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DRAFT

Targets and Indicators for the

Post-2015 Sustainable Development Goals

Accountability for the Measurement of Results in Nutrition

A Technical Note

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A) TARGETS AND INDICATORS

1. Significance of Nutrition for Sustainable Development

Nutrition must be understood as both an input to and an outcome of Sustainable Development. Malnutrition -which includes several forms of undernutrition as well as overweight and obesity- derives not just from a lack of food, but from a host of interacting processes linking health, care, education, sanitation and hygiene, access to resources, women's empowerment and more. The choices that individuals make regarding foods to produce and market, the diets that their families consume, and the care and nurture of nutritionally vulnerable people (particularly mothers and infants), all have a direct bearing on nutrition outcomes.

Good nutrition leads to higher earnings and mental acuity, which in turn support macroeconomic and societal growth. Poor nutrition impairs productivity, which in turn impedes national economic growth. Without appropriate investments, poor nutrition persists, will continue contributing to the global burden of disease and impaired quality of life. In this sense, malnutrition poses a pernicious, often invisible, impediment to achieving all SDG targets.

As such, the nutrition community, and its natural allies in the food systems, agriculture, WASH, gender, social protection and health communities, are advocating for action oriented, measurable targets on nutrition improvement in the SDG framework. In the end, sustainable development will depend on it [1].

This technical note encourages dialogue on targets and related indicators to monitor and report on, and account for, progress towards improved nutrition across all post-2015 goals. Furthermore, it encourages dialogue on how to ensure that data collection and national information systems can accurately measure the progress in nutrition by providing high quality, timely and disaggregated data. Moreover, national cost estimates and tracking of resources for nutrition including monitoring and accountability are discussed.

2. The Unfinished Agenda of the MDGs

In the year 2000, world leaders adopted the Millennium Declaration and agreed on a set of eight time-bound goals – the Millennium Development Goals (MDGs). The deadline set for the MDGs was September 2015. While unprecedented progress has been made in poverty eradication and human development, many of the goals are far from being achieved. MDG1 brought attention to the need to improve food and nutrition security (Goal 1C: *to halve the proportion of people who suffer from hunger*) [2], with its two indicators for monitoring progress: indicator 1.8 Prevalence of underweight children under-five years of age; and indicator 1.9 Proportion of population below minimum level of dietary energy consumption, also called undernourishment (SOFI 2013).

A minimal focus on nutrition within the MDGs, and without having specified *how* targets should be achieved, country ownership and leadership was difficult. For nutrition in particular, the lessons learnt include that the focus on undernutrition was too narrow and synergies between nutrition and other sectors remained underexploited. Many national nutrition strategies in the 2000s focused on treatment of acute malnutrition (wasting), and on production of staple grains [3]. Today a huge burden of knowledge exists on effective actions and the need of addressing nutrition adequately through a multi-sectoral approach [4]. The fragmentation of nutrition efforts in the 2000s, not only limited progress toward the achievement of MDG1 targets, but probably also slowed progress in achieving other related targets such as poverty reduction, education, child mortality and maternal health [5].

Changes in the nutrition landscape

Since 2000, the nutrition situation has become more complex, with many countries experiencing multiple burdens of malnutrition, with undernutrition, overweight and micronutrient malnutrition co-existing within the same households and individuals [6]. Diet changes associated with rapid urbanization, sedentary lifestyles, and increasing consumption of processed foods of minimal nutrition value contribute to rising trends in overweight and obesity and diet related noncommunicable diseases, which has become a global problem affecting all countries worldwide. At the same time, climate change and associated natural disasters result in frequent food crises, food insecurity and food price instability, sometimes exacerbated by globalization of trade and the growing demand for competing ecosystem services including food provision. Socio-economic inequities in malnutrition persist, and nutrition improvements have not always been equitable [3].

Since 2010, the Scaling Up Nutrition (SUN) Movement has been instrumental in stimulating and sustaining political commitment to nutrition at national and global levels [7]. The Movement is led by countries, today there are 54 countries participating, and is unique by bringing different groups of people together – governments, civil society, the United Nations, donors, businesses and scientists – in a collective action to improve nutrition. Furthermore, evidence on nutrition has moved forward significantly since the 2008 Lancet Series on maternal and child undernutrition, and there is now consensus about the effective 12 direct nutrition interventions [8]. In June 2013, the Lancet released a new maternal and child undernutrition series, providing additional evidence that reinforces the importance of scaling up both direct nutrition interventions and nutrition-sensitive actions [9]. Program- and policy wise, there is increasing recognition of the first 1000 days of life from conception to the child's second birthday as the critical window of opportunity to sustainably establish good nutrition and growth. The economic case for nutrition has become very strong, and the multi-sectoral approach is getting more prominent in national nutrition plans [10].

The Second International Conference on Nutrition (ICN2) reaffirmed countries' commitment and agreed that the post-2015 development framework is an unprecedented opportunity to take stock and steer action and accountability for addressing both the direct and underlying causes of malnutrition in all its forms, and thereby make the eradication of hunger, malnutrition and the realisation of the right to food a reality by building a sustainable and equitable future for all [11].

3. Sustainable Development Goals for post-2015

The UN Open Working Group (OWG) recommended 17 SDGs and 169 targets to be achieved by 2030, which were acknowledged and welcomed by the UN General Assembly in September 2014 [12,13]. It is the SDG 2 that contains one provision on nutrition and puts it in the context of food security and sustainable agriculture: '*End hunger, achieve food security and improved nutrition, and promote sustainable agriculture'*. This is an achievement. However, the risk is that improved nutrition becomes reduced to hunger reduction and food security with a focus on the access to enough food. Instead, nutrition should be seen as requiring the right nutrients at the right time, along with strengthened health care and social protection especially during pregnancy and lactation and the first two years of life.

Among the 169 proposed targets, one target is directly related to malnutrition. The target 2.2: *"by 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons"*.

The first part of the SDG 2 target 2.2 makes explicit reference to two of the World Health Assembly (WHA) adopted targets (on stunting and wasting in children less than five years of age) for the improvement of maternal, infant and young child nutrition (WHA, A65/11, 2012). Though, the

second part is rather expressed in the form of a political statement and gives space for more specific defined nutrition targets in it.

- This paper advocates, at a minimum, for embedding all six WHA targets within the SDG targets addressing all forms of malnutrition.
- Overweight and obesity in adults related to the rising trends in noncommunicable diseases should be addressed by the future SDG agenda.
- In addition, it highlights that the aspect of diet quality merits particular attention, especially in light of the multiple burdens of malnutrition and its interconnectedness with today's food systems. It is incomplete and insufficient to look only at dietary energy supply.
- Moreover, it argues that tracking of overall government spending on nutrition is essential for results in nutrition.
- Furthermore, to underscore the importance of complementary national indicators and as none of the current 169 targets relates to the 'how' to facilitate the achievements of improving nutrition, the paper proposes that countries (beyond the 54 SUN countries where such processes are already underway) include targets on the coverage of key nutrition actions into their SDG frameworks that track national priorities.
- Finally, it identifies gaps in the toolkit and proposes urgent work to come up with the right tools that then need to be applied in a standardized way at scale.

4. Targets and indicators for Nutrition

4.1 Proposed global nutrition targets (and indicators) for the SDGs

Criteria for the selection of a global target and related indicators [14-16] include that the indicator is scientifically robust, has a strong track record of extensive measurement experience, and is being used by countries in their monitoring of national plans and programs. The complete set of the six global targets for maternal and child nutrition endorsed by the 65th World Health Assembly (WHA) fulfil these criteria [17-19]. All six WHA 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 at a minimum for all six being included as targets with relevant indicators as part of the SDGs. The six WHA targets are:

1. Reduce the number of children under-five who are stunted by 40%;
2. Reduce and maintain childhood wasting to less than 5%;
3. No increase in childhood overweight (children under 5 years of age);
4. Reduce anaemia in women of reproductive age (pregnant and non-pregnant) by 50%;
5. Increase the rate of exclusive breastfeeding in the first six months to at least 50%;
6. Reduce low birth weight by 30%.

Further details on the rational of each of these targets are described in annex 1. The SDGs will likely be set until 2030, whereas the WHA targets are to be achieved by 2025. Corresponding SDG targets may be set for the 6 WHA targets for the year 2030 at more ambitious levels, since documented experiences in several countries suggest that with political will, the right mix of policies and adequate resources, it is feasible to make dramatic improvements in maternal and child nutrition [6].

In addition, indicators that go beyond the WHA targets may be carefully considered in the post 2015 framework. Proposed indicators include those on diet quality and diversity. Moreover, nutrition of often neglected vulnerable groups such as the adolescents with particular focus on girls, obese adults, the elderly as well as and displaced peoples should be included. Political commitment, essential to achieve improved nutrition, deserves attention and indicators are proposed that can be taken into consideration: overall national government spending on nutrition and relevant capacity indicators.

