



## Stories of Change in nutrition: An overview



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### ABSTRACT

After a period of relative success in generating political momentum to address malnutrition, there is an increasing urgency to focus on implementation and impact on the ground. This requires better documentation of the experiences of policymakers, nutrition leaders, program managers and implementers in making decisions on what to do in real time, such as coordinating and implementing multisectoral nutrition plans in dynamic country contexts. The goal of the *Stories of Change* (SoC) initiative is to foster and support such experiential learning by systematically assessing and analyzing drivers of change in six high-burden contexts (Ethiopia, Zambia, Senegal, Bangladesh, Nepal and Odisha, India) that have had some success in accelerating improvements in nutrition. While recognizing context-specificity, we unpack the key pre-requisites (commitment, coherence, accountability, data, leadership, capacity and finance) that fuel and sustain progress.

## 1. Introduction

### 1.1. Global context

Nutrition's star is rising. Over the past decade, several high-level initiatives, events and publications have been launched, including the Scaling Up Nutrition (SUN) Movement in 2010, the Lancet Maternal and Child Nutrition Series in 2008 and 2013, six nutrition targets (for 2025) set at the 2012 World Health Assembly, the 2013 Nutrition for Growth (N4G) summit, which included pledges totaling USD23 billion for nutrition-related action, three Global Nutrition Reports (IFPRI, 2014, 2015, 2016), recently agreed upon Sustainable Development Goals (SDGs) that include a target to end all forms of malnutrition by 2030, and the newly-proclaimed Decade of Nutrition, that followed the second International Conference on Nutrition in 2014.

While an increasing number of journal articles provide scientific evidence on the importance of nutrition for growth and development, and on the efficacy of a variety of nutrition-relevant interventions, we still do not know enough about how nutrition actually improves in real-world conditions. A recent multi-country review of scaling up impact on nutrition undertaken by the *Transform Nutrition* research consortium summed up the challenge as follows: “*Relatively strong consensus exists on what needs to be done, but much less is known about how to operationalize the right mix of actions in different contexts, how to do so at a scale that matches the size of the problem, in an equitable manner—and how to do so in ways that link nutrition-specific and nutrition-sensitive interventions*” (Gillespie et al., 2015, p. 440).

Many countries within the SUN movement and beyond are now voicing a demand for a different type of knowledge and evidence—namely, evidence on *how* nutrition improves, and how to (proactively) improve nutrition outcomes. It is a call for *experiential learning* that draws upon the experiences of policymakers, nutrition leaders, program managers, and implementers in making decisions on what to do in real time in different country contexts. The *Stories of Change* (SoC) initiative aims to contribute to addressing this gap and help meet this demand. In 2015–2016, led by the *Transform Nutrition* research consortium, *Stories of Change* captured and supported experiential learning on how to address the undernutrition challenge in different contexts. Drawing upon case studies of countries that have experienced some success in driving down rates of undernutrition in recent years, SoC aims to shed light on the drivers and pathways of nutrition-relevant change, along with the challenges that influence political commitment, policy and program coherence, and the implementation of nutrition-relevant actions, as experienced by a range of stakeholders (including governments, nongovernmental organizations, international institutions, and local communities).

This type of study has rarely been undertaken in a comprehensive manner. While various country case studies of progress in addressing undernutrition have been developed in the past (see Gillespie et al. (1996), and the UN Standing Committee on Nutrition case studies of the early 1990s and mid-2000s), we now have three advantages. First, there is a global political momentum, unprecedented in recent times, to address malnutrition (a momentum that now needs to be fuelled by experience of positive change). Second, there have been significant

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advances in the development and use of a variety of methods and tools for analyzing the political economy of nutrition and change processes, scale up, capacity, and financing; no longer are political and policy processes locked into black boxes beyond the purview of nutrition professionals. And third, there is more data and experience than ever before. The history of concerted and documented attempts to address malnutrition now spans five decades (Gillespie et al., 2016).

