Depending on the sector, these indicators may include, for example, household access to and intake of nutrient-rich foods, dietary quality, dietary diversity scores, effects on women's time and labor, or changes in child feeding practices.

Impact Indicators

Impact indicators measure the long-term effects, or end results, of the program. These are generally changes in nutritional and health status, since "impact" is the nutritional and health status or conditions that the program is intended ultimately to influence, generally mortality and/or morbidity. The most common nutritional impact indicators are:

- Prevalence of underweight children under 5 years old (MDG 1c indicator)
- Prevalence of stunting among children under 2 years old
- Prevalence of wasting among children under 5 years old

- Prevalence of low birth weight
- Prevalence of anemia in women of reproductive age
- Prevalence of iodine deficiency disorders

In nutrition-sensitive development programs, both nutrition-sensitive and nutrition-specific interventions can affect the results of some impact indicators.

(Optional) Impact Evaluations

Evaluations should be specifically designed to provide causal evidence of the impact of nutrition-sensitive development (or combination of nutrition-specific interventions and nutrition-sensitive development).⁹⁰ Impact evaluations are a specific type of evaluation activity that seeks to determine how much of an observed change in outcomes or "impact" can be attributed to the nutrition-sensitive program. Of course, being able to attribute the impact to the program itself is very important in gauging progress and building the evidence base for particular programs and interventions.

Moving Toward Consensus: A Call to Action

Clearly defined nutrition-sensitive programs are critical to aligning and coordinating efforts to scale up nutrition, building the evidence base, and maintaining momentum. The L'Aquila Food Security Initiative, Feed the Future, the Global Health Initiative, and the New Alliance for Food Security and Nutrition provide opportunities to scale up both nutrition-specific interventions and nutrition-sensitive development. A consistent understanding and way of measuring nutrition-sensitive activities will help align efforts, quantify outcomes, and accurately demonstrate nutritional impact. Once defined, donors and program implementing partners will need to develop and measure indicators of progress for nutrition-sensitive programming in sectors such as agriculture; food security; water, sanitation, and hygiene; and livelihoods. Key policy decisions on how much, when, where, and how to invest in nutrition-sensitive development will be facilitated by reaching a consensus on definitions. We recommend that a global normative body or bodies take on the task of defining nutrition-sensitive development.



UN Photo/Mark Garten

Table 5 A Variety of Definitions of Nutrition-Sensitive and Nutrition-Specific Interventions

(Based on publicly available information)

Table 5 summarizes the definitions of both nutrition-specific and nutrition-sensitive interventions that are now in use by major multilateral and bilateral government nutrition stakeholders. (*continues on next page*)

	<i>Nutrition-Sensitive</i>	<i>Nutrition-Specific</i>
European Union (EU) ⁹¹	Nutrition-sensitive interventions (such as food security and agriculture, social protection, education, and promotion of water, sanitation, and hygiene) aim to address the less direct, underlying environmental and socioeconomic factors that contribute to malnutrition.	Interventions such as promotion of good nutrition practices, increase of micronutrient intake in pregnant and lactating women and in children, micronutrient fortification, and treatment of acute malnutrition are the most cost-effective. Their goal is to reduce the immediate and long-term effects of undernutrition through a limited set of high-impact actions, especially during the “window of opportunity” (pregnancy and the first 2 years of life). ⁹² (A Time for Leadership: Europe’s Role in Eradicating Global Undernutrition: A Multi-Stakeholder Report on Nutrition and EU Development Policy, 2012.)
Food and Agriculture Organization of the United Nations Nutrition and Consumer Protection Division (AGN)	FAO’s Approach to Nutrition-Sensitive Agricultural Development ⁹³ does not clearly define nutrition-sensitive, ⁹⁴ but provides this description: “Food and agriculture-based strategies (including food production, dietary diversification, and food fortification) focus on food as the primary tool for improving the quality of the diet and for overcoming and preventing malnutrition and nutritional (micronutrient) deficiencies.” Nutrition-sensitive food and agriculture systems, agriculture, food-based approaches, development, and interventions are those that effectively and explicitly incorporate nutrition objectives, concerns, and considerations to enable communities to achieve food and nutrition security. Nutrition-sensitive agriculture: Agriculture that effectively and explicitly incorporates nutrition objectives, concerns, and considerations to achieve food and nutrition security (FAO/AGN). Nutrition-sensitive food-based approach: An approach that effectively and explicitly incorporates nutrition objectives, concerns, and considerations to enable communities to achieve food and nutrition security (FAO/AGN). Nutrition-sensitive development: Development that effectively and explicitly incorporates nutrition objectives, concerns, and considerations to enable communities to achieve food and nutrition security (FAO/AGN). Nutrition-sensitive interventions: Interventions that effectively and explicitly incorporate nutrition objectives, concerns, and considerations to enable communities to achieve food and nutrition security (FAO/AGN).	Not available
Canadian International Development Agency (CIDA)	Not available	Canada supports development partners such as the Scaling Up Nutrition Movement, the Micronutrient Initiative, UNICEF, and Helen Keller International to increase the quality and quantity of direct nutrition interventions for the world’s most vulnerable people. These interventions help reduce undernutrition in pregnancy and early childhood, reducing illness and death in children and their mothers. (Source: http://www.acdi-cida.gc.ca/acdi-cida/ACDI-CIDA.nsf/eng/HEL-62255839-DQ9)
Department for International Development (DFID), United Kingdom	Nutrition-sensitive development involves adjusting and re-designing programs across a range of sectors (including agriculture, environmental health, and cash transfer programs) that address the underlying causes of undernutrition, to ensure that they deliver nutrition results. ^{95,96,97} Indirect nutrition-sensitive interventions are interventions in the agriculture, social protection, water and sanitation, and women’s empowerment sectors (DFID 2012).	Thirteen proven nutrition interventions, if delivered at scale, could together reduce stunting by one-third globally. These include, for example, preventing and treating vitamin and mineral deficiencies and supporting breastfeeding. Through these interventions we will reach more adolescent girls, pregnant women, and children under 5 years old. ⁹⁸ Nutrition-specific interventions, which address the immediate causes of undernutrition, have been proven to deliver among the best value for money of all development interventions. Vitamin A and zinc supplementation, salt iodization, and crop bio-fortification have been ranked among the top five best development buys.
Irish Aid	Not available	Not available, but mentions nutrition-specific in its Hunger Task Force report: “A wide range of food assistance interventions and specific nutritional interventions are needed to reduce the vulnerability of such communities.” ⁹⁹

