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Nutrition and the Post-2015 Sustainable Development Goals

A Technical Note

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The author of this technical paper is Patrick Webb PhD, Friedman School of Nutrition Science and Policy, Tufts University in Boston, USA.

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Introduction

People are at the core of sustainable development. Individual wellbeing is essential to sustaining the inter-generational gains in health, productivity and social engagement that underpin the sustainable development agenda (OWG 2014). The choices that individuals are able and willing to make regarding foods to produce and market, the diets their families consume, and the care and nurture of nutritionally vulnerable people (particularly mothers and infants), all have a direct bearing on the success or failure of the Sustainable Development Goals (SDGs).

The SDGs are inter-linked. They are an integrated indivisible set of priorities that build on the unfinished business of the Millennium Development Goals (MDGs). Like the MDGs, the SDGs are synergistic; that is, they represent neither a sequential order of proposed actions, nor a ranking of urgency, they are mutually supportive and of equal priority. In other words, all of the SDGs matter, and they all matter right now. Furthermore, the relationships among SDGs are multi-directional. That is, a reduction in inequality within nations (supportive of SDG10) would need to involve gender equality (SDG5), and vice versa.¹ Similarly, if production patterns can be nudged in the direction of sustainability globally (SDG 12), this will support the achievement of food security (SDG2), and vice versa. In other words, most elements of the agenda represent both inputs to, and outcomes of, the overall objective.

Nutrition is no different. Nutrition must be understood as both an input to, and an outcome of, the SDGs as a whole. The many manifestations of malnutrition derive not just from a lack of sufficient and adequately nutritious and safe food, but from a host of interacting processes linking health, care, education, sanitation and hygiene, access to resources, women's empowerment and more. Good nutritional status leads to higher individual earnings and mental acuity, which in turn support macroeconomic and societal growth. Malnutrition (which includes several forms of undernutrition as well as overweight and obesity) impairs individual productivity which acts as a drag on national growth. In this sense, malnutrition will represent a pernicious, often invisible, impediment to the successful achievement of SDG targets.

This technical note describes the many pathways by which nutrition can play a key role in promoting achievement of the various SDGs, and how achieving the SDGs can also benefit nutrition. It argues that explicit attention to nutrition is warranted as the international community moves on from the MDGs, building on the success stories (and there are many), while seeking to accelerate and sustain new gains in places around the world that have lagged behind and for vulnerable populations who have been neglected. Action is urgently needed, which argues for a more prominent role for nutrition both as a defined Goal in its own right and as a series of metrics for success embedded in several other Goals. This document describes the

¹ The titles of each SDG as currently proposed are at: <http://sustainabledevelopment.un.org/focussdgs.html> As of November 2014, the number of goals, their titles, and metrics for assessing success are still under discussion.

multidirectional linkages between nutrition and the SDGs, argues for much more attention to nutrition among the goals, and encourages further dialogue on how to apply best practices at scale to resolve the world's nutrition challenges as quickly as possible.

Nutrition and the SDGs

Nutrition is many things: it represents a process by which individuals achieve their physical and mental growth potential; it is a characteristic of the quality of an individual's diet in relation to their nutrient needs; and it is a benchmark or metric against which the effectiveness of numerous development goals are assessed. It is also, not least, a fundamental right of all of humanity. Without good nutrition, the mind and body cannot function well. When that happens, the foundations of economic, social and cultural life are undermined.

While the term "nutrition" appears as a free-standing element of SDG No.2 ("End hunger, achieve food security and improved nutrition, and promote sustainable agriculture" as currently proposed), in reality nutrition is interwoven with all 17 goals. The nutritional status of children was recognized as a key indicator of poverty and hunger within the MDGs. That was an important step in acknowledging that national policies and programmes which improve nutrition have a role to play in development beyond the resolution of individual nutrient deficiencies. But nutrition also has relevance beyond poverty reduction and the removal of hunger; it plays a part in strengthening development mechanisms and instruments such as economic growth strategies, health sector reform, improved governance, and even human rights (UNSCN 2004). In other words, nutrition offers a lens through which to consider how actions taken to address one or more SDGs would translate into improved child growth, and how these would support attainment of other individual goals.