The individual country papers in this special issue are extremely rich sources of information, to which the reader is referred for further detail (Cunningham et al., 2017; Harris et al., 2017; Headey et al., 2017; Kampman et al., 2017; Kohli et al., 2017; Nisbett et al., 2017a; Warren and Frongillo 2017). As an overview, this paper seeks to summarize and synthesize these findings to generate overarching lessons on how malnutrition has been addressed, highlighting local perceptions of past change and of current and future challenges.

## 1.2. Country context

SoC focuses on countries that meet three core criteria: (a) high burdens of undernutrition, (b) commitment and action taken in recent years to address undernutrition, and (c) recent positive trends in nutrition outcomes. In addition, we drew upon the expertise and experience of researchers who have been active in these countries for some time. Our primary focus was on child undernutrition (with a particular emphasis on changes in stunting), recognizing that there are many forms of malnutrition, including rising rates of overweight and obesity. Study sites include Senegal, Ethiopia, and Zambia in sub-Saharan Africa, and Nepal, Bangladesh, and Odisha (a state in India) in South Asia. Table 1 shows changes in selected nutrition outcomes from the early 1990s onward for each of these countries.

While undernutrition is in decline in all countries, rates do remain high and further reductions are clearly needed. In each of these

**Table 1**  
Nutrition trends in SoC study countries.

SoC study country	SoC study time line							
	1990–1995	1995–2000	2000–2005		2005–2010		2010–2015	
<b>Ethiopia</b>	<b>1992</b>	<b>1997</b>	<b>2000</b>	<b>2002</b>	<b>2005</b>	<b>2007</b>	<b>2011</b>	<b>2014</b>
Stunting (%) (<5 yrs)	67	58	58	57	51	51	44	40
Wasting (%) (<5 yrs)	9	13	12	12	12	12	10	9
<b>Senegal</b>	<b>1993</b>	<b>1997</b>	<b>2005</b>		<b>2011</b>		<b>2014</b>	
Stunting (%) (<5 yrs)	22	n/a	16		27		19	
Wasting (%) (<5 yrs)	9	n/a	8		10		6	
Underweight (%) (<5 yrs)	20	n/a	17		18		13	
Child anemia (%) (6–59 months)	n/a	n/a	83		76		60	
Female underweight (%) (BMI <18.5)	15	n/a	18		22		n/a	
<b>Zambia</b>	<b>1992</b>	<b>1996</b>	<b>2002</b>		<b>2007</b>		<b>2014</b>	
Stunting (%) (<5 yrs)	46	49	53		45		40	
Wasting (%) (<5 yrs)	6	5	6		5		6	
Underweight (%) (<5 yrs)	21	19	23		15		15	
Female underweight (%) (15–49yrs) (BMI <18.5)	15	9	15		10		10	
<b>Nepal</b>		<b>1996</b>	<b>2001</b>		<b>2005–2006</b>		<b>2011</b>	
Stunting (%) (<5 yrs)	n/a	*	51		49		41	
Wasting (%) (5 yrs)	n/a	*	10		13		11	
Child underweight (%) (5 yrs)	n/a	*	48		39		29	
Female underweight (%) (15–49yrs) (BMI <18.5)	n/a	28	27		24		18	
Child anemia (%) (6–59 months)	n/a	n/a	n/a		49		46	
Anemia among pregnant women (15–49 yrs) (%)	n/a	n/a	n/a		36		35	
<b>Bangladesh</b>		<b>1996–1997</b>	<b>1999–2000</b>	<b>2004</b>	<b>2007</b>		<b>2011</b>	<b>2014</b>
Stunting (%) (<5 yrs)	n/a	55	45	51	43		41	36
Wasting (%) (<5 yrs)	n/a	18	10	15	17		16	14
Underweight (%) (<5 yrs)	n/a	56	48	43	41		36	33
<b>Odisha (India)</b>	<b>1992–1993</b>	<b>1998–1999</b>	n/a		<b>2005–2006</b>		<b>2013–2014</b>	
Stunting (%) ((<3 yrs) 5yrs)	(51)	(49)	n/a		(44) 45		38	
Wasting (%) ((<3 yrs) 5yrs)	(28)	(30)	n/a		(24) 20		18	
Underweight (%) ((<3 yrs) 5yrs)	(50)	(50)	n/a		(40) 41		34	
Child anemia (%) (6–35 months)	n/a	72	n/a		74		n/a	
Female anemia (%) (15–49 yrs)	n/a	63	n/a		63		77	

