

Introduction

1. The Scaling Up Nutrition (SUN) Movement is dedicated to alleviating malnutrition in all its forms. The Movement is led by 35 countries committed to advancing health and development goals through improved nutrition. SUN countries have their own approaches to scaling up nutrition, based on their nation's unique needs and opportunities. As countries establish national plans and prioritize their investment in nutrition, global stakeholders align resources and capacity to advance national goals. National plans act as a reference for pledges by external investors who develop their own investment instruments to meet shortfalls.
2. While there is strong evidence to show the economic and development benefits of reducing malnutrition—current funding, capacity and resources are insufficient to meet the need. One of the four strategic objectives of the SUN Movement is to increase resources directed towards coherent, aligned and country-led approaches to scaling up nutrition. It does this through adopting two approaches: rapid scaling up of specific nutrition interventions of proven effectiveness; and implementation of sectoral strategies that are nutrition-sensitive, such as advancing agriculture, empowering women or improving water/sanitation, which play a critical role in ensuring sustainable improvements in nutrition.
3. The SUN Movement is committed to supporting actions that will result in mobilisation of resources: **analysing the costs** of scaling up nutrition; **aligning investments** behind country plans; **tracking domestic and external resources** for nutrition; **establishing the financing gap**; **mobilizing additional resources** for nutrition from within and outside SUN countries and **demonstrating results** from this collective effort.
4. In 2010, the World Bank adopted a theoretical method to estimate the global cost of scaling up nutrition. The calculations were confined to specific nutrition interventions where there was proven evidence of impact. These were set out in the 2008 *Lancet* Series on Maternal and Child Under-Nutrition and in the 2010 SUN Framework. There was no attempt to estimate the costs of nutrition-sensitive approaches. A similar method was adopted by the SUN Movement Secretariat to estimate the cost of scaling up nutrition in 35 SUN countries. By taking the unit costs of each of 10 specific nutrition interventions and adjusting these unit costs to the size and needs of the population group being served, an overall cost was calculated. The estimated annual cost for the package of 10 specific nutrition interventions for 35 SUN countries was calculated as US\$ 6.79 billion or the equivalent of 0.33 per cent of these countries' collective Gross Domestic Product. An estimated 41 per cent of the total is for programmes to manage acute malnutrition and 59 per cent is focused on preventative measures.
5. The estimates based on theoretical costs of scaling up nutrition make a significant contribution – helping to frame the total size of the resources required. In order for countries to secure the resources needed to implement their own national nutrition plans, however, a pragmatic approach needs to be taken with cost estimations tailored to individual country contexts and priorities.
6. The SUN Movement Secretariat has been working with SUN Countries to analyse the costs of national nutrition plans. A total of 16 SUN countries have participated to date and it is expected that other countries will soon follow. This exercise is the starting point for a longer process of

working with SUN countries to mobilise resources. It is the beginning of a ‘conversation’ between SUN country governments and development partners to understand the basis on which countries calculate their nutrition costs; how they track funding sources – both from the government and from outside government; and how they estimate the financial gap. As understanding about the implementation and costing of nutrition-specific and nutrition-sensitive strategies increase, SUN countries will refine their nutrition plans and update costs. This paper reports on the findings of the first step in this longer engagement with SUN countries: understanding the basis for SUN country calculation of nutrition costs. The figures will change over time as SUN countries refine their plans and revise costs accordingly.

Costs of National Plans to Scale Up Nutrition

7. There are currently 35 countries in the SUN Movement. Some of these have not yet completed their costed national plans or have newly joined the Movement. In the period March-April 2013, the SUN Movement Secretariat worked with 16 SUN countries to analyse and compare the costs of national plans. In addition, visits were undertaken to six of the 16 countries (*Bangladesh, Kenya, Madagascar, Mozambique, Nepal and Sierra Leone*) in order to gain a better understanding of how countries had costed their plans and what elements were or were not included. The content and costs of the 16 plans were not revised in any way. Instead the exercise sought to present the existing content of the plans in a way that highlighted the allocation to key elements of the plans, and identified the areas where resources were lacking. By breaking down each plan into its core component elements and re-categorising all planned activities and inputs within a set of 3 broad categories – nutrition specific actions; nutrition sensitive sectoral strategies; and governance SUN country governments and development partners can better assess and compare needs with existing resources.

Box 1: Countries Participating in the Costing Exercise with Time Period of Plan

1. Benin (2012 – 2015)
2. Burkina Faso (2010 – 2015)
3. Kenya (2013- 2017)
4. Madagascar (2012 – 2015)
5. Mozambique (2011 – 2015)
6. Nepal (2013 – 2017)
7. Rwanda (2012; 2013 under revision)
8. Sierra Leone (2012 – 2016)
9. The Gambia (2011 – 2015)
10. Uganda (2012 – 2016)
11. Yemen (2013)
12. Bangladesh (2011 – 2015)
13. Tanzania (2012 – 2016)
14. Haiti (2013-2017)
15. Malawi (2012-2016; costed 2009-2011)
16. Senegal (2012-2016)

8. Of the 16 costed plans, 13 cover four to six year planning periods and fall within a timeframe that spans from 2010-2012 to 2015-2017. The exceptions are Malawi, Rwanda and Yemen. See **box 1**.

9. The three broad categories and their sub-categories used to classify the 16 plans are shown in **box 2**. The costs for each sub-category cover the full costs of delivering a particular intervention (i.e. assuming existing coverage levels are zero) and include the costs of capacity development such as training additional staff, programme management.