A better understanding of the multidirectional relationships among nutrition and the SDGs requires acknowledgement of the multifaceted nature of nutrition. Just as 'health' is not defined as the absence of a single disease, and 'poverty' is no longer seen as just a metric of low income, 'nutrition' is about more than the absence of one visible or invisible form or manifestation of a nutrient deficiency or being too thin or too heavy. MDG1 measured nutrition as the share of children in a population who are underweight; that is, the prevalence of under-five year olds whose weight is too low for their age (low weight-for-age) in relation to a WHO-defined international child growth standard (WHO 2006). Today, it is acknowledged that there are several distinct, albeit linked, facets of poor nutrition, and each carries its own implications for impaired human productivity, development and well-being. It has also come to be recognized that weight-for-age is not the only or best metric for representing the full array of nutrition conditions of concern.

Reflecting this understanding in 2012 the World Health Assembly (WHA) endorsed a *Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition* which included 6 targets based on their public health relevance; namely, child stunting, anaemia in women of reproductive age, low birth weight, childhood overweight, child wasting and

exclusive breastfeeding for the first 6 months after birth (de Onis 2013).² Alone, each of these targeted problems represents a challenge to most of the world's governments. Together, they combine to pose a significant threat to global development initiatives. Recent estimates for 2013 suggest that 161 million children under the age of 5 years were stunted (too short for their age), at least 51 million were severely or moderately wasted (weighing too little for their height), while another 42 million *children* were overweight or obese (Black et al. 2013; UNICEF, WHO, WB 2014). In addition, there are several billion children and adults who are deficient in one or more vitamins or minerals which can lead among others to anaemia, blindness, cognitive impairment, greater susceptibility to many diseases and higher mortality. Public and private investment in resolving and preventing each of these problems represents a commitment to development. In addition, actions to reduce low birth weight and/or small for gestational age (which can reflect in utero nutritional compromise and maternal undernutrition) and to increase exclusive breastfeeding help promote enhanced child nutrition early in life when future paths for growth, health and productivity are set in motion.

But without appropriate investments poor nutrition persists. Each of these conditions contributes to the global burden of disease and impaired quality of life. Ill-health or death are among the most extreme outcomes linked to poor nutrition, since much of the problem takes less visible forms of reduced physical or mental growth or the onset, years later, of non-communicable diseases. That there are short-term and long-term implications of poor nutrition, and numerous forms of deficiencies, underscores both the multifaceted nature of the problem and the many ways in which nutrition plays a role in human activity and behavior.

The following sections of this Technical Note elaborate on how nutrition is associated with each of the SDGs, as illustrated in Table 1. The focus of the text below, however, is on a subset of the SDGs (Nos. 1, 2, 3, 4, 5, 6, 12 and 17) for which the links with nutrition are direct and where the evidence is most robust. Where appropriate, mention is made of how other SDGs may also have a role in nutrition, even where our knowledge of the extent of associations is limited or has yet to be empirically tested (see Table 1).

SDG1: End Poverty in All its Forms

According to the World Bank (2006), “better nutrition equals less poverty.” It is widely documented that poor nutrition represents a drag on economic growth through losses in productivity and indirect losses through higher health care costs, causes earlier mortality resulting in lost investments in human capital, and reduces competitiveness due to impaired cognitive functions and resulting deficits in schooling (Global Nutrition Report 2014). The productivity losses to individuals from various forms of undernutrition have been estimated as

² The WHA targets are a) 40% reduction in child stunting (against 2010 global estimates as the baseline); b) 50% reduction in anaemia in women of reproductive age; c) 30% reduction in low birth weight; d) zero % increase in childhood overweight; e) at least 50% target for the practice of exclusive breastfeeding in the first 6 months; and f) 5% or lower target for the prevalence of child wasting (WHO 2013a).

10% or more of lifetime earnings, while losses to national productivity can be as high 2 to 3% of total output per year (World Bank 2006). Conversely, the economic gains from investments aimed at tackling most forms of undernutrition (including the principal micronutrient deficiencies), particularly for mothers and infants who are the most nutritionally vulnerable, yields an average benefit-cost ratio of 15; that is, even under the most conservative assumptions, US\$1 invested in a bundle of evidence-based interventions for nutrition generates average returns of US\$15 (Hoddinott et al. 2012). Country-specific benefit-cost ratios for nations with a high burden of stunting range from 3.6 (in the Democratic Republic of Congo) to 48 (for Indonesia) (Hoddinott et al. 2013). Such benefit-cost ratios are in many cases better than the ratios associated with investments in public health as reported by Jamison et al. (2013) and Stenberg et al. (2014).

The economic costs of obesity are also becoming alarming (Finkelstein et al. 2010). For example, Popkin et al. (2006) calculate that the costs of lost productivity and health care associated with obesity will double for countries like China between 2000 and 2025, reaching almost 8 % of annual Gross National Product (GNP). Thus, actions to address all forms of malnutrition represent crucial investments in poverty reduction and economic growth.