Table 5 A Variety of Definitions of Nutrition-Sensitive and Nutrition-Specific Interventions (*continued*)

	<i>Nutrition-Sensitive</i>	<i>Nutrition-Specific</i>
Scaling Up Nutrition (SUN) Movement	Nutrition-sensitive development seeks to promote adequate nutrition as the goal of national development policies in agriculture, food security, social protection, health, and education programs. ¹⁰⁰ Nutrition-sensitive development demands that nutritional outcomes become key goals of national development policies. This involves ensuring optimal nutritional impact of all agriculture and food security programs through research, action, and close monitoring; ensuring optimal nutritional impact of social protection programs and targeting of safety nets for vulnerable communities; ensuring appropriate nutritional focus within maternal, newborn, and child health programs; incorporating nutritional considerations within child and adult education; and enhancing the nutritional impact of poverty reduction, employment generation, rural development, water and sanitation, and emergency response programs (SUN 2011).	Supports <i>The Lancet's</i> direct, nutrition-specific interventions, such as promoting good nutritional practices, increasing intake of vitamins and minerals through supplementation and fortification, and therapeutic feeding for severe malnutrition.
United States Government	Nutrition-sensitive.... strengthening the nutrition component in an existing health or agriculture led program. ¹⁰¹	Nutrition (focused)....is a new program with specific goals to improve nutrition. ¹⁰²
United Nations Children's Fund (UNICEF)	Nutrition-sensitive interventions: linked to other sectors as social policies, health, and food security. ¹⁰³ The United Nations definition of nutrition-sensitive is "policies that enable all people to enjoy good nutrition." Sustainable, nutrition-sensitive agriculture and food security policies help improve the availability and accessibility of nutritious food, and promote healthy and sustainable diets and prosperity in rural areas; "... Access to nutritious food depends first on the functioning of food markets at local, national, regional, and global levels and second on the extent of social protection that enables all people to obtain sufficient nutritious food for a healthy, productive life through transfers of income, food, or other assets." ¹⁰⁴	"Priority Nutrition Actions" drawn from the recommendations made by Bhutta, et al. (2008) in the medical journal <i>The Lancet</i> . ¹⁰⁵ These correspond to the key interventions that are needed to prevent and treat undernutrition. ^{106,107}
World Bank	Nutrition Sensitive—refers to interventions or development efforts that, within the context of sector-specific objectives, also aim to improve the underlying determinants of nutrition (adequate food access, healthy environments, adequate health services, and care practices), or aim at least to avoid harm to the underlying or immediate causes, especially among the most nutritionally vulnerable populations and individuals. Various actions that would address the determinants of malnutrition are possible in many sectors.	Nutrition Specific—Refers to interventions that directly address inadequate dietary intake or disease--the immediate causes of malnutrition. Nutrition specific interventions are those identified in the <i>Lancet</i> series on maternal and child undernutrition (2008), including micronutrient supplementation, deworming, treatment of severe acute malnutrition, and breastfeeding promotion, which directly addresses dietary intake and disease for infants.
World Food Program (WFP)¹⁰⁶	The WFP supports the SUN framework, which refers to "nutrition-sensitive interventions" as programs whose primary objective is not nutrition, but that can improve the food and nutrition security of beneficiaries (such as homestead food production).	Supports the nutrition-specific interventions in the SUN Framework.
World Health Organization (WHO)	Nutrition-sensitive mitigation strategies that bring co-benefits in terms of enhanced production of and access to food, health, and the environment should be further explored and scaled up. (WHO 2010)	
1,000 Days	Nutrition-sensitive investments that improve nutrition through a variety of sectors—food security and agriculture, social protection, and health, education, water supply, and sanitation. ¹⁰⁸ Nutrition-Sensitive Agriculture: Nutrition-sensitive farming involves the design and adoption of cropping and farming systems that can provide agricultural remedies for the prevailing nutritional maladies. Nutritional maladies may take the following forms: <ul style="list-style-type: none"> • Protein-energy under- or malnutrition, primarily caused by poverty-induced lack of purchasing power • Hidden hunger, arising from the deficiency of micronutrients in the diet, such as deficiency of iron, iodine, zinc, Vitamin A, Vitamin B12, etc. • Transient hunger arising from either natural calamities or civil disturbances, including ethnic conflicts. A nutrition-sensitive agricultural system should be capable of addressing the above forms of nutrition insecurity at the household, community, and national levels.	