Measures of dietary quality

As Jeffrey Sachs puts it in his address at the ICN2 Roundtable on Nutrition in the post-2015 development agenda [20], the SDG 2 is a challenging goal as stated because it looks at agriculture, nutrition, and food security in an integrated manner. The links between adequate nutrition, real food needs, food production and sustainable agriculture need to be addressed. Measures of dietary quality are a step into the right direction as they look at the quality aspect of diet beyond quantity. Another important step will be to link nutrient-based food needs of people with the food production side. Production diversity indices could be another metric of potential for diet diversity. Besides, caution is needed since in view of the rapidly evolving complexity of food supply chains in this rapidly changing world we need innovative ways to also measure the contribution of more processed/packaged foods to diet diversity and quality.

Measures of dietary quality are critical to complement the six WHA targets and the MDG indicator on dietary energy supply. Beyond food quantities, the importance of nutritional quality and diversity of foods consumed are increasingly recognized for a healthy diet, as malnutrition has persisted in many populations despite sufficient food availability and access. Dietary diversity is a robust predictor of diet quality and micronutrient adequacy in both young children and women [21-23]. Recent studies suggest that the importance of dietary diversity as determinant of stunting has increased [24]. Existing measures capture diet quality notably for women and children 6-23 months. Currently no diet quality metric exists for children >24m, which leaves out a considerable time window when a reduction in wasting in children up to 59 months of age is envisaged. This is one of the gaps that deserve to be filled.

The proposed indicators of adequate diet diversity for the SDG framework include:

Minimum Dietary Diversity for children 6-23 months: The proportion of children 6-23 months of age who receive foods from four or more food groups. This indicates the diverse composition of complementary feeding for infants and young children, during the second half of the 1000-day window of opportunity when continued breastfeeding should be complemented with semi-solid and solid foods. Minimum dietary diversity predicts lower rates of stunting and wasting [6,24], and is a WHO-recommended progress indicator for child nutrition and growth [25].

Minimum Dietary Diversity for women: is defined as the proportion of women, 15-49 years of age, who access and consume at least 5 out of 10 defined food groups [26]. Maternal micronutrient deficiencies during lactation can directly impact child growth and development but the potential consequences of maternal micronutrient deficiencies are especially severe during pregnancy, when there is the greatest opportunity for nutrient deficiencies to cause long term, irreversible development consequences for the child in-utero. Dietary diversity is a key dimension of a high quality diet with adequate micronutrient content; and thus, important to ensuring the health and nutrition of both women and their children.

The indicator responds to the need for simple yet valid indicators of women's diet quality, with a specific focus on micronutrient adequacy. While validated as an indicator of individual-level diet quality and of micronutrient quality, this indicator has not yet been tested for cross-country comparability [6], or for adolescent girls. In the recent FAO consensus meeting, in July 2014, with academia and partners from UN, donors and international research institutes, this indicator was unanimously endorsed and purposively selected for monitoring of progress in global monitoring frameworks [26]. As this is a relevant indicator that would add value to the SDGs framework and in particular within SDG2, it is proposed to include the Minimum dietary diversity for women as indicator for diet quality in the SDG framework. This could advance the needed cross-country comparability of dietary diversity for women.

Measures of nutrition of other neglected vulnerable groups

Overweight and obesity in adults (disaggregated by sex): Age-standardized prevalence of overweight and obesity in persons aged 18+ years (defined as body mass index ≥ 25 kg/m² for overweight and body mass index ≥ 30 kg/m² for obesity)[27]. This is one of the indicators in the Global action plan for the prevention and control of non-communicable diseases 2013-2020 [28].

Rational: Overweight and obesity are part of the dietary risk factors that together with physical inactivity collectively accounted for 10% of global Disability-Adjusted Life Years (DALYs) 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 oesophageal cancer risk by 52%, endometrial cancer in women by 59%, and gall bladder cancer by 59% [29,30]. The costs attributable to obesity and overweight are high, not only in terms of premature death and health care but also in terms of disability and a diminished quality of life. The ICN2 emphasized the link between food systems including agricultural production with diversified and healthy diets and committed to reverse the rising trends in overweight and obesity and reduce the burden of diet-related non-communicable diseases in all age groups. Therefore, this indicator should be recommended for the global monitoring framework of the SDGs.

Measure of nutrition of older persons - Ideally, the proposed outcome indicators should address older persons as formulated in the SDG2 target 2.2. However, currently there are no indicators, other than deficiency in Vitamin B12 and low nutritional status measured as low BMI, for the nutrition of older persons that could be recommended as global target. This is a neglected research area until now, and given the growing significance of older persons in many parts of the world, there is an urgent need for adequate research to address this information gap.

Measure of nutrition of displaced peoples and those in humanitarian settings - There is no reference in the SDGs targets to humanitarian situations. Progress in mortality and nutrition targets will not be reached unless emphasis is also placed on humanitarian contexts. The September 2014 meeting of the SUN Lead Group stressed the importance of strengthening capacities and resilience in countries dealing with recurring humanitarian crises. This gap in nutrition targets and indicators applicable to people in emergency situations should be addressed.

Priority list of SDGs recommended nutrition targets and indicators

1. Reduce the number of children under-five who are stunted

2. Reduce the number of children under-five who are wasted

3. Stop the increase in childhood overweight (children under-five)

4. Reduce anaemia in women of reproductive age (pregnant and non-pregnant)

5. Increase the rate of exclusive breastfeeding in the first six months

6. Reduce the number of low birth weight babies

7. Adequate diet diversity of young children and women

- ***Minimum Dietary Diversity for children 6-23 months***
- ***Minimum Dietary Diversity for women***

8. Reduce overweight and obesity in adult men and women

9. Increase overall national government spending on nutrition

Measures of political commitment and capacity

Overall national government's spending on nutrition – The indicator should ideally include spending on direct nutrition actions as well as spending on nutrition-sensitive actions in related sectors.,

Especially the countries participating in the SUN Movement are working on the tracking of Government spending in nutrition. An important milestone was the Nairobi Workshop on Costing and Financial Tracking in November 2013.

Number of trained nutritional professionals per 100,000 population - This indicator measures the density of trained nutrition professionals. It reflects the capacity of a country to design and implement a nutrition policy and programmes effectively. This indicator is maintained in the WHO Nutrition Landscape Information System (NLIS) to encourage countries to collect and compile data on these aspects in order to assess their national capacities [31]. Furthermore this indicator is classified as indicator for policy and capacity in the World Health Statistics (WHS) [32]. It is part of the proposed additional indicators for the core set of the global monitoring framework on maternal, infant and young child nutrition [33].

Other proposed optional nutrition indicators include:

- *Overweight in school- age children and adolescents (disaggregated by sex)*: Percentage of overweight (< 1SD body mass index for age and sex) in school-age children and adolescents (5-18 years).
- *Underweight in women of reproductive age*: Percentage of women of reproductive age who are underweight (with low BMI of <18.5kg/m2).
- *Underweight in school aged and adolescent girls*
- *Underweight in older people*
- *Household Food Consumption Score (FCS)* – as measures of household food security used by WFP's Food Security Analysis (VAM), the methodology is designed to proxy household food security by evaluating the quantity and quality of people's diet. It is a composite index based on dietary diversity (number of food groups consumed by a household over a 7-day reference period), food frequency (number of times, usually in days, a particular food group is consumed), and the relative nutritional value of different food groups. Food consumption can be a function of food availability and/or food access; as a result, the FCS can potentially reflect two of the three dimensions of food security [34].
- The following complementary indicators that address the nutrition status of children in the first 1000 days, and adolescent girls are proposed. - *Access to safe and nutritious complementary foods for children 6-23 months, and - Adolescent birth rate (per 1000*).

4.2 Embedding nutrition indicators in the SDGs

SDG 2 with its target 2.2: *"by 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons",* is the right place to embed the above proposed targets addressing malnutrition in all its forms, by expanding the current focus on undernutrition and including also targets on overweight and obesity.

Furthermore, the need to connect food systems including agricultural production with diversified and healthy diets in a coherent way calls for the recognition of indicators on dietary diversity within this goal. Business as usual and including only the MDG indicator on undernourishment (percentage of population below minimum level of dietary energy consumption) will be insufficient to achieve the anticipated goal. Overall government spending on nutrition is absolute vital as indicators that reflects best governments political commitment to improve nutrition of the people they serve. In addition, the number of trained nutritional professionals per 100,000 population [33,35], could be included as capacity indicator for policy environment for improved nutrition; and this can be complementary to an indicator on the number of agricultural extension workers [36].