Data sources: **Ethiopia:** Global Hunger Index 2015 (1992, 1997, 2002, 2007, and 2014 data); 2000, 2005, and 2011 DHS.<sup>1</sup> **Senegal:** 1992–1993, 2005, 2010–2011, and 2014 DHS; **Zambia:** 1992, 1996, 2001–2002, 2007, and 2013–2014 DHS. **Nepal:** 2001, 2005–06, and 2011 DHS. **Bangladesh:** NIPORT et al. (1997) (1996–97 data), NIPORT et al. (2001) (1999–2000 data), NIPORT et al. (2015) (2004, 2007, 2011, 2014 data).<sup>2</sup> **Odisha:** 1992–93 National Family Health Survey (NFHS) – I, 1998–99 NFHS – II, 2005–06 NFHS – III, 2013–14 Rapid Survey on Children (RSOC).<sup>3,4</sup> Note: Figures above taken from SoC country reports when available and supplemented by data from the various sources listed above, if required. \* 1996 DHS data for stunting, wasting, and child and maternal underweight is available for Nepal, but only for children under three years of age. For purposes of comparability, we do not include those percentages here.

<sup>1</sup> Global Hunger Index data for Ethiopia was retrieved here: <https://knoema.com/GHI2016/global-hunger-index-2015?country=1000400-ethiopia>.

<sup>2</sup> National Institute of Population Research and Training (NIPORT), Mitra and Associates, and Macro International. 1997. Bangladesh Demographic and Health Survey 1996–1997. Dhaka, Bangladesh and Calverton, Maryland, US: NIPORT, Mitra and Associates, and Macro International; National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ORC Macro. 2001. Bangladesh Demographic and Health Survey 1999–2000. Dhaka, Bangladesh, and Calverton, Maryland, USA: NIPORT, Mitra and Associates, and ORC Macro; National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ICF International. 2015. Bangladesh Demographic and Health Survey 2014: Key Indicators. Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT, Mitra and Associates, and ICF International.

<sup>3</sup> NFHS fact sheets can be found here: <http://rchiips.org/nfhs/>.

<sup>4</sup> DHS datasets and reports can be found here: <http://dhsprogram.com/data/available-datasets.cfm>.

**Box 1.: Country case study contexts.**

- In **Ethiopia**, the government has started to integrate nutrition-related actions in various initiatives, coordinated by the Ministry of Health, as well as its agricultural programs. Most notably, nutrition was integrated into the 4th phase of the country's Productive Safety Net Program (PSNP) in early 2016. PSNP, led since 2005 by the Ministry of Agriculture, is one of the largest social protection programs in sub-Saharan Africa, and aims to improve food security for more than eight million people who participate in public works in return for food or cash.
- In **Senegal**, the CLM – the unit for combating malnutrition set up in 2001 – reports directly to the Prime Minister's office and focuses primarily on prevention, behavior change and education. With a board that consists of representatives from multiple sectors, the CLM plays a key role in the implementation of the Nutrition Enhancement Program (PRN – *Program de Renforcement de la Nutrition*). The Senegalese government committed to a revised Nutrition Development Policy in 2015, which provides guidance on reducing undernutrition for various sectors.
- Since **Zambia** joined the SUN movement in 2010, the country has seen a significant increase in momentum and funding for nutrition in recent years, fuelled largely by the international community. Government policy has brought more coherence to the country's nutrition sector, and multi-sectoral nutrition plans are being developed at national and district levels, although national funding commitments remain low, as does reach into communities.
- In **Bangladesh**, there have been improvements in nutrition outcomes without high coverage of nutrition-specific interventions and with several health system weaknesses; but the country has, since the early 1990s, seen substantial improvements in GDP per capita, health care, girls' education, demographic indicators such as fertility rates, water and sanitation, and food security.
- Although rates remain high, **Nepal** made impressive reductions in stunting following a period of political and economic liberalization in the early 1990s, and rapid economic growth between 1995 and 2010. This progress has primarily been fuelled by improvements in access to and use of health services, education, sanitation, and reductions in poverty.
- **Odisha** has faced several challenges in recent decades including natural disasters, insurgencies, extreme deprivation amongst its relatively large tribal population, and an economy that only began to turn around in 2004–05. Despite these, the state has made some impressive improvements in reducing child undernutrition. In terms of nutrition-relevant policy making, the state has been termed a “positive deviant” (Cavatorta et al., 2015), investing significantly in its social sectors and implementing nutrition-relevant programming through its Health and Women and Child Development departments.