Bread for the World Institute thanks the following for their contributions:

Scott Bleggi, *Bread for the World Institute*

Wendy Hammond, *Food and Nutrition Technical Assistance (FANTA) Project*

Jessica Fanzo, *Renewed Efforts Against Child Hunger and Undernutrition (REACH)*

Anna Herforth, Ph.D., *Food Security and Nutrition consultant*

Brian Thompson, *Food and Agriculture Organization of the United Nations*

Suzanne Gervais, Ph.D., *Division of Nutritional Sciences, Cornell University*

Sara Wuehler, Ph.D., R.D., *Micronutrient Forum, Micronutrient Initiative*

Tanuja Rastogi, Sc.D., *U.N. World Food Program*

Diane Holland, *U.N. World Food Program*

Kathleen Kurz, Ph.D., *DAI*

Endnotes

¹ Introducing the Policy Brief “Scaling-Up Nutrition: A Framework for Action.” David Nabarro, Special Representative of the U.N. Secretary General for Food Security and Nutrition (Revised April 2010). <http://sitere-sources.worldbank.org/NUTRITION/Resour-ces/042410DavidNabarroIntroducingtheSUN.pdf>.

² ACF International. Maximizing the Nutritional Impact of Food Security and Livelihoods Interventions: A manual for field workers. 2011.

³ The World Bank. <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTHEALTHNUTRITIONANDPOPULATION/EXTNUTRITION/0,,contentMDK:22555092~menuPK:282580~pagePK:148956~piPK:216618~theSitePK:282575~isCURL:Y,00.html>

⁴ World Health Organization, Nutrition Landscape Information System (NLIS) Map, Stunting: 36 High-Burden Countries. Accessed at http://apps.who.int/nutrition/landscape_analysis/Map_36_countries.pdf

⁵ World Health Organization. http://www.who.int/nutrition/topics/Partner_agency_consultation_LA.pdf

⁶ Prevalence and trends of stunting among children are based on the World Health Organization (WHO) growth standards.

⁷ Stunting = HAZ <-2, World Health Organization. Nutrition Landscape Information System. Accessed at: <http://apps.who.int/nutrition/landscape/report.aspx?iso=IND&rid=161&template=nutrition&goButton=Go>

⁸ Bhutta, Z. A.; Ahmed, T.; Black, R. E.; Cousens, S.; Dewey, K.; Giugliani, E.; Haider, B. A.; Kirkwood, B. et al. (2008). “What works? Interventions for maternal and child undernutrition and survival”. *The Lancet* 371 (9610): 417. doi:10.1016/S0140-6736(07)61693-6.

⁹ Prevalence and Trends of Stunting among

Pre-school Children, 1990–2010. Mercedes de Onis, M; Blossner, M; Borghi, E. Growth Assessment and Surveillance Unit, Department of Nutrition for Health and Development, World Health Organization, Accepted 28 April 2011. Accessed at: http://www.who.int/nutgrowthdb/publications/Stunting1990_2011.pdf

¹⁰ Lacey and Pritchett, JADA 2003; 103:1061-1072.

¹¹ The Lancet Series on Maternal and Child Undernutrition, Executive Summary, 2008.

¹² The Lancet Series on Maternal and Child Undernutrition. *The Lancet*, Volume 371. 2008.