Alternatively to SDG2, the beforehand outlined nutrition targets and indicators could have a place in other SDGs and their targets. Particular focus should be put on SDG3 on ensuring healthy lives and SDG12 on ensuring sustainable consumption.

SDG 3 on 'ensuring healthy lives and promote well-being for all at all ages': within the target 3.2 defined as 'by 2030 end preventable deaths of newborns and children under 5 years of age', the following WHA nutrition targets can be embedded:

- Reduction of low birth weight,
- Reduction of anaemia in women of reproductive age,
- Increase in exclusive breastfeeding.

Within the target 3.4 defined as 'by 2030 reduce by one third premature mortality from non-communicable diseases through prevention and treatment', the relevant WHA nutrition target, would be:

- Prevention of increase in overweight in children under five,
- Reduction of overweight and obesity in adults (men and women).

SDG 12 'Ensuring sustainable consumption and production patters': within the target 12.1 defined as 'to implement the 10-year framework of programmes on sustainable consumption and production', the following nutrition target can be embedded:

- Overweight and obesity among adults,
- Overweight in children under five, and in school aged children and adolescents
- Minimum dietary diversity for women

In addition to the above, also SDG5 on achieving gender equality and empower all women and girls may benefit from including indicators related to nutrition status and well-being of adolescent girls and women.

Enabling environment for nutrition - Scaling-up a core package of nutrition-specific interventions is estimated to achieve a 20% decrease in stunting in children under five [9]. Further improvements need to come from nutrition-sensitive actions [6, 10] in areas that are addressed in other SGDs. Of particular importance are SDGs1 on ending poverty, SDG4 on ensuring inclusive and equitable quality education, SDG5 on achieving gender equality and empowerment, SDG6 on ensuring sustainable water and sanitation, and SDG10 on reducing inequalities.

Especially, within the SDGs 1, 4 and 6, the attention can be drawn to the relevant nutrition-sensitive inventions in social protection, education as well as water and sanitation. The relevant targets as defined by the OWG to be addressed include:

- Target 1.3: 'implement nationally appropriate social protection measures and by 2030 achieve substantial coverage of the poor and vulnerable';
- Target 4.1: 'by 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes;
- Target 6.1: 'by 2030 achieve universal and equitable access to safe and affordable drinking water for all';
- Target 6.2: 'by 2030 achieve access to adequate and equitable sanitation and hygiene for all and end open defecation'.

In the above important progress indicators for programme monitoring referring to an enabling environment can be include. The following are proposed:

- Proportion of women who are reached through social protection measures (that have clear nutrition objectives and actions to be monitored), being designed so that the right food and services are available to women and children during the 1000 days window; with additional services for adolescent girls if required [37,38];
- Proportion of adolescent girls completing secondary level education. The education of girls in particular has been shown to have direct links to improved nutrition of their

children, as well as indirect impacts such as via later marriage and reduced fertility rates; education is critical to the empowerment of women;
- Proportion of population using a safely managed drinking water service [35,39];
- Proportion of population using a safely managed sanitation service.

Regarding the SDG 10 on 'reducing inequality within and among countries' and its target 10.3 to 'ensure equal opportunity and reduce inequalities in outcome', the proposed nutrition targets need to be disaggregated by gender, age groups, socio-economic group, geography and other equity considerations. Important focus is on stunting by wealth group and by geography.

4.3 Intervention coverage indicators for country-level monitoring

In order to underscore the importance of complementary national indicators and as none of the current 169 targets relates to the 'how' to facilitate the achievements of improving nutrition, it is proposes that countries (beyond the 54 SUN countries where such processes are already underway) include targets on the coverage of key nutrition actions into their SDG framework that track national priorities.

Coverage of nutrition interventions

To guide action for progressing toward the above proposed global nutrition outcome targets, policy makers and programmers also need indicators tracking the coverage of key nutrition-specific and nutrition-sensitive interventions. A key global commitment on coverage with nutrition interventions is the *Nutrition for Growth Compact*, where 94 signatories, from across national governments, UN agencies, civil society organizations, businesses and donors committed to, *by 2020, reach at least 500 million pregnant women and children under 2 with effective nutrition interventions; prevent at least 20 million children under five from being stunted and save at least 1.7 million lives by reducing stunting, by increasing breastfeeding and treating severe acute malnutrition* [40].

Coverage data for nutrition-specific interventions is sparse, often because the interventions themselves have yet to be scaled-up. Among 12 key nutrition-specific interventions with proven effectiveness in improving maternal and/or child nutrition [9], most countries have national coverage data for only two interventions (vitamin A supplementation and universal salt iodization [6]). There are only limited data, of variable quality and usefulness, about burdens of acute malnutrition, moderate (MAM) and severe (SAM), and the coverage of their community based or clinical management. No standardized data exist on programme coverage such as for promotion of breastfeeding or improved complementary feeding. Additionally, programme coverage for adolescent girls could include coverage of programmes targeted to adolescent girls with the objective to delay age of first pregnancy, and coverage of interventions addressing micronutrient deficiencies and macro- nutrient needs among adolescent girls.

Programmatic priorities and intervention packages vary by country. Therefore, coverage of nutrition-specific interventions is not recommended as a global indicator. Nevertheless, monitoring of coverage of interventions adopted in national nutrition policies and plans is essential for guiding countries' nutrition actions, and therefore should be expanded, institutionalized and improved by all countries. Much work is already being done by the 54 SUN participating countries with this regard [10].

To start with, the coverage data from the Lancet 12 nutrition specific actions could be combined in a composite coverage index, much like the Countdown 2015 report did in 2014. Thereby the Composite Coverage Index is a weighted score reflecting coverage of the selected interventions along the continuum of care. For more details, see www. countdown2015mnch.org/reports-and-articles/equity. Better measurement of intervention coverage could be achieved through improved household surveys and other methods in order to contribute to stronger policies and programs and foster accountability for delivery of essential nutrition actions.

In addition, it is strongly emphasized that more work is urgently needed to define nutrition-sensitive actions and to develop global coverage information for nutrition interventions. The global database on the Implementation of Nutrition Action (GINA) is providing valuable information on the implementation of numerous nutrition policies and interventions in countries, but does not include coverage data [41]. GINA could be an entry point that merits further advancement into a global coverage database.

5. Key Messages on targets and indicators

The post-2015 Sustainable Development Goals and their targets provide a key opportunity – and urgency – to strengthen nutrition measurement and accountability. Countries' ability to evaluate and catalyse progress in nutrition outcomes requires better information, better cost estimates and tracking of investments in existing information and monitoring systems as well as new innovative approaches. The engagement of all stakeholders is needed to refine the set of standardised evidence-based indicators that reflect the multi-sectoral nature of nutrition programming.

Key messages

Key nutrition targets should be an essential part of SDGs and its framework for action - Nutrition is foundational to development. The post-2015 agenda is the unique opportunity to priorities nutrition and address all forms of malnutrition at the core of the SDGs. The causes of malnutrition are well-understood, as are evidence-based solutions. Urgent action is essential and possible. Action-oriented accountable targets on nutrition improvement are needed, not just descriptive statements of the problem.

- **All six World Health Assembly targets should be included in the SDG framework** with relevant indicators. The post-2015 development agenda is being elaborated for the next 15 years from 2015 to 2030, whereas the WHA targets are to be achieved by 2025. More ambitious targets can be set for 2030 on each of the targets:
    1. Reduce the number of children under-five who are stunted
    2. Reduce and maintain childhood wasting
    3. No increase in childhood overweight (children under 5 years);
    4. Reduce anemia in women of reproductive age (pregnant and non-pregnant)
    5. Increase the rate of exclusive breastfeeding in the first six months
    6. Reduce low birth weight

- **Measures of dietary quality are critical** to complement the six WHA targets. They capture diet quality and adequacy, notably for women and children. Beyond food quantities, the quality and diversity of foods consumed are increasingly recognized as critical for a healthy diet, as malnutrition has persisted in many populations despite sufficient food availability and access. Dietary diversity is a robust predictor of diet quality and micronutrient adequacy in both children and women. Recent studies underline the importance of dietary diversity as determinant of stunting. The two recommended indicators of adequate diet quality are:
    7.a. Minimum Dietary Diversity for children 6-23 months
    7.b. Minimum Dietary Diversity for women of reproductive age

- **Overweight and obesity reduction should figure prominent in the SDG agenda** and the relevant target and indicator that can be included is:
    8. Reduce overweight and obesity in adult men and women.

- **Political commitment**
    9. Overall national government's spending on nutrition.

- **Nutrition targets can be included in several SDGs –** Nutrition targets and indicators should be included in SDG2 and simultaneously can feature under other SDGs, reflecting the relevance and linkages of nutrition with relevant SDGs and the dependence of good nutrition on progress in these SDGs. Particular important are SDG3 on ensuring healthy lives, and SDG12 on ensuring sustainable consumption.