Box 2: Categories and Sub-Categories of National Plans to Scale Up Nutrition

- 1. Specific nutrition actions** refer to all interventions included in the 2010 SUN Framework, based on the 2008 *Lancet* Series on Maternal and Child Under-nutrition. Specific nutrition actions target mostly women and children and are grouped into:
 - *Good nutrition practices*, including maternal, infant and young child feeding (IYCF) and healthy diet.
 - *Vitamin and mineral intake*, including supplementation and fortification.
 - *Acute malnutrition management*, including severe and moderate acute malnutrition.
 - *Enrichment of the diet nutrient density* of young children (6-23 months of age) and pregnant and lactating women.
- 2. Nutrition-sensitive sectoral strategies** address the underlying causes of poor nutrition and complement specific nutrition actions. The strategies are implemented through a range of sectors and target different groups of people. These interventions are grouped into:
 - *Food security (this includes agriculture, food systems and social protection)* strategies that increase availability of, and people's access to, nutritious foods.
 - *Care environment*: strategies designed to empower women so that they are better able to provide appropriate nutritional care to their households – especially to themselves and their children.
 - *Health, water and sanitation*: strategies that improve access to health services (including those for reproductive health, drinking water and sanitation facilities).
- 3. Governance** refers to all interventions aimed at strengthening national and sub-national capacity to bring together stakeholders and to enable them coordinate effectively. Governance actions are grouped into:
 - *Coordination and information management*.
 - *Advocacy, communication and policy development*.
 - *System capacity building*, which aims to increase capacity at different levels for overall coordination, policy development, planning, budgeting, information management (monitoring, evaluation and data analysis), advocacy and communication.

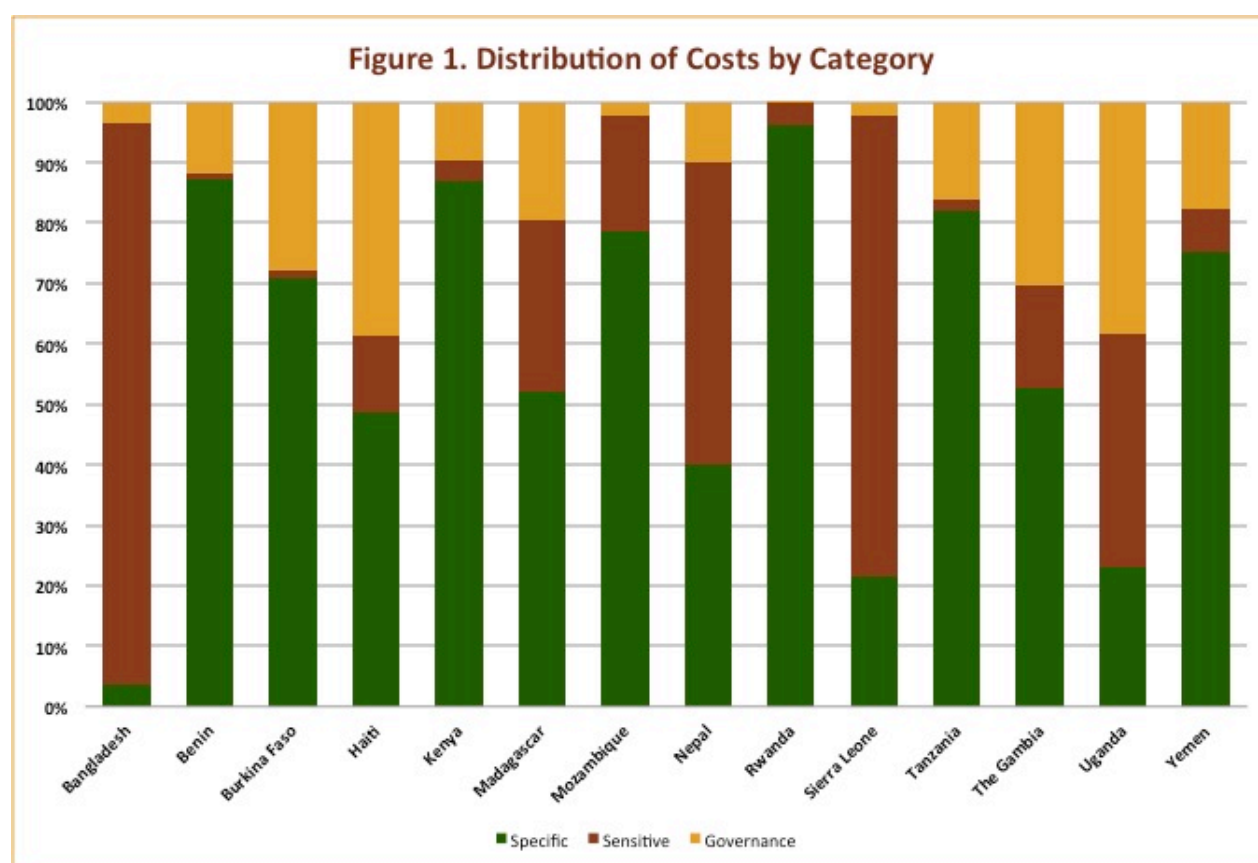
Overview of National Plans to Scale Up Nutrition

10. The total cost of the 16 National Plans to Scale Up Nutrition spanning a timeframe 2010-2012 to 2015-2017 is **\$12.5 billion** equivalent to \$2.7 billion per year. The total figure is reduced to \$4.5 billion when the \$8 billion cost of Bangladesh's plan to support nutrition-sensitive food systems is taken out. In general, however, costs remain relatively low. In 12 of the 16 plans, the per capita annual cost is lower than **US\$3.5**.
11. **Figure 1** shows how total costs are distributed across the three categories: specific nutrition interventions, nutrition-sensitive strategies and governance, in each country. The graph in figure 1 reflects the diversity of the plans and how different countries have prioritized different elements. The uniqueness of each country plan reflects the differences in national context and government priorities. It highlights differences in the degree of investment from national and external sources.