countries, the government and partners have taken various steps to address the nutrition challenge (Box 1 provides some examples of this).

Section 2 explains the methodologies used for SoC, followed by a synthesis of the results in Section 3, which compares and contrasts the experiences of the six countries, leading on to the discussion in Section 4. We conclude in Section 5 with recommendations that emerged through the case study work and the stakeholder engagement process, which included various in-country events.

## 2. Methods

SoC case studies use two core complementary methodological tracks. The first is quantitative, aimed at statistically determining the drivers of improved nutrition—building on past work in Bangladesh, Nepal, and Ethiopia (Headey et al., 2013) and extending this approach to Zambia and Senegal. The second track draws upon mixed methods (primarily qualitative) and applies various conceptual frameworks, methodologies, and tools to assess and analyze the dynamics of nutrition-relevant change.

A methods development workshop was held in Brighton, UK, in January 2015, for SoC partners, to establish consensus on the scope of work, the approach and methods to be used, the expected outputs, and a timeline. A “tool pool” was prepared to help provide methodological options for different case studies (Gillespie and van den Bold, 2015). Table 2 below presents a summary of methods used in each country. In addition, the workshop aimed to further develop approaches for the dissemination of findings, local-level critique, and cross-country learning (though these processes are not described in this paper).

All countries undertook analysis of changes over time in nutrition outcomes, changes in nutrition-specific and nutrition-sensitive drivers, changes in nutrition-relevant policies and programs, and carried out semi-structured key informant interviews with stakeholders representing government, (I)NGOs, donors, academia, and the private sector at national (114 interviews) and subnational (179 interviews) levels. In addition, all SoC countries carried out key informant interviews (or focus group discussions in Zambia) at community-level to examine how

individuals perceived their lives to have changed (at least since 2000) in terms of nutrition and health, and what are perceived as current and future challenges. Interviews were carried out with mothers (all SoC countries) and frontline workers (FLWs) (Senegal, Odisha), as well as with different types of community leaders (Ethiopia, Zambia). A total of 141 community-level interviews were carried out (with additional analysis of 293 life histories in Bangladesh) and 14 focus group discussions. In total, across all six country case studies, a total of 434 interviews were conducted, along with 14 focus group discussions (and a re-analysis of 293 life histories in Bangladesh).

One of the key outputs from the methods workshop was a “meta-protocol” (Table 3) that reflected a consensus on the overarching structure to guide country studies. This allowed for both cross-country comparisons and synthesis, and local adaptation to context. It also signaled the need to look at past change and future challenges, as perceived by different stakeholders, at different levels – from national commitment and policy formulation and influence, to subnational/district levels of implementation, to community perceptions of change and challenges. The framework was never intended to be the sole basis for analysis of the results of the case studies; for this purpose, more fine-grained, disaggregated analytical frameworks exist.

Drawing on a detailed literature review of nutrition-relevant policy processes for the 2013 Lancet Nutrition Series, one such framework was developed to help characterize, analyze, and monitor “enabling environments for nutrition” – the latter being defined as “political and policy processes that build and sustain momentum for the effective implementation of actions that reduce undernutrition” (Gillespie et al., 2013, p. 553). This review highlighted three domains of an enabling environment – knowledge and evidence, politics and governance, and capacity and financial resources – as important for two stages: developing and maintaining commitment, and translating commitment into implementation and impact (Gillespie et al., 2013). The first domain, knowledge and evidence, refers to the framing of an issue; timeliness and credibility of data on coverage, quality, scale, and outcomes; and how strategic communication of the benefits of malnutrition reduction is used to build commitment. For implementation, different forms of