- **Indicators for nutrition-sensitive interventions and an enabling environment for improved nutrition** need to be further defined. Important ones related to SDG1,4 and 6 include:
  - ✓ Proportion of women who are reached through social protection measures (that have clear nutrition objectives and actions to monitor).
  - ✓ Proportion of adolescent girls completing secondary level education
  - ✓ Proportion of population using a safely managed drinking service
  - ✓ Proportion of population using a safely managed sanitation service

Research and methodological gaps need to be filled:

- Relevant key indicators for food safety need to be identified.
- The information and data gap on nutrition of older people needs to be filled.
- Gaps in nutrition targets and indicators applicable to people in emergency situations should be addressed.

- Diet quality and diversity merit more comprehensive and standardized measurement, as core intermediaries to achieving WHA nutrition targets in light of the multiple burdens of malnutrition and their complex relations with evolving global food systems. This applies to foods accessed by households and individuals (availability, affordability, choices), but also to what is available in terms of unprocessed and processed foods and their nutritional value. More thoughts need to be given to potential :
  - o Food production diversity indices
  - o Measures on the contribution of processed/packaged foods to dietary diversity.

- The Minimum Dietary Diversity for women should be tested also for adolescent girls
- Research on a metric for dietary diversity for children 24-29 months is needed.

- Prevention of increase in overweight in children under five, - or more ambitiously it could be – reverse the trend of increase. A reversal requires scaled-up application of evidence-based actions that demonstrate an ability to measurably reduce child overweight. To date, there are few documented successful actions in this domain, which makes it a priority for operations research in the coming decade.

- Improved tracking of the coverage of key nutrition interventions that achieve progress toward national commitments and global targets will require governments to strengthen routine surveillance. Strengthening routine nutrition program surveillance is critical for monitoring national commitments.
- Since many countries rely on DHS and MICS for this information, it is timely that governments expand these surveys and allocate specific national resources to this task.
- For that purpose more thinking needs also to go into interpretation and triangulation of different data sources.

- Furthermore, coverage data on nutrition actions needs to be expanded, institutionalized and improved by all countries. The coverage data from the Lancet 12 nutrition specific actions could be combined in a composite coverage index, much like the Countdown 2015 report did in 2014. The GINA database could be an entry point that merits further advancement into a global coverage database.

- More context specific learnings are needed related to development as well as humanitarian crises and post crises transition. Such as south-south learning routes initiated by the SUN Movement.

B) ACCOUNTABILITY FOR THE MEASUREMENT OF RESULTS IN NUTRITION

6. Measurement and information systems

Tracking and accelerating progress on nutrition targets post-2015 requires adequate systems, tools and capacity to collect, analyse, share and use data for decision making at national and sub-national level. Challenges in nutrition indicator monitoring during the MDG era illustrate a persistent need to improve nutrition data collection systems. Clearly, this requires innovative systems and tools that gather better data more frequently, more systematically and include relevant dis-aggregations by parameters that allow the identification of relevant programmatic target groups [16].

Data collection systems for nutrition measurement

Currently, three main data collection methods for nutrition are used, that have complementary advantages and disadvantages. Periodic national *health & demographic surveys* such as MICS, LSMS or other population-based nationally representative surveys are the basis for measuring many key child growth, maternal and child nutrition and health indicators. Furthermore, standardized national *nutrition surveys* are used for measuring diet quality and micronutrient status and could at the same time assess coverage of nutrition interventions. A third method is *routine nutrition surveillance*, essential to track national nutrition programme implementation and actions [42]. For more details see annex 2.

Data sources of the proposed SDG target indicators

The following are the main sources of data for the proposed indicators for the post-2015 SDGs targets. Out of the six WHA targets, four are regularly measured in most countries through national demographic and health surveys (DHS): *stunting, wasting, overweight in children under 5 years*, as well as *exclusive breastfeeding* for infants 0-5 months (see also annex 3).

Anaemia in women of reproductive age is also being tracked at country-level, but data available are of more variable quality and sources, necessitating complex modelling resulting in estimates that are less robust at country level. Since a simple and non-invasive device to determine blood haemoglobin levels under field conditions is available, it should be possible to roll-out standardized anemia measurement through existing national nutrition surveys. Dedicated nutrition surveys are a common source of data for prevalence of anaemia and other micronutrient deficiencies.

Low Birth Weight tracking is often hampered by incomplete and poor quality birth weight recording in many countries [43]. Improving measurement of this indicator depends on ongoing, structural longer-term enhancements in health information and civil registration systems more broadly.

Minimum Dietary Diversity

- *Minimum Dietary Diversity for children* 6-23 months of age is measured through demographic and health surveys in an increasing number of countries since 2010.

- *Minimum dietary diversity for women* could also be measured through household surveys. The type of household survey that could best accommodate this (e.g. periodic demographic and health surveys, or the annual Gallup World Poll) remains to be determined. Other questions to be addressed for operationalizing this indicator include: (i) whether data should be collected through an open and unstructured recall of foods consumed with grouping and coding done afterwards, or rather through pre-structured lists of food groups; (ii) whether food group lists should be universal or adapted to local contexts; and (iii) whether or not to consider minimum portion size in calculating food group consumption. These need to be explored by the relevant national and international M&E stakeholders.

Overweight and obesity in adults is measured by an increasing number of countries through (general or nutrition-dedicated) surveys. Data collection would require harmonization, and data analysis merits refinement, possibly with regional tailoring of relevant thresholds of body mass index.

Overall government spending on nutrition – is currently being addressed by countries participating in the SUN Movement. In a follow-up of the 2013 November Nairobi Workshop on Costing and Financial Tracking, agreement on the methodologies on tracking government resources that will be commonly used was reached. The use of the national government budgets was agreed as an entry point, for identifying ministries and sectors that include potential nutrition spending based on existing information (SUN Movement, meeting summary 16 July 2014).

In conclusion:

- Four of the WHA targets are regularly tracked by many countries through national DHS with 3-5 year intervals.
- Tools exist to roll-out standardized anaemia measurement via blood analysis not based on food recalls through DHS or regular nutrition surveys at household level.
- Most challenging is the tracking of low birth weight data in countries with weak health information and civil registration systems.
- New measures of diet quality and diversity for young children and women can be incorporated in DHS and other to be determined nutrition tracking systems.
- Overall government spending on nutrition is being addressed the SUN Movement and SUN participating countries including the elaboration of appropriate methodology.

The role of national surveillance systems needs to be emphasised, in addition to enabling DHS (tasked/funded) to include new metrics of dietary quality and diversity, Body Mass Index measure for obesity and overweight, micronutrient assessments via blood not just food recall and other recent developments to ensure that progress in nutrition is adequately measured and reported.

7. Accountability

Accountability begins with national sovereignty and the responsibility of national leaders to the people they serve. Being mutually accountable (act so all stakeholders feel responsible for and are held collectively accountable to the joint commitments) is one of the principles of the Scaling Up Nutrition (SUN) Movement. Governments, communities, civil society and with strong links between country level and global mechanisms, have a crucial role to play in monitoring the progress towards the SDGs and in accelerating their achievements for improved nutrition of the people they serve. Data and information are the raw material for accountability.

Accountability in nutrition faces particular challenges, due to the multi-sectoral nature of nutrition, the need for multiple actors to work together, the long-term effects of nutrition on human development, and the invisibility of some of its consequences. Many SUN countries developed or updated their national nutrition policy and/or action plan. However, tracking of commitments made such as at the 2013 *Nutrition-for-Growth compact* [40] illustrates the challenges in accountability faced by national governments, and other stakeholders, including donors [6].

The SDG agenda concerns all countries worldwide. As the Global Nutrition Report 2014 showed, also high income countries have gaps in nutrition monitoring and reporting that need to be improved on.

Better information for better results in nutrition

Over the past years, some SUN countries developed a country-specific *Common Results Framework* that describes a set of national targets agreed across sectors and actors. This is one means to align and

strengthen engagement of relevant sectors in realizing and monitoring their contributions to and achievements on time-bound national nutrition commitments and targets [44]. For this, countries need well-functioning information systems that combine data from health facilities, administrative sources, surveys and other sector specific sources.