While the World Bank (2006) has rightly pointed out that “pursuing economic growth may rapidly reduce income poverty but not malnutrition,” the benefits of sustained equitable economic growth (SDG 8) *will* support improved nutrition on a large scale if nutrition sensitive policies and programmes direct benefits to nutritionally vulnerable households.³ Since up to 11% of GNP is lost annually to poor nutrition in Africa and Asia, the economic hemorrhaging could be stopped if investments were made to resolve all forms of malnutrition (Horton and Steckel 2013). In other words, income growth can help individuals succeed better in life, but it also helps governments provide appropriate budgetary support for interventions that matter for sound nutrition. Thus, resolving poverty will grow the resource base needed for nations to more quickly resolve all forms of malnutrition in the context of broader developmental gains.

SDG2: End Hunger, Achieve Food Security and Improved Nutrition, and Promote Sustainable Agriculture

Nutrition is intimately linked to nutrient sufficiency (relative to need) and diet quality, both in the short term and the long term. For health, care and other actions that are also needed to improve nutrition to gain traction, individuals must be well-nourished at all times. This requires efforts to enhance access to healthy diets, improved knowledge for food choices, stronger resilience of food systems to economic, climatic and human-made shocks, and remediation of food-borne threats to consumers. Achieving all of these things would, in the words of the UN

³ Ruel and Alderman (2013) note that features making a programme potentially ‘nutrition-sensitive’ include, the facts that they a) address underlying determinants of nutrition, b) are usually implemented at scale, c) can be effective at reaching populations with high malnutrition rates, d) consciously seek to address those malnutrition rates, and d) can be leveraged to serve as delivery platforms for more targeted nutrition-specific activities.

Secretary General, not only translate into zero hunger, but also “boost economic growth, reduce poverty and safeguard the environment.” (UN 2012) In other words, the Secretary General’s Zero Hunger challenge underscores the multi-directional linkages that would flow among SDGs as a result of effective action against hunger.

One of the key messages of the 2014 State of Food Insecurity in the World is that “sustained political commitment at the highest level is a prerequisite for hunger eradication. It entails placing food security and nutrition at the top of the political agenda.” (FAO, IFAD and WFP 2014) The eradication of hunger and food insecurity would help nutrition because it would have to involve ensuring year-round access to adequate, safe, diverse and nutrient-rich food for all while also pushing healthy diets and healthy food systems higher up the political agenda (SDG12). This requires a twin-track approach: adopting a long-term vision to resolving underlying constraints, while also dealing urgently with immediate needs.

For example, enhanced agricultural systems are essential, such that they become responsive to need, healthy, and abundant without sacrificing resiliency or sustainability. However, Pinstруп-Andersen (2011) makes the point that agriculture and food system relationships with nutrition are bi-directional, stating that although “research and debate have focused on the impact of agriculture on nutrition, it is important to recognize that there is a two-way causal relationship. Health and nutrition may also affect agriculture and food systems.” This works through sickness (SDG3) and impaired worker productivity (such as anemia in women of reproductive age affecting work capacity), which itself causes lower adoption of improved technology and other inputs (SDG9), leading to sub-optimal use of land, water, and other resources (SDG15).

Similarly, the Global Panel (2014) has argued that actions to address “not just agricultural productivity but improvements throughout the food and healthcare system represent critical opportunities for reducing malnutrition.” Since food production, marketing and consumption patterns are changing so rapidly around the world new understanding is needed of the dynamic pathways that link producers and consumers. As a result, agendas aimed at securing healthy food systems, not just healthy people, must be reframed to take account of both intended and unintended consequences of public policy actions and private sector investments.

Thus, to allow nutrition to support not only food security (SDG2) but all the other SDGs as well, targeted nutrition-specific and nutrition-sensitive actions are required across the entire food system to address both immediate needs and ensure that lives are sustained. This will include evidence-based interventions to resolve and seek to prevent all forms of malnutrition (Bhutta et al. 2013). For example, thirty leading economists recently assessed the 169 SDG targets (clustered under the current 17 goals) from the Final Outcome document (dated July 2014) of the Open Working Group (OWG) in terms of the evidence for costs and effectiveness of proposed actions. They classified the evidence as “phenomenal” if it could be robustly estimated that benefits would be more than 15 times higher than costs. Under the category of “phenomenal” the economists found the elements of target 2.2 that focus on “achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of

age.” (Copenhagen Consensus 2014) For targets related to children under 5, the authors note that “there is robust evidence that reducing stunting leads to lifetime benefits.”