**Table 2**  
Methods used in SoC study countries.

	Senegal	Ethiopia	Zambia	Nepal	Bangladesh	Odisha (India)
<b>Conceptual frameworks used</b>	Meta-protocol; Shiffman and Smith, 2007; Garrett and Natalicchio, 2012	Meta-protocol; Shiffman and Smith, 2007; Clark, 2002	Meta-protocol; Lasswell and Learner 1951 adapted; Shiffman and Smith, 2007; Heaver, 2005; Garrett and Natalicchio, 2012	Meta-protocol; UNICEF (1990); Lancet framework 2013	Meta-protocol	Meta-protocol; Gillespie et al., 2015
<b>Desk review</b>	Review of relevant policies, plans, and programs.	Review of relevant policies, plans, and programs.	Review of relevant policies, plans, programs; policy processes literature review.	Review of relevant policies, plans, and programs.	Review of relevant policies, plans, and programs.	Review of relevant policies, plans, and programs; media coverage review.
<b>Quantitative analysis</b>	Regression and decomposition analysis of drivers of undernutrition reduction <sup>a</sup>	Regression and decomposition analysis of drivers of undernutrition reduction <sup>b</sup>	Summary analysis of changes in nutrition-specific and -sensitive indicators; regression and decomposition analysis of drivers of undernutrition reduction; descriptive statistics of factors affecting nutrition transition, socio-demographic indicators, food availability changes.	Secondary analysis of DHS data; multivariate regression and decomposition analysis <sup>c</sup> of drivers of reduction in undernutrition and their variance by nutritional status indicator, agro-ecological zone, and child age.	Summary analysis of changes in nutrition-specific and -sensitive indicators; regression and decomposition analysis of drivers of undernutrition reduction. <sup>b</sup>	Summary analysis of changes in nutrition-specific and -sensitive indicators.
<b>Stakeholder mapping</b>	Landscape analysis of national and community-level nutrition actors and relevant events.	Drew on <i>Transform Nutrition</i> (TN) stakeholder mapping to identify key (inter)national players in nutrition for SSIs.	Drew on district (2011, 2015) and national (2015) level Net-Maps; mapped actors to UNICEF framework.	Used Net-map (2015) to identify actors influential in shaping nutrition policy/program decisions.	Drew on TN Net-Map for purposive sample of stakeholders for SSIs.	Drew on TN stakeholder Net-Map.
<b>Qualitative analysis</b>	National and subnational stakeholder SSIs; community SSIs (mothers and FLWs).	National and subnational stakeholder SSIs; community SSIs (men and women); observations of household settings, environment.	National and subnational (district) stakeholder SSIs; community focus group discussions.	Secondary analysis of national level key informant interviews (Suazhara process evaluation 2014); community SSIs (mothers).	National stakeholder SSIs; reassessed 2007 community level life history interviews to understand changes in women's wellbeing; life history trajectory diagrams.	National and subnational stakeholder SSIs; community level SSIs (mothers and FLWs) based on adapted life history interview method (Davis, 2011).

<sup>a</sup> Based on Headley and Hoddinott (2014) and Headley et al. (2015, 2016).

<sup>b</sup> Based on Headley (2014).

<sup>c</sup> Headley and Hoddinott (2015).

**Table 3**  
Stories of Change meta-protocol.  
Source: Compiled by authors.

	Change (2000–2015)	Challenge (2015–2025)
<b>Commitment</b>	How has commitment for nutrition, in its broadest sense (including system commitment), been generated?	How will commitment be sustained in the face of current or likely future challenges or threats?
<b>Coherence</b>	How has policy and program coherence been developed and ensured – both horizontally (across sectors) and vertically (national to community levels)?	What current and future challenges are faced in ensuring policy and program coherence?
<b>Community</b>	How have the lives of nutritionally vulnerable communities changed in the last 15 years?	What do communities perceive as the most significant challenges to progress in nutritional and health well-being?

data, evidence and communication are needed, including program evaluations. The second domain, politics and governance, highlights the issue of cross-sectoral or horizontal coherence, accountability to citizens, as well as vertical coherence (from national to community level) and the respective roles of civil society and the private sector. The third domain, capacity and financial resources, comprises individual, community, organizational, and systemic capacity, leadership and financial resource mobilization (for commitment-building), along with delivery and operational capacity, community engagement, and local resource mobilization (for implementation).