Although there have been steady improvements in the availability of nutrition data, there is still work to be done to create a clearer and more up to date nutrition picture of the world, for use in planning, monitoring and evaluation of the policies and programmes that will together achieve the SDGs.
Too many countries still have poor data, data that arrives too late and too many issues are still barely covered by existing data. Data on Low Birth Weight for example is often unreliable or not available at all. Up to date data on micronutrient deficiencies such as, anaemia in women, is scarce, as well as data on coverage of programme interventions. Too much data is still produced using different standards such as micronutrient surveys that use different technology, or household surveys that use slightly different questions or geospatial data that uses different geographic definitions. The interval between assessments is often too long. For example national household surveys provide standardized indicator data with many relevant dis-aggregations, but they are conducted only at 3-5 year intervals. As more frequent national surveys are costly, they are often complemented by adequate sub-national data collections.

To be useful, data must be of high quality and must be made accessible to those who need them for decision making. Comparability and standardization are crucial, as they allow data from different sources or time periods to be combined. This can produce regional or global figures and trends over time. In summary, more standardized, systematic and regular data collection, and timely analysis and sharing of results across sectors and sub-national levels is needed to drive progress in nutrition monitoring and accountability. This needs adequate resources, skills and capacities.

As countries will set their context specific SDGs targets they may incorporate the agreed nutrition indicators in national information systems. Policy makers at national and sub-national level need disaggregated data that allows them to compare progress among districts and inform their planning decisions, therefore, data should be collected with relevant disaggregation by gender, age groups and other equity considerations. Existing inequalities of vulnerable groups, including women and young children, will not be overcome without attentive action to measure, monitor and report on the existence and progressive elimination of these inequalities.

The integration of the use of information and communication technologies in national nutrition information systems and relevant infrastructures offers new possibilities. In many countries, access to data may be restricted through technical and legal barriers that limit effective use of data. The High Level Panel calls for a “data revolution’’ to improve the scope of data and information available to citizens and policymakers through the use of innovative technological approaches [12, 13, 48-50]. This offers new possibilities for increased data integration from various sectors that populate the Common Results Framework for nutrition. Furthermore, this offers also important opportunities for humanitarian contexts and countries dealing with recurring humanitarian crises. It is a major opportunity for new data sources. In view of the technology revolution happening in all countries, social media or mobile phone records offer additional possibilities to capture the reality of people and complement what is considered ‘qualitative data’.

Investments for nutrition monitoring and accountability

The above described actions to improve nutrition data and accountability require adequate resources in form of investments and capacity building. This is articulated in SDG17 on ‘Strengthen the means of implementation’ and especially in target 17.18: ‘by 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing states, to increase significantly the availability of high-quality, timely and reliable data disaggregated by

income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in the national context.

Increased domestic resources and international support is needed to advance and implement innovative information systems in LMI countries. Few information is available on the needs and costs of information systems that presumably vary from country to country, depending among others on the status of existing data collection and information systems, capacity and cost levels. A recent review of national surveillance systems in countries in Africa and Asia did not address the costs of the surveillance systems analysed [42].

One immediate investment priority would be that DHS be enabled (tasked/funded) to include new metrics of dietary quality and diversity, BMI, micronutrients via blood not just food recall etc.

Better cost estimates and tracking of investments for nutrition monitoring

Accountability includes the transparent and credible tracking of financial resources and expenditures, in relation to costed national multi-sectoral nutrition plans. More and more SUN participating countries create specific national budget lines for nutrition and have costed their national nutrition plans. As of 2014, 28 from 54 SUN participating countries had national budgets publicly accessible. Out of these, 21 national budget plans could be broken down to the program level to identify potential allocations for nutrition. Information on actual spending was scarce [6,10].

A review of costed nutrition plans of 23 SUN participating countries looked at the national investments for monitoring and evaluation (see text box). The 23 countries allocate on average 1.2% of total costs for nutrition information management, and this included M&E, surveillance and research. There was a wide range of costs across the country plans (see figure). It has to be noted that these are estimates and the actual resource allocation could be higher as identified because countries may have integrated some M&E-related cost elements in other budget lines such as in ‘system capacity building’, ‘nutrition-specific’ or ‘nutrition-sensitive responses’, if the activity – often defined with a broad scope – was not solely related to M&E. The 2010 Scaling Up Nutrition estimates revealed an allocation of US Dollar 0.1 billion out of total costs of US Dollar 5.5 billion for rigorous M&E of a minimal package of 13 proven nutrition interventions which is around 1.8% of total costs.

Text box: Cost estimates for national M&E and information systems, in national nutrition plans in 23 SUN countries

Countries, participating in the SUN Movement, costed their national nutrition plans. The network *Maximizing the Quality of Scaling Up Nutrition (MQ-SUN)* supported an analysis of the costing component in 23 countries, in 2013 and 2014 [45,46]. Most nutrition plans covered a timeframe of 4 or 5 years, within the period 2010 to 2017. The plans revolved primarily among the sector(s) that led the costing process, most often the health or agriculture sector. Eighteen of the 23 plans included a monitoring framework; and only eight of these included the data needed for measuring progress toward national nutrition targets/goals and for assessing the scale-up of nutrition actions from year to year. Furthermore, fewer than half of the M&E frameworks matched specific activities to measurable outcomes.

Regarding the average cost estimates for services: an average of US$ 188 million (14%) was allocated to nutrition-specific services; US$ 1,082 million (81%) for nutrition-sensitive services (mostly food security, followed by health, water and sanitation, and a small portion for child care), and US$ 70 million (5%) for nutrition governance.

Within nutrition governance, 19 countries had included information management (with an annual average budget of US$ 5.1 million). Out of these, 17 countries had costed as a sub-component '*Monitoring and Evaluation'* (with an annual average of US$ 0.75 million), 14 countries had costed '*Surveillance'* (with an annual average of US$ 1.0 million) and 14 countries had costed *Research* (with an annual average of US$ 1.5 million). Furthermore, 18 countries included in their plan '*System Capacity Building'* (with an annual average of US$ 10.4 million); and 19 countries had included costed '*Policy development, Advocacy and Communication'* (with an annual of average US$ 1.3 million).

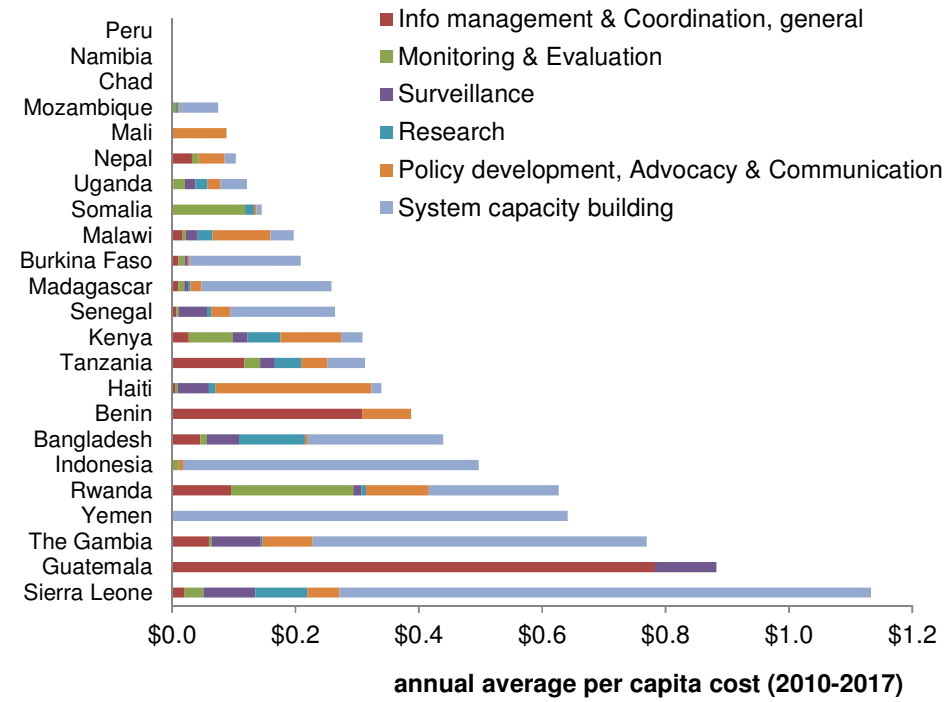
Four countries only had mapped available resources and estimated their funding gap, which over 5 years ranged from US$ 5 million in Bangladesh to US$ 81 million in Sierra Leone.

It has to be noted that, the current national nutrition plans and their costing did not encompass the complete list of national nutrition-specific, nutrition-sensitive and governance activities of relevant sectors and (notably non-government) stakeholders.

Learning from these costed nutrition plans in 23 countries (the first-ever in most countries), the costing of national nutrition plans is most valuable if it:

- Is based on clear national, annual performance targets for nutrition for well-defined population groups targeted by specific interventions, that were agreed and articulated in a national Common Results Framework, and are measured against agreed baseline values;
- Aligns with international standards – which remain to be developed – characterising which activities should be classified as nutrition-sensitive, and how to estimate proportion of activity costs that could be designated as nutrition-related,
- Aligns with general costing conventions as used in National Health Accounts, the One Health Tool developed by the UN Inter Agency Working Group on Costing, and the Organisation for Economic Co-operation and Development's Development Assistance Committee Creditor Reporting System [47];
- Includes performance targets, associated costs and commitments for stakeholders across sectors, and feeds into national and sub-national budgetary processes.