But while stunting is an essential target for, and indicator of, nutrition, all six World Health Assembly targets are based on credible evidence of human benefit and each of them needs to be met within the context of SDG agendas. This argues for all six being included as targets with relevant indicators as part of the SDG agenda.

SDG3: Ensure Healthy Lives

The “strong synergies between health and nutrition” (World Bank 2013) are well-documented; good health is not possible without good nutrition. Malnutrition remains one of the main determinants of the global burden of disease, with 45% of child mortality attributable to undernutrition (Black et al. 2013). Child undernutrition is *the* leading contributor to the burden of disease in Sub-Saharan Africa and fourth in South Asia, while globally, dietary risk factors and physical inactivity collectively accounted for 10% of global Disability-Adjusted Life Years (DALYs)⁴ in 2010 (Lim et al. 2012). However, between 1990 and 2010, the global disease burden attributable to high body-mass index (BMI), the main anthropometric measure used to assess overweight and obesity, rose from 52 million to 94 million DALYs (Lim et al. 2012), and every additional 5kg/m² of BMI increases esophageal cancer risk by 52%, endometrial cancer in women by 59%, and gall bladder cancer by 59% (Wang et al. 2011). Early investments in promoting linear growth (preventing stunting), starting already during pregnancy and including prevention of low birth weight, early initiation of, and exclusive, breastfeeding, contributes to reducing later risks of obesity and chronic diseases (Adair et al. 2013; Black et al. 2013). In other words, being malnourished in any form carries significant risks to health. Urgent action is needed to cut the annual burden of 85 million DALYs attributable to nutritional deficiencies (Murray et al. 2012), as well as the growing burden of DALYs linked to obesity.

Resolving all forms of undernutrition and obesity would dramatically reduce the social burden of sickness and premature death, and the economic burdens of lost productivity and burgeoning health care costs that face virtually every country in the world. Appropriate investments in the first 1,000 days (from pregnancy through the first two years) will yield benefits not only for that child’s lifetime, but across generations (Black et al. 2013). The discounted cost of implementing evidence-based interventions for optimal nutrition amounts to roughly US\$370 per life-year saved (Bhutta et al. 2013). The benefits to global health would be vastly greater (MCNSG 2013).

⁴ A disability-adjusted life year (DALY) is a measure of disease burden, expressed as the number of years lost due to ill-health, disability or premature (avoidable) mortality. One DALY is equivalent to one year of healthy life lost or foregone due to defined diseases.

SDG4: Ensure Quality Education and Learning

Just as health outcomes and nutritional status are inextricably linked, the ability to learn and the nutrition of a child are mutually supportive. Undernutrition acts as a drag on education: compounding the negative effects of many other characteristics of poverty, it is associated with delayed school enrollment, impaired concentration, more schooling lost to illness, and drop-out before completion (Jukes et al. 2002). Children who are more affected by stunting early in their life have poorer test scores on cognitive assessments and activity level (Glewwe et al. 2001; Alderman et al. 2006). For example, in Guatemala, it was shown that being stunted at age six carries the risk of losing 4 grades of schooling in terms of impaired test performances linked to reduced cognitive development (Maluccio et al. 2009). However, micronutrient deficiencies also affect learning ability. For example, almost 2 billion people worldwide are believed to be lacking in dietary iodine, including around 240 million children, and such deficiency is correlated with up to a 15 point reduction in IQ at a population level (WHO 2013).

No nation can afford to waste the latent capabilities of its citizens on such a scale. The education of girls in particular has been shown to have direct links to improved nutrition of their children (Smith and Haddad 2014), as well as indirect impacts via later marriage (when their bodies are ready for childbirth), reduced child mortality rates even controlling for income of the household (Wang et al. 2014), reduced fertility rates, and enhanced earnings of adult women. Good nutrition provides for good students, and access to education and learning generates improvements in caring practices, dietary choices and nutrition outcomes (Ruel and Alderman 2013). As a result, the benefits of good nutrition for education require that actions to promote good nutrition be taken long before schooling begins. A focus on the nutrition, health and societal status of adolescent girls must lead to effective ante-natal and maternal care, support for exclusive breastfeeding, and appropriate nurture and caring practices for girls as well as boys as they grow through childhood.