¹³ These interventions are: Vitamin A supplementation, preventative zinc supplementation, zinc therapeutic supplementation for the management of diarrhea, iron-folate supplementation for pregnant women, micronutrient fortification, universal salt iodization, iron fortification of staple foods (including iron home fortification), promotion of exclusive breastfeeding for infants and individual and group counseling on young child feeding, deworming via antihelminthic drugs, food supplementation in pregnancy (maternal balanced energy-protein supplementation), interventions to improve hygiene (including hand washing), intermittent preventive treatment for malaria, use of insecticide-treated nets (ITN) to prevent malaria, and treatment of severe acute malnutrition (SAM) in children under 5.

¹⁴ Copenhagen Consensus, 2008 Challenge Paper: Hunger and Malnutrition. Horton, S., Alderman, H., and Rivera, J.A. Draft of May 11, 2008.

¹⁵ Nutrition in the First 1,000 Days. State of the World’s Mothers 2012. Save the Children.

¹⁶ UNICEF. The State of the World’s Children 2012.

¹⁷ UNICEF. <http://www.unicef.org/progressforchildren/2006n4/undernutritiondefinition.html>

¹⁸ Copenhagen Consensus 2008 Challenge Paper: Hunger and Malnutrition. Horton S, Alderman H, and Rivera JA. 2008.

¹⁹ Food and Nutrition Technical Assistance Project (FANTA). Anthropometric Indicators Measurement Guide. 2003. Revision. Bruce Cogill.

²⁰ SUN Roadmap. http://www.unscn.org/files/Announcements/Other_announcements/FINAL_SUN_Road_Map_FINAL_dn.pdf

²¹ The Lancet Series on Maternal and Child Undernutrition. *The Lancet*, Volume 371. 2008.

²² The Lancet Series on Maternal and Child Undernutrition. *The Lancet*, Volume 371. 2008.

²³ Interventions to reduce micronutrient malnutrition and reduce the prevalence of stunting.

²⁴ 2012 Global Copenhagen Consensus: Hunger and Malnutrition. John Hoddinott, Mark Rosegrant, Maximo Torero. March 30, 2012. Version of April 9, 2012.

²⁵ The actions, defined as “Best Buys,” were recommended based on three factors: (a) feasibility; (b) reasonable cost; (c) demonstrated effectiveness.

²⁶ Copenhagen Consensus 2008 Challenge Paper: Hunger and Malnutrition. Sue Horton, Harold Alderman and Juan A. Rivera. Draft of May 11, 2008.

²⁷ 2012 Global Copenhagen Consensus. Investments to Reduce Hunger and Undernutrition. John Hoddinott, Mark Rosegrant, Maximo Torero. March 30, 2012. Version of April 9, 2012.

²⁸ Copenhagen Consensus 2008 Results. Accessed at: http://www.copenhagenconsensus.com/Files/Filer/CC08/Presse%20%20result/CC08_results_FINAL.pdf

²⁹ Based on very high benefit-cost ratios, the Expert Panel chose to give its highest ranking to Interventions to Reduce Chronic Undernutrition in Pre-Schoolers. For about \$100 per child, this bundle of interventions (including micronutrient provision, complementary foods, treatments for worms and diarrheal diseases, and behavior change programs) could reduce chronic undernutrition by 36 percent in developing countries. The expert panel noted that the educational benefits as well as the health benefits should be taken into consideration. Even in very poor countries and using very conservative assumptions, each dollar spent reducing chronic undernutrition has at least a \$30 payoff.

³⁰ Copenhagen Consensus. Challenge Paper. Hunger and Malnutrition. April 9, 2012. John Hoddinott, Mark Rosegrant, Maximo Torero http://www.copenhagenconsensus.com/Files/Filer/CC12%20papers/Outcome_Document_

³¹ Behrman, Alderman and Hoddinott (2004) and Horton, Alderman and Rivera (2008) have stressed that investments in agricultural research and development do reduce under-nutrition but the magnitude of this change is relatively small.

³² A Time for Leadership: Europe's Role in Eradicating Global Undernutrition Multi-Stakeholder Report on Nutrition and EU Development Policy. Accessed at: <http://pa-international.org/documents/ATimeforLeadership-EuropesRoleinEradicatingGlobalUnder-nutrition.pdf>.

³³ The Journal of Nutrition. Differential Improvement among Countries in Child Stunting Is Associated with Long-Term Development and Specific Interventions. Anna Milman, Edward A. Frongillo, Mercedes de Onis, and Ji-Yun Hwang. *J. Nutr.* June 1, 2005 vol. 135 no. 6 1415-1422. Accessed at <http://jn.nutrition.org/content/135/6/1415.abstract>

³⁴ http://scalingupnutrition.org/wp-content/uploads/pdf/SUN_Framework.pdf

³⁵ High-Level Task Force on the Global Food Security Crisis. Updated Comprehensive Framework for Action. September 2010. Accessed at http://www.ifad.org/hfs/docs/2010_UCFA_Final.pdf

³⁶ http://scalingupnutrition.org/wp-content/uploads/pdf/SUN_Road_Map.pdf, p. 6.