In [Section 3](#), we use this framework to describe, differentiate and compare key features of change processes in study countries. This also permits a comparison with other recent case studies that have employed this framework (see, for example, [van den Bold et al. \(2015\)](#) and [Gillespie et al. \(2015\)](#)). The framework moreover is consistent with the SoC meta-protocol, in that it squarely focuses on commitment, policy and program coherence, and community perspectives of change and challenge.

### 3. Results

In this section, we highlight the main findings of SoC country studies regarding the quantitative analysis of drivers of undernutrition reduction, the data collected on community-level perceptions of changes and challenges, before summarizing the findings of the national and subnational interviews with key stakeholders, using the [Gillespie et al. \(2013\)](#) enabling environment framework (in [Tables 4–6](#)). The reader is encouraged to read the subsequent papers in this Special Issue for detail on each country case study ([Cunningham et al., 2017](#); [Harris et al., 2017](#); [Headey et al., 2017](#); [Kampman et al., 2017](#); [Kohli et al., 2017](#); [Nisbett et al., 2017a](#); [Warren and Frongillo 2017](#)).

#### 3.1. Quantifying contributions of underlying drivers to progress in reducing child stunting

A systematic quantification and comparison of factors that might explain long-term reductions in child undernutrition was undertaken by [Headey et al. \(2017\)](#) in all six case study countries. Regression and decomposition analyses were used to estimate marginal effects of different underlying determinants on child height-for-age Z scores (HAZ) and, along with the historical changes in the means of these determinants, used to account for changes in HAZ over time in each country.

Consistent with previous studies ([Headey et al., 2015, 2016](#); [Headey and Hoddinott, 2015](#)), the authors find that household asset accumulation and parental education are important predictors of nutritional improvement in most countries, with Zambia as the main exception. There is much greater variation in the roles of other determinants across the six locations, once again emphasizing the importance of context. Sanitation is important in South Asian countries, where population density is high. Piped water, on the other hand, seems to be of no direct importance to HAZ. Improvements in maternal height and reductions in fertility rates explain modest improvements in HAZ. The effects of changes in access to health care vary, with antenatal and

neonatal care as strong predictors of nutritional improvements in Nepal, Odisha and Senegal, while in malaria-endemic Zambia, HAZ change is positively associated with the rapid rise in the use of bed nets.

The authors describe the study limitations and strengths. The study is limited by the observational nature of data and the focus on associating changes in potential determinants of nutrition with changes in a single nutrition outcome (child stunting). Hence, causality is uncertain. Regression models also vary in their ability to account for aggregate HAZ change over time, with two models (for Zambia and Ethiopia) performing relatively poorly. The study cannot shed light on the effects of nutrition-relevant policies and programs; however, the regression analysis was always intended as complementary to the case studies, which explicitly reviewed policy and programming.

The study also has major strengths, including the application of the same statistical techniques to national level data from a common data source from which a set of consistently measured explanatory variables were extracted. Results were robust to various checks. The study further illuminates the multidimensional nature of nutritional change, the importance of nutrition-sensitive sectors, including economic development, education (particularly for girls), water, sanitation and hygiene (WASH), health and family planning, and the need for substantial progress in most – if not all – of these sectors, together, to generate rapid improvements in nutrition.

#### 3.2. Community level perceptions of nutrition-relevant change and challenge

In the ninth paper of this special issue, [Nisbett et al. \(2017b\)](#) highlight findings from the community-level research. The community-level research was an attempt to capture the lived experiences of the respondents in a few communities in each case study country. As the authors state, there is an extraordinary paucity of community-level studies on nutrition. These studies are of course limited regarding representativeness, but when undertaken alongside other types of enquiry, as we have set out to do in SoC, these studies provide important insights and ground-truthing.