Figure: **Estimated costs for information management, surveillance and M&E in national nutrition plans of 23 SUN countries**



Strong links between country-level and global mechanisms exist. As of 2014, a number of international initiatives and donors support innovative approaches for strengthening of national nutrition information and monitoring systems. As such the European Commission and UK Department for International Development (DfID) are supporting the development of innovative approaches to National Information Platforms for Nutrition (NIPN) in 6 African countries [48].

WHO initiated the '*Accelerating Nutrition Improvements'* (ANI) project in 2013, working with national governments in 11 African countries to strengthen their national nutrition surveillance system, linking it with existing health information systems. In 4 of these countries the project supports the collection of baseline data for scaling-up nutrition interventions through national nutrition surveys [49]. The aim is that 25% of districts in the 11 countries will benefit from having functioning nutrition data collection systems that feed into national health information systems.

Another recent innovation is the development of tools for coverage monitoring such as by the Coverage Monitoring Network, a multi-partner initiative co-funded by the European Commission and USAID, which addresses programme coverage as indicators for performance measurement of community based management of acute malnutrition (CMAM) programmes. The recent development of comprehensive tools has provided the means by which to monitor programme coverage practically and easily [50].

In addition, for better oversight of results and resources, nationally and globally, harmonized global databases are essential in which international partners agree and align on a core set of nutrition indicators and high-quality data sources. A milestone in this respect is the WHO, UNICEF and World Bank joint global database on child nutrition, launched in September 2011 [51]. This database currently includes child stunting, wasting, and overweight, three of the WHA global nutrition targets indicators that are also proposed as core post-2015 indicators as outlined in section 4 of this paper.

Finally, it merits to be reemphasized that donors and other stakeholders should support country owned, country driven processes and systems by rationalizing their own reporting requirement to match core indicators and priorities of the national nutrition plan and Common Results Framework, align their reporting cycles, and invest substantially in country owned M&E capacity and system strengthening.

Strategies and Actions for national and international actors

In conclusion, key strategies and actions to improve measurement and accountability processes at *country-level,* include the development of and tracking of investments in:

- A national Common Results Framework, aligning and focusing stakeholders across nutrition-relevant sectors, based on multi-year country needs assessment;
- This should include national goals for people's nutrition (WHA targets at a minimum), implementation targets and the costs for reaching these targets including the costs for a functioning monitoring and evaluation and operations research to deliver on the results.
- Adequate staffing and capacity strengthening in monitoring and evaluation at central and sub-national levels, through education, training and supportive supervision;
- Transparent, accessible and inter-operable tools, systems and processes for electronic data management, quality control, communication and data usage by state and non-state actors, integrating where possible with existing national information systems for health, agriculture and other sectors. [16,52];
- A cross-sectoral multistakeholder coordination mechanism for joint annual progress reviews and action-oriented decision making with all stakeholders [6,53].

8. Key Messages on accountability for measurement of results

Nutrition progress must be well measured - Many nations with high burdens of malnutrition do not collect adequate or enough data on nutrition. The quality and coverage of disaggregated data must be significantly improved to support policy and programming decisions. The monitoring of i**ntervention coverage** rates of key nutrition-specific programmatic actions should be scaled up. The nutrition-sensitive actions need to be further defined.

- **Better information for better results in nutrition** needs well-functioning national information systems that combine data from health facilities, administrative sources, surveys and other sector specific sources. The new possibilities offered by the integration of modern information and communication technologies need to be further explored.

- **A nutrition data revolution** that is based on strengthened capacities in high-quality data collection, analysis and communication, should underpin more effective use of M&E for national and global progress measurement, as well as programmatic decision making at sub-national levels. For optimal efficiency, coherence and usability of data, nutrition monitoring should build on and align with existing national information systems (for health, agriculture development, etc.) where possible.

Accountability and nutrition governance must be empowered and need to be transparent - multiple stakeholders must be involved in the nutrition-related agenda framed by the SDGs, but responsibility for actions and results must be transparent and address conflict of interests. Leadership in this sphere should be promoted and rewarded. Governments should allocate more resources to monitoring their own commitments, and innovative accountability mechanisms should be tested and adopted.

- **Investments for nutrition monitoring and accountability -** Increased domestic resources and international support to countries is needed to build the necessary capacities. This is articulated in SDG17 on 'Strengthen the means of implementation' and especially in target 17.18: 'by 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing states, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in the national context.

- **Better cost estimates and tracking of investments for nutrition** need comprehensive and costed national nutrition plans that include monitoring and reporting. Government accountability for improving nutrition is linked to comprehensive costed action plans and improved financial tracking of nutrition-specific and nutrition-sensitive investments and their results across sectors. For this end, common results frameworks that align stakeholders across nutrition-relevant sectors should include a costed national monitoring plan than can measure and account on results for nutrition.

- **Urgent, well-funded and government owned national platforms that bring together nutrition-related information from key sources** are essential to monitor progress in nutrition. Achieving improved nutrition means putting nutrition sustainability at the core of the human development agenda.

ANNEXES

ANNEX 1

Rational for the WHA targets in the SDGs

Stunting in children under five years of age

Stunting and wasting reduction as included in the SDG2 target 2.2 should be maintained. Childhood stunting remains one of the world's most fundamental challenges for improved human development and it is a risk factor for overweight and obesity later in life. The majority of stunted children (56%) live in Asia and over one third (36%) live in Africa. Specifically, stunting before age two predicts poorer cognitive and educational outcomes in later childhood and adolescence and has important education and economic consequences at the individual, household and community levels as well as for whole nations. The economic cost of undernutrition has been estimated at 2-3% of global GDP (World Bank 2006), and can go much higher for individual countries (African Union et al, Cost of Hunger Report in Africa, 2014). It has been estimated that stunted children earn 20% less as adults compared to non-stunted individuals. And in World Bank estimates, a 1% loss in adult height due to childhood stunting is associated with a 1.4% loss in economic productivity [54-56] [57].

Wasting in children under five years of age

Addressing wasting is of equal critical importance because of the increased risk of disease and death for children who lose too much of their body weight. It will be difficult to continue improving rates of child survival without improvements in the proportion of wasted children receiving timely and appropriate lifesaving treatment, alongside reductions in the number of children becoming wasted in the first place. The majority of wasted children (69-71%) live in Asia and just over one quarter (28%) live in Africa.

Countries need to examine inequalities among populations and identify for priority action particular vulnerable or marginalized groups where large numbers of wasted children cluster. Such an equity-inspired approach is both an ethical imperative and a judicious investment strategy. It is estimated that globally less than 15% of wasted children are currently being reached by treatment services and in some countries this percentage is considerably lower. These statistics are of serious global concern given the well-established link between wasting and mortality. Wasting and stunting, in particular, share common direct and underlying causal factors and preventative services tackling these causes are therefore likely to impact both conditions.

Childhood overweight

The SDG target 2.2 refers to all forms of malnutrition, which includes also overweight and obesity. The prevalence of childhood overweight is increasing in all regions of the world. In some countries, the epidemic of overweight and obesity exist alongside continuing problem of undernutrition and micronutrient deficiencies. In 2012, the overweight prevalence in children under 5 years of age was highest in Southern Africa (18%) and Central Asia (12%). Childhood overweight and obesity increases the risk of diet related non-communicable diseases (NCDs), premature death and disability in adulthood. The driver of childhood overweight and obesity, are especially the promotion of over-consumption of unhealthy diet and low physical activity. Governments' policies in agriculture and food systems need to address the availability, accessibility and acceptability of healthy food. The ICN2 has addressed this in particular.

There has been an increasing recognition among the global public health community as well as national governments in many parts of the world of the need to develop effective strategies for preventing and controlling childhood overweight and obesity [58]. This has led the World Health Assembly to set a target in 2012, aiming to achieve no increase in childhood overweight by 2025. The

World Health Assembly also established a target of no increase in adolescent and adult obesity by 2025. Furthermore, to accelerate WHO's efforts in addressing the crisis of childhood overweight and obesity, WHO's Director-General has also established a high-level Commission on Ending Childhood Obesity (ECHO) in May 2014. Given the dimension of the problem and its economic implications affecting all parts of the world, this WHA target needs to be incorporated in the SDGs framework.