³⁷ USAID's Global Health Strategic Framework: Better Health for Development, FY 2012-FY 2016. <http://apps.who.int/medicinedocs/documents/s19251en/s19251en.pdf>; http://www.usaid.gov/our_work/global_health/home/Publications/docs/gh_framework_es2012.pdf. These countries include: Bangladesh, Cambodia, Ethiopia, Ghana, Guatemala, Haiti, Kenya, Liberia, Malawi, Mali, Mozambique, Nepal, Rwanda, Senegal, Tanzania, Uganda, and Zambia.

³⁸ Institute of Development Studies. "How much money is invested in nutrition?" 7 November 2011 21:33. Accessed at <http://www.developmenthorizons.com/2011/11/how-much-money-is-invested-in-nutrition.html>

³⁹ Bouis and Islam, Scaling Up in Agriculture, Rural Development, and Nutrition. Delivering Nutrients Widely through Biofortification: Building on Orange Sweet Potato, Brief 11, IFPRI, June 2012

⁴⁰ Underlying factors of malnutrition include: poverty, lack of access to food, disease, conflict, and climate change.

⁴¹ Other terms related to "nutrition-sensitive" mentioned by experts include: "nutrition-sensitizing," "nutrition-integration," "nutrition-linking," "nutrition-linked approaches,"

"nutrition-relevant," "nutrition-relevant actions," and "nutrition-targeted." Nutrition-Sensitive Investments: A Definition from an Agriculture Perspective. Columbia University, School of International and Public Affairs - Sustainable Development Practicum. Authors: Corinne Pargee, Kate Granger, and Monica Mekaru. Advisors: Glenn Denning, Jessica Fanzo, and Roseline Remans.

⁴² The literal definition of multi-sectoral is "involving multiple sectors," but this paper uses a definition drawn from the CORE Group's 2004 multi-sectoral platform workshop: "collaboration between sectors (including health, agriculture, and education) to achieve more effective outcomes."

⁴³ Scaling Up Nutrition, 2011. www.scalingup-nutrition.org

⁴⁴ ACF International. Maximizing the Nutritional Impact of Food Security and Livelihoods Interventions: A manual for field workers. 2011.

⁴⁵ Program for Applied Technology (PATH) <http://www.devex.com/en/jobs/nutrition-monitoring-and-evaluation-specialist-maternal-child-health-nutrition-2766>

⁴⁶ A list of nutrition activities was developed for a 2010 study for USAID: Lie, Geir Sølve Sande, Nirmala Ravishankar, Martha Benezet, Marie Jeanne Offosse, Eyob Zere Asbu, and Dorcas Lwanga. December 2011. Developing a Resource Tracking System for Measuring Spending on Nutrition in Low- and Middle-Income Countries. Bethesda, MD: Health Systems 20/20, Abt Associates.

⁴⁷ Leveraging Agriculture for Improving Nutrition and Health. Turning Economic Growth into Nutrition-Sensitive Growth. 2020 Conference Brief 6. February 2011. Derek Headey.

⁴⁸ The Lancet Series on Maternal and Child Undernutrition. Maternal and Child Undernutrition 3: What works? Interventions for maternal and child undernutrition and survival. Zulfiqar A Bhutta, Tahmeed Ahmed, Robert E Black, Simon Cousens, Kathryn Dewey, Elsa Giugliani, Batool A Haider, Betty Kirkwood, Saul S Morris, H P S Sachdev, Meera Shekar, for the Maternal and Child Undernutrition Study Group. January 17, 2008. Accessed at: http://www.who.int/nutrition/topics/Lancetseries_Undernutrition3.pdf

⁴⁹ DFID. Scaling Up Nutrition: The UK's Position Paper on Undernutrition (September 2011). Accessed at <http://www.dfid.gov.uk/Documents/publications1/scal-up-nutr-uk-pos-undernutr.pdf>

⁵⁰ Scaling Up Nutrition: Meeting Summary Memorandum. Scaling Up Nutrition /1,000 Days Civil Society Meeting, Washing-

ton, DC, 14 June, 2011. Accessed at <http://www.scalingupnutrition.org/wp-content/uploads/2011/05/SUN-Civil-Society-Meeting-Report-final-25July-2011.pdf>

⁵¹ Global Forum on Food Security and Nutrition. Linking agriculture, food systems, and nutrition: what's your perspective?—collection of contributions received. Discussion No. 76, 6 February to 2 March 2012.