SDG5: Achieve Gender Equality and Empowerment

Gender equality and empowerment (particularly of girls, adult women and marginalized vulnerable populations), is a critical contributor to good nutrition. As noted by Pinstrup-Andersen (2011), the link between nutrition and productivity is particularly important for women, “partly because of the role women play in food production, food preparation, and child care and partly because of their special vulnerabilities related to reproductive health.” Laws, policies and actions to achieve equality and empowerment can go a long way to securing nutrition for all (as well as SDG10 and SDG16). This can be measured, for example, in terms of all women’s access to education, health care, legal representation, skills and training, and productive resources. According to the UN’s Standing Committee on Nutrition, “Malnutrition disempowers individuals by ... diminishing livelihood skills and options. This makes it harder for individuals to seize new opportunities in a globalizing world.” (UNSCN 2004) Undernourished girls and women are often least able to take advantage of development resources on offer (be it microcredit, schooling or paying jobs) because of lower work capacity, sickness and inability to travel or join meetings that could be to their benefit, and they are therefore less able to

contribute to the goals of equality and empowerment (Duflo 2012). Recognizing that women are often over-represented among the rural poor, SDG2 calls for a “doubling of the agricultural productivity and the incomes of small-scale food producers, particularly women.” (OWG 2014) But, for this to be achieved women and other disempowered groups require equal access to all forms of resources, legal protections, services and knowledge. Only then can “decent work for all” (SDG8) be feasible and inequality within countries (SDG10) be resolved.

SDG6: Ensure Sustainable Water and Sanitation

In calculating the relative contribution of various factors to the progressive decline in child stunting between 1970 and 2010, Smith and Haddad (2014) estimated that increased access to safe water accounted for 25 % of the change. For example, 2010, Lim et al. (2012) attributed roughly 8 million DALYs to unimproved water globally. The risks to nutrition derive from water-borne diseases, microbial contaminants that provoke enteric dysfunction, diarrhoea, and a lack of cleanliness that itself increases food safety risks and lack of hygiene-related nutritional compromise. Separately, Smith and Haddad (2014) calculated that roughly 14% of the total fall in stunting between 1970 and 2010 resulted from improved sanitation.

Rates of open defecation remain above 10% in eastern and central Africa, and still very high in Southern Asia at 35%, and a strong link with nutrition is increasingly suggestive (Global Nutrition Report 2014). Spears (2013) for example, calculated “a quantitatively important gradient between child height and sanitation that can statistically explain a large fraction of international height differences.” This is supported by findings from numerous countries, such as Ethiopia, where despite repeated food crises, child stunting declined from 57% in 2000 to 44% in 2011 (Woodruff et al. 2014). An analysis of multiple rounds of data during that period in Ethiopia showed that only a few factors were associated with stunting, including maternal health and education and sanitation. Importantly, the percentage of children living in communities in which all households practiced open defecation fell dramatically (between 2000 and 2011) from 53% to 5% (Woodruff et al. 2014).

Improved nutrition leads indirectly to improved water and sanitation through increased demand. As all forms of nutrition improve, which leads to the associated benefits of demand for higher food quality, education, preventative health-seeking behaviours, and a voice in development, there is greater household exposure to, and practice of, appropriate hand-washing practices, food and personal hygiene, and sanitation. This results in demand for clean water and effective personalized sanitation. As poverty falls, consumers (urban and rural) understand and afford the benefits of private access to hygienic resources and facilities.

SDG12: Ensure Sustainable Consumption and Production Patterns

Closely embedded with SDGs 1, 2, and 3, the vision of sustainable patterns of production and consumption is increasingly shared by industrialized and developing countries alike. Many governments are paying more attention to the importance of linking policies and investments

that integrate agriculture and food markets with improved health and nutrition (Webb and Block 2012). Policy actions that address not just agricultural productivity but improvements across entire food systems represent a new approach to tackling malnutrition in all its forms (Global Panel 2014). The term “nutrition-sensitive agriculture” has been coined to refer to interventions that can have positive nutritional impact by increasing the quantity and availability of agricultural commodities, as well as the quality of foods in terms of diversity, nutrient content and safety (Ruel and Alderman 2013). Enhanced food supply chains can also work for nutrition by reducing or stabilizing food prices, extending the seasonal availability of key nutrient-rich foods, improving information flows or by enforcing food safety standards. Reducing both post-harvest food losses and retail as well as consumer food waste, would also play a part in moderating ever-increasing demand for growth in agricultural output (FAO 2013), while consumer education on food sourcing and the real economic costs of value-chain processing can affect patterns of demand (Global Panel 2014).