Box 3: Prioritising Categories: Kenya and Sierra Leone

Kenya's nutrition plan has deliberately focused on interventions that fall under the mandate of the Ministry of Health, which is largely responsible for the delivery of specific nutrition interventions. The Government of Kenya views the scaling up of nutrition-specific interventions as a major priority. Nutrition-sensitive strategies are being pursued through other sectors in Kenya and fall under the mandate of other Ministries. The Government is currently calculating these costs so that a comprehensive total cost for scaling up nutrition can be estimated. The Government of Sierra Leone has taken a different approach. It recently produced its Food and Nutrition Security Policy with a strong focus on food security. The distribution of costs is therefore heavily skewed to nutrition-sensitive approaches.

12. In many of the plans, the cost for the entire period of the plan has been broken down by year. These annual costs tend to be similar across the years and do not take into account changes expected through increased coverage of programmes and the potential impact in terms of reduced malnutrition rates associated with scaling-up.



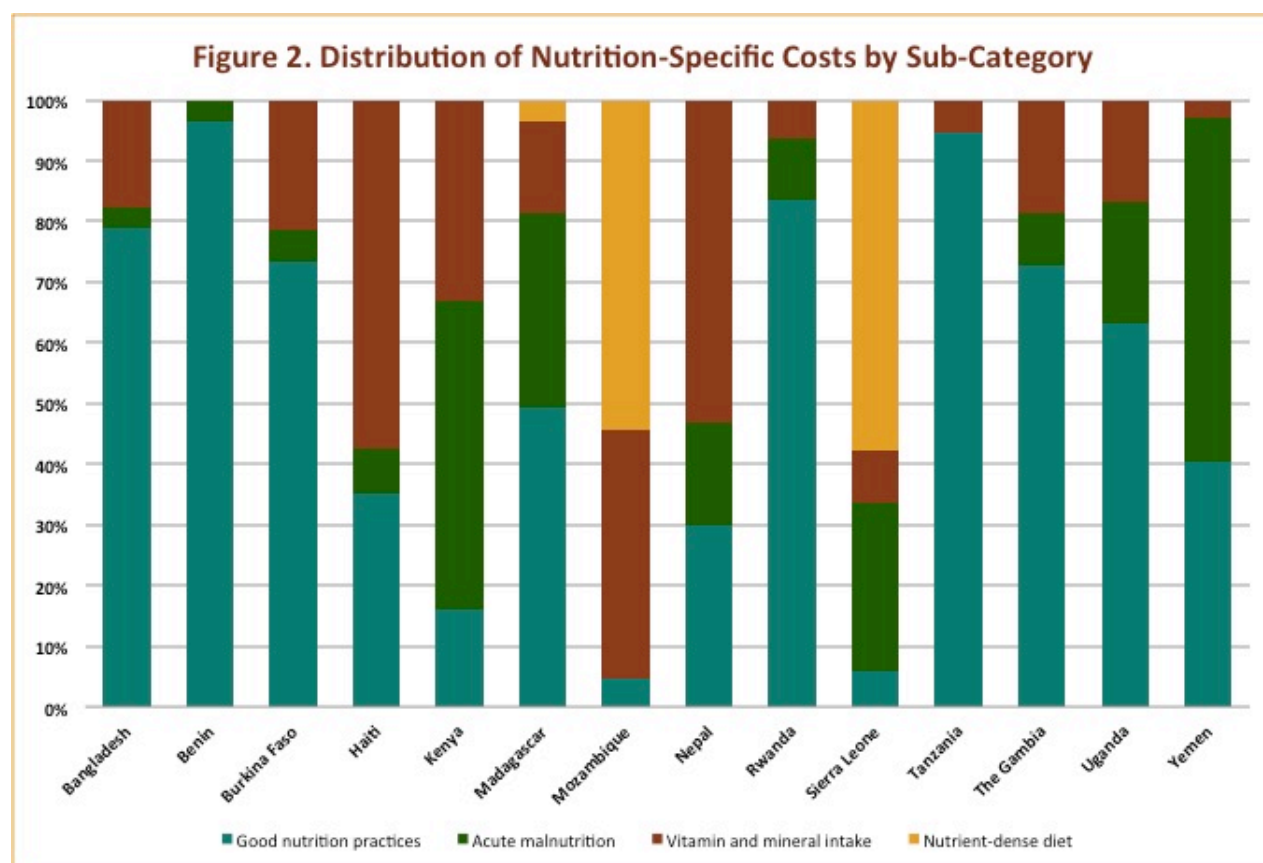
Note: The detail of breakdown for Malawi and Senegal has not been included in this graph as these countries are in the process of revising some costs.