Anaemia in women of reproductive age

The language in the SDG target 2.2 suggests that there is space for more targets, especially addressing the nutritional needs of adolescent girls and women. Anaemia in women reduces their physical performance and work capacity, and thus has negative impacts on national economies and development. Anaemia affects half a billion women of reproductive age worldwide. In 2011, 29% (496 million) of non-pregnant women and 38% (32.4 million) of pregnant women 15-49 years of age were anaemic. The prevalence is highest in south Asia and central and west Africa confirming the inequitable distribution of this condition. While the causes of anaemia are variable, it is estimated that half the cases of anaemia are due to iron deficiency. Failure to reduce anaemia consigns millions of women to impaired health and quality of life, generations of children to impaired development and learning, and communities and nations to impaired economic productivity and development. Maternal anaemia is associated with mortality and morbidity in the mother and infant, including risk of miscarriages, stillbirths, prematurity and low birth weight.

Exclusive breastfeeding

Achieving the above mentioned targets is obviously linked to optimal infant and young child feeding including breastfeeding. Breast milk provides all the energy and nutrients that infants need during the first six months of life. Exclusive breastfeeding during the first six month is highly protective of childhood mortality due to common childhood illnesses, such as diarrhoea and pneumonia, and it contributes to quicker recovery from illness. Breastfeeding furthermore promotes long-term health for both mother and child, including the child's sensory and cognitive development. In addition, it reduces the risk of childhood obesity and non-communicable diseases in later life. Increasing rates of exclusive breastfeeding will thereby contribute toward achievement of the other WHA global nutrition targets and is critical to include in the SDGs framework [59].

Low Birth Weight

The low birth weight (LBW) rate, the number of newborns with a birth weight <2500g, is the most commonly used indicator of fetal growth. It allows to make comparisons across populations, propose actions and define targets for improvement of fetal growth. It remains a challenge in most parts of the world to measure fetal and newborn body size and gestational age at birth accurately as this needs close monitoring of pregnancy and birth events by a health care system that is able to incorporate appropriate technology and with the human resources to support it. Thus, clinicians and researchers traditionally have relied on simpler indicators of newborn size as a proxy for fetal growth, without considering gestational age such as the low birth weight (LBW) rate [60].

Overall, it is estimated that 15 to 20% of all births worldwide are low birth weight, representing more than 20 million births a year. Although there is considerable variation in the prevalence of low birth weight across regions, the great majority of low birth weight births occur in developing countries [61,62].

Low birth weight, due to intrauterine growth restriction or prematurity, contributes to prenatal and neonatal mortality and morbidity, stunting, impaired cognitive development, and chronic diseases in later life. Low-birth-weight infants are approximately 20 times more likely to die than heavier infants. At population level, the proportion of infants with a low birth weight is an indicator of a multi-faceted public health problem that includes long-term maternal malnutrition, ill health, hard work and poor health care in pregnancy.

ANNEX 2

Data collection systems for nutrition measurement

Population-based household surveys

Demographic and Health Surveys (DHS)[63], Multiple Indicator Cluster Surveys (MICS)[64], Living Standard Measurement Surveys and other nationally representative demographic and health surveys measure child anthropometry, child health (e.g. diarrhoea episodes as reported by the mother), birth history, infant and young children feeding practices, and in some surveys anaemia in women and/or children.

Strengths are that these household surveys measure validated indicators using standardized questionnaires and procedures, producing high quality, accurate data, from large probability-based samples which are comparable over time and across countries where they are periodically conducted. Survey results are nationally representative, but with disaggregation by age, gender, geography (by province-level), income and socio-economic groups, livelihood, education etc. allowing assessment of (in-) equities and identification of population groups for intervention targeting.

Disadvantages include the periodic nature, which makes these surveys less suitable to inform real-time program implementation and decision-making. Interpolation of time trends from 3- to 5-yearly surveys into annual outcomes requires sophisticated modelling and estimation (such as done by WHO, UNICEF and the Institute for Health Metrics & Evaluation). These surveys are conducted regularly in many low- and middle-income countries, but not generally in high-income countries, which paradoxically therefore sometimes have less, or less standardized data on key ((health and nutrition)) indicators. The strong international support and drive behind these surveys (from USAID for DHS, and from UNICEF for MICS), with limited scope for tailoring to local interests and needs, has tended to lower country ownership. Finally, outcomes for indicators with seasonal variation, such as food availability, diet intake, prevalence of wasting and diarrhoea, will be influenced by the season in which the survey is conducted (in DHS mostly, but not always, the dry season), which may confound assessment of time trends between subsequent surveys.

DHS and MICS may offer opportunities for more systematic inclusion of for example anaemia assessment (in women and children), or possibly for a women's diet module to complement the useful module on infant and young child feeding, rolled-out since 2010 based on the WHO's indicator and measurement guidelines [25]. Similarly, Living Standard Measurement Surveys may provide opportunity to expand indicators of dietary quality and nutrition outcomes. Other important surveys of this type include CDC series on reproductive health surveys (RHS), and WB living standard measurement surveys (LSMS).

Nutrition surveys

Dedicated nutrition surveys are a common source of data for prevalence child growth, breastfeeding, anaemia and other micronutrient deficiencies, individual dietary diversity and quality, and food consumption. In principle, these surveys share advantages and disadvantages with demographic and health surveys. In practice, however, micronutrient surveys typically are not as standardized and do not produce the same quality of data and analysis – lacking the internationally standardized tools and guidelines, as well as the external technical assistance that DHS and MICS benefit from.

If alternating in time with DHS and/or MICS, and if using the same indicators, sampling methods and questionnaire modules, national nutrition surveys can usefully complement those more general surveys to refine time trend estimates for stunting, wasting and other key nutrition outcome indicators. An example is the Standardized Monitoring & Assessment of Relief & Transitions (SMART) surveys

that measure food security and nutrition situation, including child anthropometry, during and after humanitarian crises [65].

Increasingly, nutrition household surveys are also being used to measure population coverage of large-scale staple food fortification and/or mother-child targeted micronutrient supplementation interventions during program scale-up [66,67]. These population-based coverage estimates, disaggregated by targeting criteria (such as rural & poor), are invaluable to complement and triangulate with programmatic data on production and distribution of fortified foods or supplements.

To improve measurement of micronutrient biomarkers, nutrition surveys could benefit from improved guidance on preferred measurement methods and devices (that preferably measure multiple micronutrients at once), from standardization of measurement and analysis methods, definitions and cut-offs, and from support by national and regional laboratories affiliated to external quality control programs [6].

Routine nutrition surveillance

Routine public health sector-led nutrition surveillance, if of adequate coverage, completeness and reliability, can generate important data on the burden of acute malnutrition (wasting) and its management; on coverage and outcomes of facility-based and community-based monitoring of child growth; and on the coverage of nutrition interventions such as iron and folic acid supplementation for pregnant women, and breastfeeding promotion.

Being collected continuously over time (with quarterly or monthly reports), and across a large number or all facilities, routine surveillance has the greatest power of all data collection systems to immediately and practically inform program adaptation at the sub-national level.

In a recent study, only 31 developing countries were identified that had any system of national nutrition surveillance – with varying approaches, scope, indicators and effective use for nutrition programming [42]. This might be an underestimate though as many countries do keep some records about treatment of acute malnutrition within their broader health information system, but these data are often incomplete and of uncertain quality. In addition, other countries established extensive systems, mainly in Latin America and the Caribbean, (so-called Sistema de Vigilancia Alimentaria y Nutricional [Food and Nutrition Monitoring System]), that collect and use their surveillance data [68]. Sometimes nutrition surveillance is established during emergencies and humanitarian situations, but not sustained as a permanent structure to track progress over time. Some countries implement sentinel surveillance in selected, small-scale sites; this can be an interim solution during a longer-term transition to functioning national nutrition surveillance.

Strengthening routine nutrition program surveillance is critical for monitoring needs and coverage of nutrition-related interventions. In addition, broader health and information system strengthening will need to continue, over longer terms, in order to improve surveillance of other nutrition-related targets such as the reduction of low-birth weight [69].