In other words, appropriate actions are required across the entire food system, rather than just in a single sector, based on an understanding of the nature of local food environments in which dietary choices are made. Good nutrition represents an input to, and an outcome of, such choices. All forms of undernutrition as well as overweight and obesity reflect (at least in part) the enabling or disabling nature of local food environments in relation to appropriate choice. Food environments are characterized by food being available (via dynamic and sustainable production systems), accessible to all through extensive, responsive and resilient markets, affordable to all, and also being desirable and convenient. The high quality diets and associated nutritional outcomes deriving from high quality food environments in turn generate further demand for, and increased investment in, sustainable production systems and value chains that are required. Of course, when such systems fail, as in the context of humanitarian emergencies or significant food price volatility, appropriate safety nets are essential to protecting the food consumption and nutrition of the world’s most vulnerable populations (Webb et al. 2014).

SDG17: Revitalize Global Partnerships for Sustainable Development

A revitalization of global partnerships for development is needed, and nutrition is leading the way. In just half a decade, the Scaling Up Nutrition (SUN) movement grew from an idea to a global network of informal partners working through a collaborative process of consensus building on how to scale up nutrition interventions. To date, the Scaling Up Nutrition Framework has been endorsed by over 100 partners worldwide and more than 50 developing country governments have committed themselves to scale up nutrition in collaboration with civil society, their United Nations partners, the business sector and academia. Many leaders in the public and private sectors are beginning to recognize nutrition as an investment in economic and social development to strengthen their nations—a platform on which to build multiple initiatives, such as the important Zero Hunger initiative, and the SDG agenda itself.

Conclusions and Key Points

The Global Nutrition Report (2014) argues that, “improvements in human nutrition represent both a maker and a marker of sustainable development.” This Technical Note confirms that nutrition problems of many kinds manifest through the life-cycle affect, and in turn are affected by, each of the SDGs. The world as a whole did not meet the MDG target relating to nutrition, and is currently not on track to meet the six global nutrition targets set by the World Health Assembly for 2025. As such, the nutrition community, and its natural allies in the food security, agriculture, WASH, gender and health communities, advocate for nutrition within the SDG framework. In the end, sustainable development will depend on it.

While sovereign nations have primary responsibility for their own economic growth and development, global and local partnerships are essential for catalyzing innovations and



disseminating best practice that can bring public and private sector excellence to bear on nutrition challenges that may seem intractable. The CFS has a key role to play in defining and promoting this agenda: “the nutritional dimension is integral to the concept of food security and to the work of CFS.” (CFS Reform Document 2009) Success stories exist and impactful change is possible (Global Nutrition Report 2014). Yet, a concerted effort will be required, going forward, to disseminate and promote best practices across the food system that will focus appropriate interventions on the needs of the most nutritionally vulnerable, include all necessary stakeholders (not just a couple of government ministries), and sustain progress for future generations. The SDGs are attainable, *especially* if nutrition is put front and center of the sustainable development agenda and linked to all of the ambitious new goals.

Key points for action:

- **Nutrition must be highlighted not hidden in the SDGs.** The days when nutrition was synonymous with vague terms like ‘hunger’ or ‘poor nourishment’ are over. The specific causes and manifestations of the many linked but separate nutrition problems facing the world today are known, as are evidence-based solutions. Thus, nutrition should not be packaged with other targets. Achieving good nutrition for all represents its own agenda, and should therefore be framed as its own SDG with at least the 6 World Health Assembly targets clustered as indicators of success.
- **Nutrition-relevant indicators should be included in several other SDGs.** While nutrition is relevant to all SDGs, several depend on nutrition gains to achieve their own targets. These SDGs should each take on carefully-defined indicators that go beyond the World Health Assembly targets. Key indicators for diet quality, food safety, maternal nutrition (in its own right), and nutrition of often neglected vulnerable groups (such as the elderly, obese adults, displaced peoples, the physically and mentally challenged, etc.) should be essential part of SDGs and its framework for action.
- That **nutrition underpins sustainable development** is a truism that deserves repeating; hence the need for all SDGs to be explicit about their relationship with nutrition. However, action-oriented statements on nutrition improvement are needed, not just descriptive statements relating to the problem.
- **Nutrition actions in the SDGs must be evidence-based and promoted at scale.** To support sustainable development goals, nutrition must lead not lag. While the precise nature of problems affecting countries, regions and peoples may differ in degrees, the reality is that nearly all nations have nutrition problems of various kinds that require action appropriate to the challenge. While some interventions require changed behaviours of individuals (such as early initiation of exclusive breastfeeding), others demand population-wide and food system-wide coverage of policies or programmes. Defining the ambitious agenda needed to fund and implement such essential initiatives must be an early time-bound milestone of SDG implementation.
- **Nutrition successes during the SDG timeframe must be well-documented and disseminated.** While much is known about the technical aspects of interventions needed to address various nutrition challenges, much more needs to be understood about why countries are on or off course for particular targets. Given the complex causality of malnutrition, it is combinations of policy and programming actions that advance nutrition, and governments should identify, test and document the appropriate blend of actions that achieve rapid and sustained gains in nutrition.
- **Nutrition progress as part of the SDGs must be well measured.** In many of the countries carrying the highest burdens of malnutrition, data are inadequately collected and disseminated, or not collected at all. The quality, coverage and availability of disaggregated data must be significantly improved to support actions aimed at improving nutrition across the SDGs.