Overview of Costs of Nutrition-Specific Interventions

13. **Figure 2** shows the distribution of nutrition-specific costs by sub-category. All national plans include specific nutrition actions encouraging both good nutrition practices (e.g. optimal breastfeeding and complementary feeding, hand washing and nutrition education) and improved vitamin and mineral intake. There are variations in terms of scale of interventions and target population. Several plans do not include the costs relating to the management of acute malnutrition or enriching the nutrient density of diets consumed by young children, pregnant and breastfeeding women. There are several reasons for these omissions. Countries may assume estimate costs.

14. In total over the time period 2010-2012 to 2015-2017, around **\$2.5 billion** is for specific nutrition actions in the 16 costed plans with the following break-down:

- **\$1.1 billion** for the promotion of good nutrition practices.
- **\$555 million** for vitamin and mineral intake, including supplementation, fortification and de-worming.
- **\$542 million** for acute malnutrition management.
- **\$249 million** for provision of fortified complementary foods for young children and pregnant and lactating women. This intervention is included by three countries, Mozambique (annual average cost of \$35 million) Madagascar (annual average cost of \$560,000) and Sierra Leone (annual average cost of \$14 million).



Note: The detail of breakdown for Malawi and Senegal has not been included in this graph as these countries are in the process of revising some costs.

Good nutrition practices

15. The annual average cost across the 16 plans for the promotion of good nutrition practices is \$22 million. This means that on average, the cost of promoting good nutrition practices was calculated as \$22 million with variations between countries due partly to the size of the target population. The highest costs are in Bangladesh (\$52 million), Yemen (\$54 million), Rwanda (\$74 million) and Tanzania (\$82 million).
16. Good nutrition practices are described in more detail in **box 4** and include interventions grouped into three sub-categories:
- Maternal and Infant and Young Child Feeding (IYCF) that account for a total of \$508 million (annual average \$148 million).
 - Healthy Diet that account for a total of \$508 million (annual average of \$105 million).
 - Unclassified (inseparable between IYCF and Healthy Diet) that account for a total of \$164 million (annual average of \$91 million).

Box 4: Good Nutrition Practices

The Maternal and IYC Feeding sub-category includes three key interventions: (1) promotion of optimal breastfeeding (exclusive for six months and continued up to two years and beyond); (2) promotion of adequate complementary feeding between six and 23 months of age; and (3) hand-washing. In addition, it includes actions to promote, support and protect key feeding practices for mothers and children. These are the implementation of legislation such as the Code of Marketing of Breast-Milk Substitutes and Maternity Leave as well as Baby Friendly Facilities and/or Hospital Initiatives, the Child Friendly Community Initiative and other community-based programmes that combine child growth monitoring with promotion. Nutrition education for women of reproductive age, and for pregnant and breastfeeding women, and hygiene and hand-washing are also covered in this sub-category.

The Healthy Diet sub-category includes promotion of healthy feeding practices and lifestyle. It covers different types of nutrition education activities within schools, communities and households. Although it targets mostly school children and adolescents, the wide range of people that are addressed through education reflect the priority of governments to promote healthy nutrition as a whole-of-society approach. Activities included in this sub-category are broadly aimed at preventing over-weight, obesity and non-communicable diseases.

Note: The detail of breakdown for Malawi and Senegal has not been included in this graph as these countries are in the process of revising some costs.

Vitamin and Mineral Intake

17. The annual average cost across 16 plans for vitamin and mineral intake is \$8.47 million. The highest costs are in Mozambique (\$26 million) and Kenya (\$47 million).

Box 5: Vitamin and Mineral Intake

Most countries include at a minimum vitamin A supplementation, de-worming, and iron and folic acid supplementation. Many countries include food fortification, salt iodization and the provision of micro-nutrient powders for young children (though not for pregnant and breastfeeding women). Some countries include zinc treatment for diarrhoea.

18. It is difficult to breakdown costs of specific components within the vitamin and mineral intake category. Since these interventions are delivered through the health system, supporting activities such as training, guideline development and procurement are combined and are not disaggregated for vitamin A, de-worming or pre-mix fortification.

Acute Malnutrition Management

19. The annual average cost across 16 plans for acute malnutrition management is \$15 million. The highest costs are in Kenya (\$73 million per year) and Yemen (\$76 million per year). Most country plans address the management of both moderate and severe acute malnutrition. Support activities such as training, supervision, guideline development and procurement are bundled together without distinguishing between severe and moderate acute malnutrition.
20. The overall cost for acute malnutrition management is low, however, particularly in countries that have a high wasting prevalence. Out of the \$542 million for acute malnutrition management, \$364 million is for Kenya alone (in a five year plan including an emergency nutrition component) and \$76 million is for Yemen (in a one year plan).
21. One possible explanation for the lower than expected costs in this area is that projections for scale up are limited. Further assessment is necessary to understand if and how structures and resources are expected to expand with increased coverage. In some countries, management of acute malnutrition may be seen as the responsibility of international actors during emergencies and therefore is not included in country costed plans. Further analysis and work with countries will assist in determining if plans underestimate acute malnutrition management.