Annex 3: Measurement systems and current data tracking status for the proposed SDGs nutrition targets

Indicator	Indicator definition*	Measurement system	Measurement & interpretation
(Reduce) **Stunting in children under-5** years and/or under-2 years [$+]	Proportion of children with Height-for-Age < -2 standard deviations of the WHO child growth standards median.	DHS, MICS & other household surveys, used in UNICEF/WHO /WB trend estimates.	• Stunting in children <2 years (1000-day window of opportunity) is more sensitive and quickly responding to intervention impact than in children <5 years. • Wasting fluctuates seasonally and with socio-economic events; survey-based prevalence measures do not pick up the full burden of incident cases. → Methods should be developed to estimate countries' long-term wasting trends. • Quality of measurements depends on training and quality control; possibly less in DHS than in dedicated nutrition surveys [70]. • Comparability of results depends on cut-offs and protocols applied to correct and clear outliers. • 2014: 109 and 123 countries qualified as on/off track for country-specific WHA stunting and wasting targets, respectively [71].
(Reduce) **Wasting in children under 5 years** and/or under-2 years [$+]	Proportion of children with Weight-for-Height < -2 standard deviations of the WHO child growth standards median.	DHS, MICS & other household surveys, used in UNICEF/WHO /WB trend estimates	
(No increase) **Overweight in children under 5 years** [$+]	Proportion of children with Weight-for-Height ≥ -2 standard deviations of the WHO child growth standards median.	DHS, MICS and other surveys, as BMI-for-age Z-score, used in UNICEF/WHO /WB trend estimates	• 2014: 107 countries qualified as on/off track for country-specific WHA target [71].
(Reduce) Prevalence of **anemia in women** [$+]	Proportion of: • Non-pregnant women, age 15-49 years: haemoglobin <12 g/dL. • Pregnant women: haemoglobin <11 g/dL.	Selected DHS & micronutrient surveys, used in WHO trend estimates Model data currently used in tracking tool	• Anemia has many causes (malaria, worm disease, etc.); so not always sensitive and responsive to nutrition interventions. Children under 2 years would have priority to monitor, as the group with most potential benefit from, and most sensitive response to nutrition interventions. • Collected in some, not all DHS & countries; more often for children than for women. • Varying measurements & definitions necessitate complicated modelling; resulting estimates may not be considered meaningful or credible at country-level. • 2014: 185 countries – based on model estimates, not direct data -- qualified as on/off track for country-specific women's anemia WHA target [71].
(Increase) Prevalence of **exclusive breastfeeding** [$+]	Proportion of infants aged 0-5 months who are fed exclusively on breast milk.	DHS & MICS	• Mother self-reported, subject to recall bias • WHO's definition of 'on track' for country-specific WHA target [71] adopted in May 2014. • 2014: 112 countries; UN agencies harmonizing data.
(Decrease) **Low Birth Weight** [$+]	Proportion of infants born with birth weight <2500 grams	Routine surveillance/ administration; DHS, MICS, joint project (UNICEF/WHO/Academia)	• Multi-causal, so less immediately sensitive and responsive to nutrition interventions. • Most births in low & lower-middle income countries are not weighted, definitions are non-standard, mothers' recall is not reliable and suffers from age heaping, so data need time-varying model-based adjustments [6,43]. Long-term process to improve country data.

Indicator	Indicator definition*	Measurement system	Measurement & interpretation
		currently looks into used of these in trend estimates	• Definition of 'on track' rule for country-specific WHA target is pending. • UNICEF, Johns Hopkins University and London School of Hygiene and Tropical Medicine are reviewing data and adjustment methods, and may revise estimation methods resulting in a new time series [6].
(Increase) Prevalence of **Minimum Dietary Diversity, for children 6-23 months** [$+]	The proportion of children who consumed, during the past 24 hours, at least the minimum dietary diversity, which for non-breastfed children includes ≥2 milk feedings.	DHS, some MICS & micronutrient surveys (27 countries, 2010-13), collated by WHO	While validated as indicator of individual-level adequacy of complementary feeding and micronutrient intake, not yet tested for cross-country comparison.
(Increase) Prevalence of **Minimum Dietary Diversity** for **women**	• Proportion of women 15-49 years who consumed, during the last 24 hours, a minimum ≥5 out of 10 food groups [26].	Nutrition surveys – currently few.	• Requires qualitative 24-hour dietary recall, by specially trained data collectors. • While validated as an indicator of individual-level diet and micronutrient quality, not yet tested for cross-country comparison.
(Reduce) Proportion of people **under-nourished** [+]	(Relative shortage in) Dietary energy available from food, divided by populations' minimum energy requirement	National Food Balance sheets, collated by FAO	• National aggregates only. • With 2-5-yearly collection, not sensitive to shocks & rapid changes. • Despite FAO's 2012 revision of cut-offs and prevalence estimates, needs further validation, and/or complementing with alternative food security indicators [72]. • 2012: 94 countries.

* Sources: page 106-10 of [73] & [74].

[$] Indicator included in the International Health Partnership / WHO global core indicator list [16]

[+] Indicator included in the Global Nutrition Report's country profile of indicators selected on their relevance in improving nutrition outcomes [74].

Colour coding:

Green: Indicator routinely measured in most countries, and progress against WHA target tracked at country-level;
Brown: Indicator with measurement and/or tracking issues to solve.

Annex 4: Coverage indicators of nutrition-specific interventions (based on Bhutta et al, Lancet 2013) for country level program monitoring

Indicator	Rationale and Global targets and commitments	Measurement systems	Measurement and interpretation issues
Promoting early and exclusive breastfeeding	• Nutrition for Growth Compact	Surveillance (currently N/A)	DHS and MICS measure prevalence of (resulting desired) practices: early breastfeeding initiation, exclusive breastfeeding and continued breastfeeding
Promoting improved complementary feeding		Surveillance (currently N/A)	
Vitamin A supplementation for children 6-59 months, 2 x high-dose within the last year	• IHP+/WHO global CORE health indicator.	DHS, MICS and routine surveillance, collated by UNICEF	2014: National coverage data for 62 countries
Therapeutic zinc for treatment of diarrhea	• SDG3 • IHP+/WHO global ADDITIONAL health indicator.	DHS & other national surveys	Some countries have data, but few have nationally representative data.
Preventive zinc supplementation for children			No national programs yet
Management of moderate acute malnutrition (MAM)	• Nutrition for Growth Compact. • IHP+/WHO global ADDITIONAL health indicator.	Surveillance; coverage surveys	• MAM: No programs exist yet at scale. WFP will pilot MAM coverage definitions in some countries in 2015. • SAM: Direct coverage estimates (based on observed admissions, and burden in clinics' catchment population) are preferred, but currently only available at sub-national levels, and of variable quality and comparability [6].
Management of severe acute malnutrition (SAM)	• Nutrition for Growth Compact. • IHP+/WHO global ADDITIONAL health indicator.	Surveillance; coverage surveys	
Households consuming adequately **iodized salt**	• SDG2 & 3 • IHP+/WHO global ADDITIONAL health indicator.	DHS, MICS & other national surveys	2014: National coverage data for 128 countries [75]
Iron-folate supplementation (minimum 90 days) for pregnant women	• IHP+/WHO global ADDITIONAL health indicator.	DHS; since 2003 80 countries with data	• Requires standardization of definitions. • Some complementary data on coverage with iron/folate-fortified staple foods from the *Flour Fortification Initiative.*
Multiple micronutrient supplementation for pregnant women		Surveillance (currently N/A)	No national programs yet

Indicator	Rationale; Corresponding SDG and Global targets and commitments	Measurement systems	Measurement and interpretation issues
Calcium supplementation for pregnant women		Surveillance (currently N/A)	Few programs yet exist
Balanced **energy + protein supplementation** for pregnant women		Surveillance (currently N/A)	No validated indicator definition and data collection method yet.

* Essential nutrition-specific interventions proven effective for improving maternal and/or child nutrition, based on [9].
For indicator definitions and global databases, see http://www.unicef.org/publications/files/Nutrition_Report_final_lo_res_8_April.pdf (page 106-10), [76][59][58] and [72].

Colour coding:
Green: Indicator routinely measured in most countries and tracked at country-level;
Brown: Indicator with measurement / tracking issues to solve to enable routine measurement and use for SDG accountability;
Blue: Optional indicator, for which routine, reliable measurement in most countries not current and not foreseen in short term.

Annex 5: List of Abbreviations

BMI	Body Mass Index
DHS	Demographic and Health Surveys (supported by USAID)
FAO	UN Food & Agriculture Organization
IHP+	International Health Partnership
LSMS	Living Standard Measurement Study
MAM	Moderate Acute Malnutrition
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MICS	Multiple Indicator Cluster Surveys (supported by UNICEF).
MQ-SUN	Maximizing Quality in Scaling Up Nutrition
N/A	Not applicable
SDG	Post-2015 Sustainable Development Goal
SMART	Specific, measurable, achievable, relevant and time-bound (as indicator criteria)
SMART	Standardized Monitoring & Assessment of Relief & Transitions (as survey methodology)
Nutrition-specific	Addressing the immediate determinants of (mal-)nutrition
Nutrition-sensitive	Addressing the underlying causes of malnutrition
SAM	Severe Acute Malnutrition
UN	United Nations
UNICEF	United Nations' Children Fund
USAID	United States Agency for International Development
WHA	World Health Assembly
WHO	World Health Organization

N.B. For indicator definitions, see Annexes 3 & 4.

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UNITED NATIONS SYSTEM

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