- **Nutrition priorities should acknowledge rather than ignore complexity.** While there are many contributors to malnutrition, and many combinations of actions needed to resolve it, this is no excuse for inaction. Siloed interventions, one-nutrient-at-a-time agendas, and funding for individual projects in isolation of others can stifle progress. It is nutrition's complexity that underpins its multiple multi-directional links with all of the SDGs. Clear, rather than over-simplified, messaging on the critical links between nutrition and sustainable development is essential to priority setting and buy-in at all levels of government.
- **Nutrition governance must be empowered but also accountable.** At the heart of good governance and effective use of resources lies accountability. The SDGs offer a chance to promote global partnerships in a new spirit of solidarity, cooperation, and mutual accountability. While multiple stakeholders have to be involved in the numerous nutrition-related agendas framed by the SDGs, responsibility for action and results must be transparent. Appropriate intervention requires not only deliberate commitment, but also the institutional and human capacities and funding appropriate to the scale of challenges faced. Accountability for results requires good data on costs, outcomes and clarity on the incentives or disincentives at work. Leadership in this sphere should be promoted and rewarded. Governments should allocate more resources to monitoring their own commitments, and innovative accountability mechanisms reaching across all stakeholders should be tested and adopted.



The SDGs represent a window of opportunity for the global community to finally make good on its many past commitments to improving nutrition. Urgent, well-designed, well-funded actions at scale are essential to achieving the vision of good nutrition for all in the coming years. Achieving that vision is also key to putting sustainability at the core of the human development agenda. The moment must be seized; the next generation of children deserving a better future is about to be born. This time, no-one – regardless of ethnicity, gender, geography, race or other status – must be neglected and left behind.

Appendix 1: Illustration of the Linkages between Nutrition and the SDGs

Contributions of nutrition to SDG	Sustainable Development Goals	Contributions of SDG to nutrition
Good nutrition results in higher labour productivity, mental capacity, and longer healthy lives. Each added cm of adult height is associated with an almost 5% increase in wage rates.	1. End poverty in all its forms everywhere⁵	Doubling per capita income cuts child stunting by 15 percentage points. This happens as households escape poverty and governments invest more to tackle malnutrition due to reduced GNP losses.
Good maternal nutrition reduces risks of low birth weight and improves care of children. A well-nourished work-force supports productive agriculture and more demand for food, increased food security and reduced hunger.	2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Nutrition would benefit hugely from zero hunger and full food security. Sustainable agriculture supports appropriate diets, income and resource use.
Nutrient-disease interactions are synergistic. Good nutrition significantly reduces the risks of sickness and mortality in the context of a host of diseases, as well as maternal health and foetal growth.	3. Ensure healthy lives and promote well-being for all at all ages	Enhancing health, starting with adolescent girls and focusing on the first 1,000 days (including breastfeeding promotion), supports child nutrition and growth while reducing NCD burdens later in life.
Improving linear growth for under 2s by 1 Standard Deviation adds half a grade to school attainment. Resolving iron, iodine and other nutrient deficiencies supports mental capacity.	4. Ensure inclusive and equitable quality education and promote life-long learning	Access to information, education, schooling and informal knowledge enhances health and food choices, income growth, and nutrition.
Improving the nutrition of girls, adolescents and women increases their ability to perform well at school and in the workforce.	5. Achieve gender equality and empower all women and girls	Gender equality (in education, status, earnings) accounts for 25% of child nutrition gains. Girls' education delays marriage and first birth.
Improved nutrition is associated with enhanced knowledge and behaviours linked to personal and food hygiene and sanitation, raising demand for clean water and quality sanitation.	6. Ensure availability and sustainable management of water and sanitation for all	Reduction in open defecation and improved access to water cuts bacterial contamination in the food supply and supports hand-washing, which impacts nutrition outcomes.
Improved nutrition in all its forms generates demand for food, goods and services, including electrification in the context of demand for refrigeration and food processing.	7. Ensure access to affordable, reliable, sustainable and modern energy for all	Access to energy reduces time burdens on women seeking wood and charcoal. Reduced indoor pollution directly reduces sickness-mediated nutritional compromise.
Nutrition stimulates economic growth, improving the mental and physical productivity of the labour force. Removing undernutrition would prevent GNP losses of 8-11% per year.	8. Promote sustained, inclusive and sustainable growth, full and productive employment, decent work for all	Earning opportunities are key to enable households to rise out of poverty and to enhance the adequacy and quality of their diets. Higher GNP allows governments to invest in pro-nutrition policies and programming.