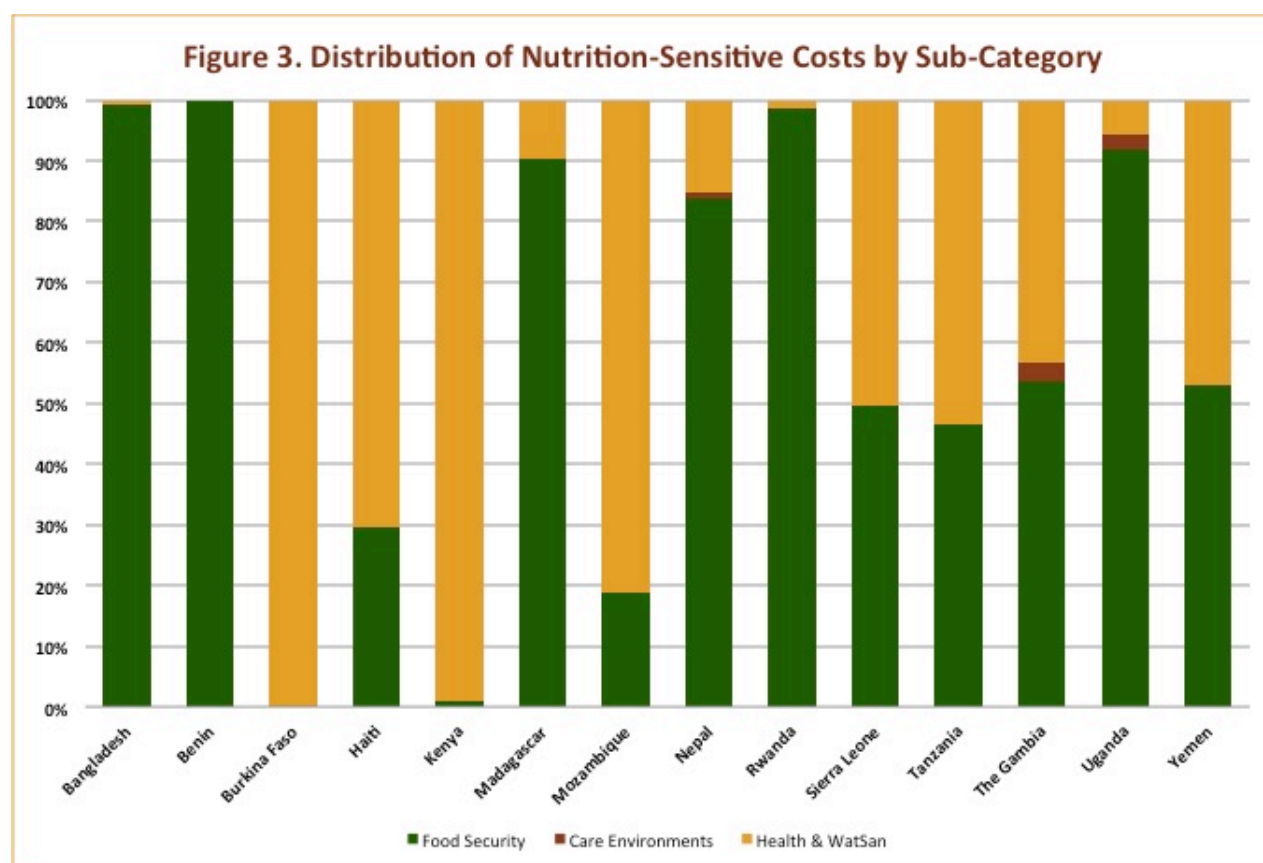
Enhancement of the nutrient density of the diet of young children and pregnant and lactating women

22. Three country plans (Sierra Leone, Madagascar and Mozambique) include the diet enrichment of young children and pregnant and lactating women through the provision of fortified supplements in areas with the highest burden of chronic under-nutrition. This is highlighted in **figure 2**. Surprisingly, this sub-category is absent from the majority of plans. Most country plans address the availability and accessibility of nutritious food through nutrition-sensitive interventions in agriculture and social protection without necessarily targeting the groups that have the highest nutritional requirements, namely women and young children.

Overview of Costs of Nutrition-Sensitive Strategies

23. The majority of the 16 plans include nutrition-sensitive sectoral strategies, mostly in the domain of food security and agriculture, public health and improved access to water and sanitation. In Nepal, Uganda, Madagascar and Mozambique, nutrition-sensitive approaches are including in the national nutrition plans but estimating the costs and securing the resources to implement these approaches requires buy-in from the responsible Ministers and senior government officials. In the case of Bangladesh and Sierra Leone, the costing of the nutrition-sensitive components is derived by combining inputs from national agriculture and health plans.

24. Ideally, countries establish a single expected set of nutrition-focused results that applies to all sectors (often referred to as a common results framework) and that can be used to map out and link costs across different sectoral budgets. This is the approach that has been pursued in Nepal, Sierra Leone and Bangladesh. The resulting combined plan does not reduce the focus on specific nutrition actions but alters the proportional distribution of costs between the three different cost categories. By developing a common results framework, different plans can be linked, which will facilitate leveraging of contributions from different sectors and related partners.
25. In total over the time period 2010-2012 to 2015-2017, approximately **\$9.3 billion** is for nutrition-sensitive actions in the 16 costed plans including \$8.5 billion in Bangladesh, \$438 million in Sierra Leone, and \$315 million in all other countries combined. The break-down is:
- **\$8.9 billion** for the promotion of nutrition-sensitive food security (food systems). This includes a large portion for Bangladesh (\$8 billion) and Sierra Leone (\$217 million).
 - **\$1.6 million** for interventions enhancing caring environments.
 - **\$409 million** for interventions in public health services, including improved water and sanitation.
26. **Figure 3** shows the distribution of nutrition-sensitive costs by sub-category. The prioritisation and costs of different categories of nutrition-sensitive strategies closely reflect the different national contexts. In addition to differences in the underlying causes of malnutrition in these settings, the balance also reflects the associations and operational relations between line ministries in terms of coordination and planning.