⁵² Committee on World Food Security (CFS) 37th Session Side Event. Towards Food and Nutrition Security: How to strengthen nutrition in CFS: Challenges, opportunities and needs. 19 October 2011 in FAO HQ, Rome. Co-organized by the U.N. System Standing Committee on Nutrition [UNSCN], the Food and Agriculture Organization [FAO] and the World Food Program [WFP]. Accessed at http://unscn.org/files/cfs/CFS37Nutrition-SideEventSummary_final.pdf

⁵³ Global Health Initiative and Feed the Future, "USAID Nutrition Approach: Where are we now? Where are we going? How are we getting there?" USAID Presentation: December 15, 2011.

⁵⁴ United States Agency for International Development (USAID) Food and Nutrition Technical Assistance Project 2. Defining Nutrition Assessment, Counseling, and Support (NACS). July 2012.

⁵⁵ Feed the Future Learning Agenda. Accessed at <http://agrilinks.kdid.org/sites/agrilinks/files/resource/files/Feed%20the%20Future%20Learning%20Agenda.pdf>

⁵⁶ USAID Microlinks Accessed at: <http://microlinks.kdid.org/good-practice-center/value-chain-wiki/applying-value-chain-approach-food-utilization>

⁵⁷ The Effects of Household Food Production Strategies on the Health and Nutrition Outcomes of Women and Young Children: A Systematic Review. Amy Webb Girard, Julie L. Self, Corey McAuliffe, Olafunke Olude. Article first published online June 28, 2012. Accessed at: <http://onlinelibrary.wiley.com/store/10.1111/j.1365-3016.2012.01282.x/asset/j.1365-3016.2012.01282.x.pdf?v=1&t=h5ea4zuj&s=2e1ce2696fdb1f84c5a7cc4aab27f2267a2fa39a&systemMessage=Wiley+Online+Library+will+be+disrupted+on+4+August+from+10%3A00-12%3A00+BST+%2805%3A00-07%3A00+EDT%29+for+essential+maintenance>

⁵⁸ Masset E, Haddad L, Cornelius A, Isaza-Castro J (2011) A systematic review of agricultural interventions that aim to improve nutritional status of children. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. ISBN: 978-1-907345-09-8. Accessed at: <http://www.dfid.gov.uk/R4D/PDF/Outputs/System>

aticReviews/Masset_etal_agriculture_and_nutrition.pdf

⁵⁹ “Recent conversations with colleagues in the World Bank’s Agriculture group highlighted for us, the need to be especially careful with how we in the nutrition world describe the results of the Masset et al. review. It’s a case of not demonstrating impact as opposed to demonstrating no impact and to our agricultural colleagues – rightly so – this is an important distinction. The review also includes a few individual very well-designed studies that did show positive impact. While the authors decided that there were not enough of those studies to be conclusive, they should not be ignored, either.”

⁶⁰ Masset E, Haddad L, Cornelius A, and Isaza-Castro J (2011), A Systematic Review of Agricultural Interventions that Aim to Improve Nutritional Status of Children. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. Accessed at: http://www.dfid.gov.uk/R4D/PDF/Outputs/SystematicReviews/Masset_etal_agriculture_and_nutrition.pdf. Page 5.

⁶¹ Scaling Up in Agriculture, Rural Development, and Nutrition. SUN: A Global Movement to Accelerate Progress in Reducing Maternal and Child Undernutrition. Focus 19. Brief 9, June 2012. David Nabbaro, Purnima Menon, Marie Ruel, and Sivan Yosef. Accessed at http://www.ifpri.org/sites/default/files/publications/focus19_09.pdf

⁶² AED and the Food and Agriculture Organization of the United Nations. Deepening the Dialogue: Agriculture and Nutrition Collaboration to Enhance Global Food Security, Summary Report from the Open Forum held on November 1, 2010. Washington, DC: AED, 2011.

⁶³ Beatrice Lorge Rogers. Copenhagen Consensus 2012 Perspective Paper. Tufts University. May 3, 2012.

⁶⁴ The Best Start Report - Saving Children’s Lives in Their First Thousand Days (2011). World Vision’s Policy Recommendations to Improve Nutrition. Accessed at: <http://www.wvnutrition.net/home/advocacy/best-start.html>

⁶⁵ Haddad et al., Reducing Child Malnutrition: How Far Does Income Growth Take Us?, World Bank Economic Review, Volume 17 (1): 107-131, 2003.