⁵ The SDG titles used here are abbreviated for space. Full SDG titles as currently proposed are in OWG (2014)

Nutrition and the post-2015 SDGs

Contributions of nutrition to SDG	Sustainable Development Goals	Contributions of SDG to nutrition
Enhanced nutrition through the lifespan supports learning and later innovation potential. Industrialization and markets only thrive with productivity and growing demand across food systems.	9. Build resilient infrastructure, promote inclusive industrialisation and foster innovation	Innovations in productive technology, value chains and marketing enhance food safety and diet quality. Innovation in communication and marketing among the poor supports nutrition.
Resolving stunting has more impact for the poor, thereby reducing current nutrition inequalities that perpetuate future nutrition and income inequalities.	10.Reduce inequality within and among countries	Reduced inequalities in nutrition allows for more balanced productivity and growth across the population. Less inequality across nations promotes balanced dialogue and engagement.
Lower mortality and morbidity due to enhanced nutrition reduces population pressure on natural resources as fertility falls.	11.Make cities and human settlements inclusive, safe, resilient and sustainable	Urban demand for safe quality diets supports growth in rural production and services, enhancing nutrition. Less water waste and pollution supports nutrition in urban and rural areas.
Falling poverty and improved nutrition raises demand for higher quality and more diverse diets.	12.Ensure sustainable production	Product diversity and more productivity supports diet diversity, food quality (including of complementary foods) and safety, all needed for good nutrition.
<ul style="list-style-type: none"> ➤ Research on nutrient quality as crop traits promoting plant vitality supports climate resilient agriculture research. ➤ Reduced population pressure on environmental resources comes through better nutrition supporting reduced mortality and lower fertility rates. ➤ More informed consumer demand for high quality, diverse, safe diets drives attention to sustainability of production and impacts of product choices on entire food systems. 	13.Urgent action to combat climate change and its impacts	<ul style="list-style-type: none"> ➤ Research to enhance crop and animal resistance to agro-ecological shifts linked to climate change will protect food supplies and diet diversity. ➤ Enhanced resiliency of food production and marketing systems can reduce food price volatility that hurts the poor. ➤ Production diversity based on sustainable practices leads to lower consumer prices (diversified demand) and hence to diet quality.
	14.Conserve and use the oceans, seas and marine resources sustainably	
	15.Protect, restore and promote sustainable use of terrestrial ecosystems	
Moves to strengthen nutrition accountability and governance globally bring attention to the importance of inclusive stakeholder dialogues and cross-sector models for effective policy.	16.Promote peaceful and inclusive societies, access to justice for all, & build effective, accountable institutions	Discrimination of all kinds, inequity, economic penury and injustice are drivers of conflict, destruction and malnutrition. Peace and justice are preconditions for building accountable institutions needed to achieve good nutrition for all.
Global prioritization of nutrition has never been higher. Multi-stakeholder platforms such as Scaling Up Nutrition and Zero Hunger Initiative offer platforms on which to build renewed interest and investment in nutrition.	17.Strengthen and revitalise global partnerships for sustainable development	A further strengthening of global partnerships and inter-governmental commitments to sustainability and equality offer a foundation for building peace and effective, open and accountable institutions, and improved multisector and multi-stakeholder coordination and collaboration.

Appendix 2: References

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UNSCN Secretariat
c/o World Health Organization
20 Avenue Appia
CH 1211 Geneva 27
Switzerland

Telephone: +41 22 791 04 56
Email: unscn@who.int
Web: www.unscn.org

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