Note: The detail of breakdown for Malawi and Senegal has not been included in this graph as these countries are in the process of revising some costs.

Food Security (covers agriculture, Food Systems and Social Protection)

27. The annual average cost across 16 plans for the promotion of nutrition-sensitive food security is \$127 million with the highest costs in Nepal (\$16 million), Sierra Leone (\$43 million) and Bangladesh (\$1.7 billion). The distribution of interventions aimed at food security varies considerably across countries, as seen in **figure 4**.

28. Interventions under this category have been grouped into four sub-categories:

- Enhanced food availability accounts for a total of \$5.4 billion.
- Enhanced food accessibility accounts for a total of \$3.2 billion.
- Supplementary feeding (resilience) accounts for a total of \$256 million.
- Unclassified (inseparable among availability, accessibility and resilience) accounts for a total of \$80 million.

29. The distribution of interventions aimed at increased availability and accessibility varies considerably across countries. The range of actions included provide useful guidance on definitions and selection of nutrition-sensitive activities.

Box 6: Food Security

Interventions under the ‘food availability’ sub-category are mostly carried out through the agriculture sector and include:

- Increasing production of diverse foods including small livestock with attention given to traditional and culturally acceptable food sources (with very strong links to the promotion of healthy diets and sustainable consumption patterns).
- Enhancing quality and safety of foods.
- Providing for food storage, preservation and processing.
- Enabling school gardening for improved production of fruits and other nutrient-dense foods.

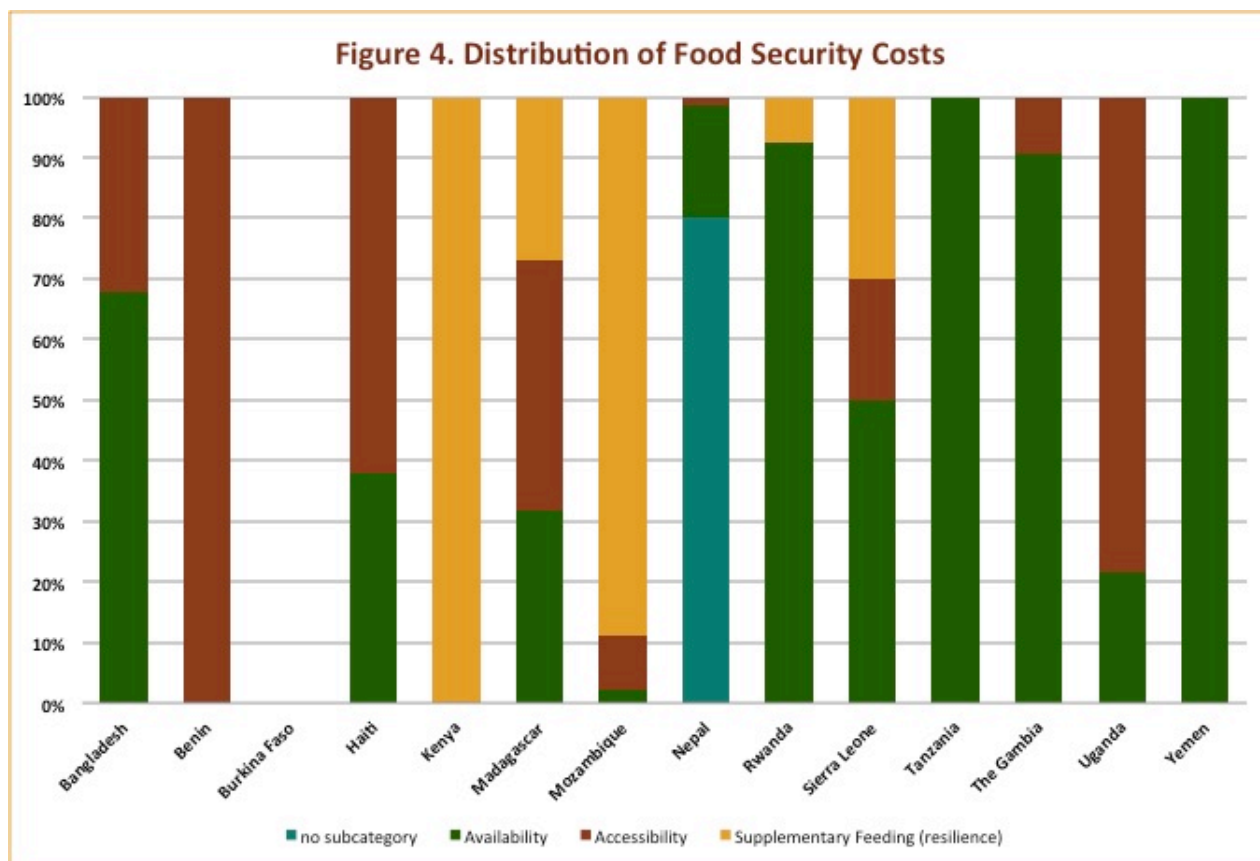
Absent from all plans is market access as a key delivery channel for nutritious food.

Interventions under the ‘food accessibility’ sub-category focus on vulnerable groups, especially poor households, and include:

- Food or cash for work or other types of social protection schemes.
- Income-generating activities for female producers, including provision of subsidies for animal breeding.