⁶⁶ Addressing undernutrition in external assistance: An integrated approach through sectors and aid modalities. Prepared by the European Commission, Germany, Ireland, France, Poland, and the United Kingdom. September 2011. Accessed at: http://ec.europa.eu/europeaid/infopoint/publications/europeaid/documents/252a_en.pdf

ec.europa.eu/europeaid/infopoint/publications/europeaid/documents/252a_en.pdf

⁶⁷ Primary targeted populations are the direct beneficiaries/clients of nutrition interventions and services. These are individuals and groups who need to access nutrition programs and services on a regular basis and whose nutrition-related behavior the nutrition-specific interventions are intended to influence. Secondary targeted populations are the direct service providers, individuals or groups that serve the direct beneficiaries/clients and that influence the ability of the primary population to adopt or maintain appropriate behaviors or uptake and utilization of nutrition services.

⁶⁸ From ACF International. Maximizing the Nutritional Impact of Food Security and Livelihoods Interventions. A manual for field workers.

⁶⁹ Deitchler, Megan, Terri Ballard, Anne Swindale and Jennifer Coates. Validation of a Measure of Household Hunger for Cross-Cultural Use. Washington, DC: Food and Nutrition Technical Assistance II Project (FANTA-2), AED, 2010.

⁷⁰ The Household Hunger Scale (HHS) is used to calculate prevalence of households with moderate or severe hunger. It provides a useful method of assessing household hunger cross-culturally, using a validated and field-practical approach. The Household Hunger Scale can help to advance evidence-based research to improve food security and household hunger globally while also strengthening the ability of governments and international and national agencies to advocate for policies and programs to prevent and reduce household hunger.

⁷¹ Women’s Dietary Diversity: Women of reproductive age are among those most likely to suffer from micronutrient deficiencies, yet in developing countries there is limited data on the quality of women’s diets and their micronutrient status. Results from Bangladesh, Burkina Faso, Mali, Mozambique, and the Philippines indicate that food-group diversity indicators are very promising and may be a simple and valid option for population-level assessment and for monitoring progress toward improved micronutrient intakes among women of reproductive age.

⁷² www.scalingupnutrition.org

⁷³ A focus on nutrition between pregnancy and age 2 is proven to yield a high return on investment. Leading economists, including Nobel laureates, have declared that five of the top 10 cost-effective solutions for development focus on improving nutrition. World Food Program, 2010.

⁷⁴ High-impact in reducing death and disease and avoiding irreversible harm.

⁷⁵ Schaible, Ulrich E., and Stefan H. E. Kaufmann (2007), “Malnutrition and Infection: Complex Mechanisms and Global Impacts,” *PLoS Med*, 4(5): e115. <http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.0040115>

⁷⁶ Addressing undernutrition in external assistance: An integrated approach through sectors and aid modalities. Prepared by the European Commission, Germany, Ireland, France, Poland and the United Kingdom. September 2011. Accessed at: http://ec.europa.eu/europeaid/infopoint/publications/europeaid/documents/252a_en.pdf

⁷⁷ Secure Nutrition. Linking Agriculture, Food Security, and Nutrition. Accessed July 5, 2012 at <https://www.securenutritionplatform.org/Pages/AboutBackground.aspx>

⁷⁸ Tracking Progress on Child and Maternal Nutrition. A survival and development priority. United Nations Children’s Fund (UNICEF). November 2009.

⁷⁹ Scrimshaw NS et al. Interactions of nutrition and infection. Geneva: World Health Organization. 1968.

⁸⁰ Undernutrition includes stunting, wasting, and micronutrient deficiencies.

⁸¹ The Millennium Development Goals Report. 2012. United Nations. Accessed at: <http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2012/English2012.pdf>

⁸² Dewey K, Adu-Afarwuah S. Review article: Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries. *Maternal and Child Nutrition* 2008; 4: 24-85.

⁸³ The Lancet Series on Maternal and Child Undernutrition. *The Lancet*, Volume 371. 2008.

⁸⁴ A Situational Analysis on the Status of Women’s and Children’s Rights in Zimbabwe, 2005 – 2010. A Call for Reducing Disparities and Improving Equity. UNICEF. Accessed at http://www.unicef.org/zimbabwe/SitAn_2010-FINAL_FINAL_01-02-2011.pdf

⁸⁵ The full set of papers in the Lancet Series on Maternal and Child Undernutrition can be accessed here: <http://www.lancet.com/series/maternaland-child-undernutrition>

⁸⁶ SUN. Scaling Up Nutrition, 2012 (<http://www.scalingupnutrition.org>)

⁸⁷ Thompson B, Amoroso, L. FAO’s Approach to Nutrition-Sensitive Agricultural Development. Rome: Food and Agricultural Organization, 2011.