Interventions under ‘supplementary feeding’ (resilience) include:

- School feeding programmes.
- Food provision for people living with TB, HIV/AIDS, orphans and vulnerable children and other vulnerable people.
- Food provision for families with people living with chronic diseases.



Note: The detail of breakdown for Malawi and Senegal has not been included in this graph as these countries are in the process of revising some costs.

Care environment

30. Only three countries, Nepal, the Gambia and Uganda, included interventions purposefully directed to gender empowerment. These interventions total \$1.6 million.

Box 7: Women's Empowerment

Examples of women's empowerment in costed plans include:

- Advocate and seek solutions for the reduction of the workload of women, especially pregnant and breastfeeding women (Uganda).
- Promote labour-saving devices to reduce the workload of women. Sensitise the public on the link between girls' education and improved nutrition outcomes (the Gambia).
- Provide support for clean and cheap energy sources to reduce the workload of women (Nepal).

Public health services and increased access to improved water and sanitation

31. The annual average cost across the 16 plans for the promotion of nutrition-sensitive interventions in public health services, including improved water and sanitation, is \$6 million with the highest costs in Mozambique (\$13 million) and Sierra Leone (\$44 million). Interventions under this category have been grouped into the following sub-categories:

- Enhanced access to public health services relevant to nutrition outcomes account for a total of \$292 million.
- Enhanced access to reproductive health services account for a total of \$33 million.
- Enhanced access to improved sanitation and water supply accounts for a total of \$84 million.

Box 8: Public Health Services and Water and Sanitation

Examples of public health services in costed plans include:

- Access to public health services
 - o Management and control of diet related Non-Communicable Diseases (Haiti, Kenya)
 - o Provide intermittent preventive treatment of malaria (Mozambique, Haiti, Sierra Leone)
 - o Provide and promote use of long-lasting insecticide treated mosquito nets (Sierra Leone, Rwanda, Haiti)
 - o Nutrition counseling and support for People Living with HIV and TB (Sierra Leone, Haiti)
- Access to reproductive health
 - o Improve access to family planning (Uganda and Rwanda)
 - o Address early pregnancy (Mozambique)
 - o Create adolescent friendly health facilities (Sierra Leone)
 - o Link community-based birth waiting homes with peripheral health facilities (Sierra Leone)
- Access to improved water and sanitation facilities
 - o Promote household water treatment options (Sierra Leone)
 - o Restore and maintain water schemes (Sierra Leone)
 - o Promote Community Led Total Sanitation (Sierra Leone)
 - o Improve access to appropriate water and sanitation facilities in schools (Rwanda)
 - o Increase awareness on water safety plans and appropriate storage of water (Nepal)
 - o Improve access and maintenance to water schemes (Madagascar)
 - o Conduct open-defecation free campaigns (Nepal)

Overview of Costs of Governance for Nutrition

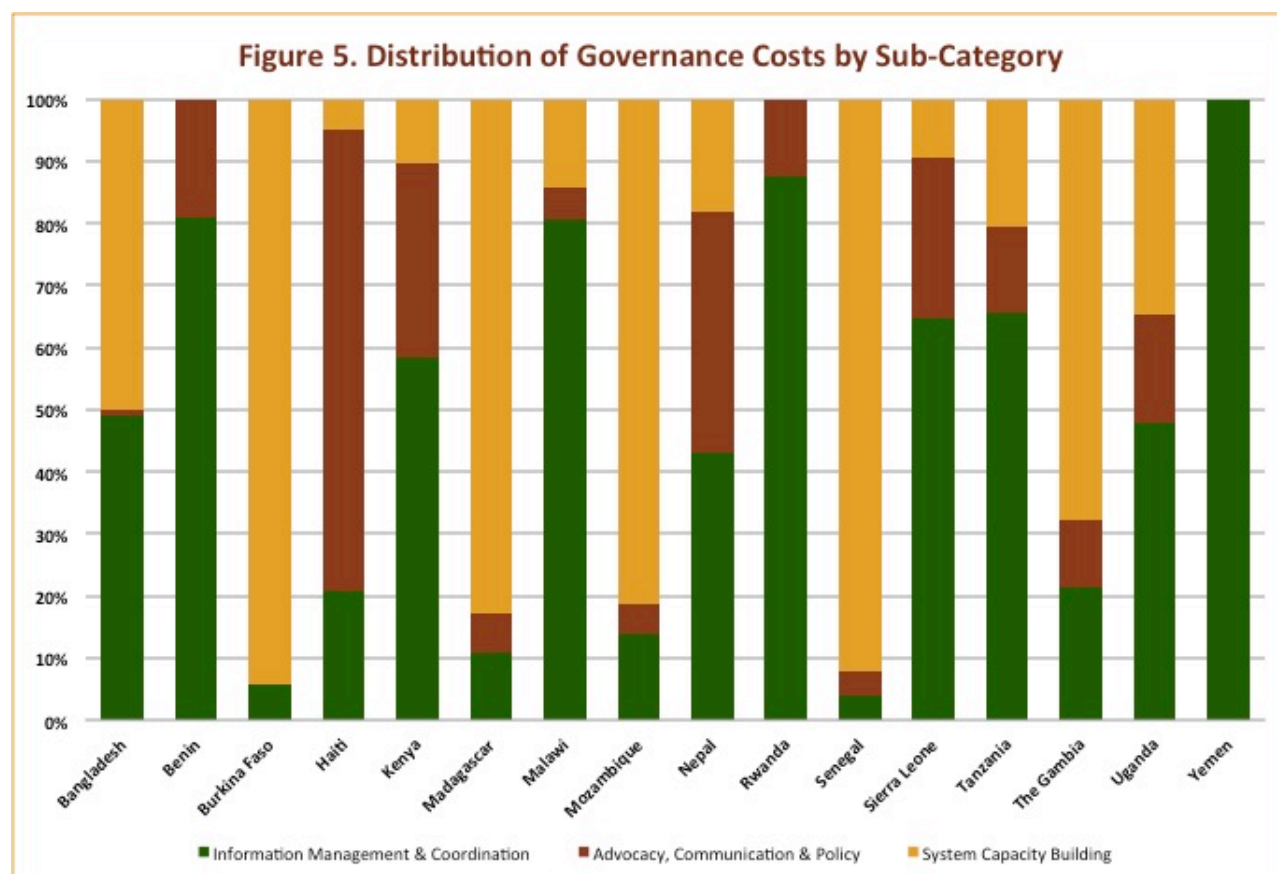
32. All 16 plans include the cost of building governance for both specific nutrition interventions and nutrition-sensitive approaches, with attention given to a wide range of supporting activities such as policy development, coordination, information management, advocacy and communication and system-wide capacity building. This may indicate an opportunity for immediate financing to foster an enabling environment for future investments directed at interventions.
33. In total over the time period 2010-2012 to 2015-2017, approximately **\$732 million** is to support nutrition governance:
- **\$352 million** for coordination and information management.
 - **\$352 million** for system capacity building accounts.
 - **\$78 million** for policy development, advocacy and communication.
34. The overall average annual cost for governance across the 16 plans is \$11 million with the highest costs in Bangladesh (\$67 million per year), Tanzania (\$17 million per year), Kenya (\$16 million per year) and Yemen (\$31 million per year). Governance efforts and investments vary across countries, as seen in **figure 5**. In two countries, Malawi and Senegal, the governance cost represents 98 and 73 per cent, respectively, of the full costed plans.