⁸⁸ Scaling Up Nutrition in the African Re-

gion. A Consultation in Response to the WHA Resolution (WHA 63.23). Harare, 3-5 May 2011. Accessed at http://www.who.int/nutrition/Harare_regionalconsultation_May2011.pdf

⁸⁹ Monitoring and Evaluation (M&E) Fundamentals: A Self-Guided Minicourse, Nina Frankel, Anastasia Gage, MEASURE Evaluation. USAID. January 2007. Accessed at: <http://www.cpc.unc.edu/measure/publications/ms-07-20>

⁹⁰ Marie Ruel. "Addressing the Underlying Determinants of Undernutrition: Examples of Successful Integration of Nutrition in Poverty Reduction and Agriculture Strategies," SCN News 2008.

⁹¹ A Time for Leadership: Europe's Role in Eradicating Global Undernutrition: A Multi-Stakeholder Report on Nutrition and EU Development Policy, 2012.

⁹² Ibid.

⁹³ Although FAO talks about mainstreaming a "nutrition-sensitive food systems approach" in its policy, program, and capacity development work, in order to contribute at the national, regional, and global levels to sustainable improvements in access to nutritionally adequate diets for all, FAO does not actually define the term. Accessed at <http://www.fao.org/docrep/meeting/023/mb663E02.pdf>

⁹⁴ http://www.fao.org/ag/agn/nutrition/docs/FAO_Approach_to%20Nutrition_sensitive_agricultural_development.pdf

⁹⁵ DFID, 'Scaling Up Nutrition: The UK's Position Paper on Undernutrition' (September 2011). Accessed at <http://www.dfid.gov.uk/Document/publications1/scal-up-nutr-uk-pos-undernutr.pdf>

Documents/publications1/scal-up-nutr-uk-pos-undernutr.pdf

⁹⁶ DFID specifically focuses on systematic reviews of the impact of nutrition-sensitive programs. DFID proposes to use the findings to inform programs, to inform program guidance being developed by the World Bank, and to inform evaluation priorities.

⁹⁷ Transform Nutrition, which will be led by the International Food Policy Research Institute, will address key research questions relating to the challenges of scaling up nutrition-specific interventions in different settings, the effectiveness of nutrition-sensitive interventions, and the promotion of enabling environments.

⁹⁸ DFID, 'Scaling Up Nutrition: The UK's Position Paper on Undernutrition' (September 2011). Accessed at <http://www.dfid.gov.uk/Document/publications1/scal-up-nutr-uk-pos-undernutr.pdf>

⁹⁹ Hunger Task Force Report to the Government of Ireland. Accessed at http://www.iris-haid.gov.ie/uploads/hunger_task_force.pdf

¹⁰⁰ A Road Map for Scaling Up Nutrition, September 2010. http://www.unscn.org/files/Announcements/Other_announcements/FINAL_SUN_Road_Map_FINAL_dn.pdf

¹⁰¹ Global Health Initiative and Feed the Future, "USAID Nutrition Approach: Where are we now? Where are we going? How are we getting there?" USAID Presentation, December 15, 2011.

¹⁰² Ibid.

¹⁰³ http://www.unicef.org/esaro/5479_nutrition.html

tion.html

¹⁰⁴ Security for All through Sustainable Agriculture and Food Systems. Note from the United Nations System High Level Task Force on Global Food Security. March 2012. www.un-foodsecurity.org

¹⁰⁵ Bhutta ZA, Ahmed T, Black RE, Cousens S, Dewey K, Giugliani E et al. (2008). What works? Interventions for maternal and child undernutrition and survival. The Lancet, DOI:10.1016/s0140-6736(07)61693-6.

¹⁰⁶ http://www.unicef.org/esaro/5479_nutrition.html

¹⁰⁷ These include breastfeeding, complementary feeding, prevention or treatment for moderate undernutrition, multiple micronutrient powders, therapeutic zinc supplements for diarrhea management, treatment of severe acute malnutrition, periodic Vitamin A supplements, de-worming drugs, iron-folic acid supplements, iodized oil capsules where iodized salt is unavailable, improved hygiene practices (especially hand washing), iron fortification of staple foods, and salt iodization.

¹⁰⁸ 1,000 DAYS: CHANGE A LIFE, CHANGE THE FUTURE, 21 September 2010. Joint Donor Statement. Accessed at <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTHEALTHNUTRITIONANDPOPULATION/EXTNUTRITION/0,,contentMDK:22714763~menuPK:282611~pagePK:64020865~piPK:149114~theSitePK:282575,00.html>



Margaret W Nea



breadfortheworld
INSTITUTE

President, David Beckmann | Director, Asma Lateef

425 3rd Street SW, Suite 1200, Washington, DC 20024

Tel 202.639.9400 Fax 202.639.9401

institute@bread.org www.bread.org/Institute

Find out more about **Bread for the World Institute** online. Get the latest facts on hunger, download our hunger reports, and read what our analysts are writing about on the Institute blog.