Box 9: Governance

Examples of activities under each sub-category include:

- System-capacity building
 - o Strengthened capacity to design, monitor and implement (Bangladesh)
 - o Reinforcement of intra-ministerial coordination (Haiti)
 - o Build capacity at county level for planning (Kenya)
 - o Support for CSOs to develop action plans (Malawi)
 - o Coordination with CSOs (Burkina Faso)
- Coordination and information management
 - o Multi-sectoral coordination committees at local level (Nepal)
 - o Quarterly meeting to monitor cross-sectoral interventions (Sierra Leone)
 - o Stakeholder mapping (Uganda)
- Advocacy and communication
 - o Conduct advocacy sessions at all levels (Tanzania)
 - o Use the Nutrition Business Plan to increase financing (The Gambia)
 - o Develop an advocacy plan (Uganda)
- Policy development
 - o Develop a comprehensive policy for Non-Communicable Diseases (Kenya)
 - o Develop a right-to-food legislation (Nepal)

Costs of governance efforts are not equally distributed across countries, but most country plans have included costs for system capacity building and for coordination and information management, with less emphasis given to advocacy, communication and policy development.



Building on the Analyses

35. Understanding the basis for SUN country calculation of nutrition costs is a critical step in the longer-term effort by in-country stakeholders to mobilise the additional resources needed for scaling up nutrition. Some important observations can be drawn from this first phase.
36. There is great diversity between countries in how they prioritise and cost different elements of scaling up nutrition. This partly reflects the different scale and causes of malnutrition in countries, and partly the government's priorities in addressing malnutrition. It would be unhelpful to enforce rigid methods for estimating costs. But if SUN countries are in a position to disaggregate their government approved costing figures into consistent categories, they are in a better position to make comparisons with each other and to identify areas which require additional resources.
37. So far, the costs of staff training and salaries have usually not been included in costed plans. Other 'fixed costs' such as logistics support, facility upkeep and utilities, are also rarely included. This suggests that the 'true' costs of scaling up nutrition are much higher than reported so far, and that national governments are already footing the majority of the bill.
38. It is difficult to separate some programme activity costs. For example procurement of vitamin and mineral supplements may be put together with procurement of inputs to treat acute malnutrition. Similarly, activities such as training, supervision, monitoring and evaluation surveys and guideline development are often bundled together so that it is difficult to allocate costs to particular sub-categories.
39. In many countries, development partners are meeting the costs of some key interventions but these contributions are largely absent from national plans. Ongoing activities in relation to (a) the management of acute malnutrition and (b) ensuring a nutrient-dense diet for pregnant women and young children – are frequently underestimated - or even overlooked - in the costed country plans.
40. More work is required to estimate the contributions from both the public and private sectors to enabling households to access the foods needed so that pregnant women and young children can access nutrient-dense diets. It cannot be assumed that these will only be accessible through public sector channels.
41. The SUN Movement Secretariat will build on this initial review of country plans and work with national officials in 16 of the SUN countries to analyse both domestic and external funding flows, and to identify shortfalls in the resources needed for scaling up nutrition. In the SUN countries that were not included in this preliminary review, national plans to scale up nutrition are currently under development and are being costed. The SUN Movement Secretariat will work with these other SUN countries to better understand ways in which funding needs will change as increased efforts are made to realize ambitious goals for improving nutrition outcomes.