Among the highlights of community-level perceptions, [Nisbett et al. \(2017b\)](#) note how the availability and use of health services (particularly antenatal care, institutional births or births attended by medical professionals, services such as vaccinations and screenings, and ambulatory services) were reported to have improved, particularly in Senegal, Zambia, Nepal, and Odisha. Increased numbers of FLWs and improving health infrastructure may be factors driving this in large part (although this was not found in Ethiopia). Local knowledge of nutrition has improved over time (again, with the exception of communities studied in Ethiopia). Some improvement has been seen in exclusive breastfeeding, but not as much regarding the quality/dietary diversity of complementary feeding. The authors conclude by highlighting three core findings. First, they underscore the need for basic improvements in livelihood opportunities, underpinned by infrastructural investment. Second, while progress with roll-out of nutrition-specific interventions has been mixed, there are signs of clear impact where they are well implemented. And third, the overarching importance of the scaling, quality and access of women and girls to antenatal and maternity services, school enrolment and stipends and support for reproductive



choices. The community-level picture also reflects findings from the quantitative analyses, showing the importance of wider sectoral actions, including agriculture, sanitation and education, alongside targeted community nutrition initiatives.

### 3.3. Key findings from interviews with national and subnational stakeholders

Tables 4–6 highlight core findings from the case studies as they apply to each of the three domains of the Gillespie et al. (2013)

**Table 4**

Framing, generating, and communicating knowledge and evidence.

Source: compiled by authors based on SoC country reports.

Commitment-building	Implementation and impact
<b>Change:</b> <ul style="list-style-type: none"> <li>Strong, explicit government commitment to improving nutrition, and to mainstreaming across sectoral plans (E, N, O, S).</li> <li>Availability of nutrition data increased awareness (e.g. high stunting rates) (Z, O, N).</li> <li>Support from international community in building commitment and framing the nutrition challenge (e.g. via SUN, Lancet and/or in-country donors, civil society raising profile and providing funding (Z)</li> </ul> <b>Challenge:</b> <ul style="list-style-type: none"> <li>Lack of understanding about nutrition or about importance of non-health sectors and how they can become more nutrition-sensitive which threatens nutrition's position on policy agenda (N, S, Z).</li> <li>Lack of political backing/vision in other sectors important for nutrition (e.g. WASH in O).</li> <li>Myths and biases persist e.g. focus on quantity of food and calories, “stunting is genetic” and malnutrition due to lack of protein; no word for ‘nutrition’ in many local languages (Z).</li> </ul>	<b>Change:</b> <ul style="list-style-type: none"> <li>Better knowledge of, and commitment to, improving nutrition at lower administrative levels, in several sectors, though implementation still challenging (E, Z).</li> <li>Commitment extends to wide-scale action by NGOs, often with support from international partners (B).</li> <li>Prior success in implementation has shown feasibility of addressing malnutrition (N).</li> </ul> <b>Challenge:</b> <ul style="list-style-type: none"> <li>Lack of understanding of malnutrition and potential responses by local governments (S, E), which can reduce commitment to implement and monitor programs (B).</li> <li>Need for more community engagement in generating demand for action on nutrition, holding government to account, as well as development/uptake of new agricultural technologies (E, Z).</li> <li>Nutrition agenda set primarily by international community, which is not always in line with local implementation realities and priorities (Z).</li> <li>Lack of data at lower administrative levels (e.g. districts); dependence on monitoring systems developed at national level that do not capture relevant sub-national indicators (O, Z).</li> </ul>

Note: Legend for Tables 4–6: E = Ethiopia, S = Senegal, Z = Zambia, N = Nepal, B = Bangladesh, O = Odisha.

**Table 5**

Politics, governance and policy coherence.

Source: Compiled by authors based on SoC country reports.

Commitment-building	Implementation and impact
<b>Change:</b> <ul style="list-style-type: none"> <li>Growing attention to nutrition in several sectors e.g. education, WASH, agriculture, health, and to a multisectoral response, reflected in national level policies/programs, including those of several sectors (S, E, Z, B, O).</li> <li>Coordinating bodies have provided high level institutional anchors for nutrition and national-level leadership (S, Z, N).</li> <li>New structures at lower administrative levels providing for intersectoral coordination in implementation (Z).</li> </ul> <b>Challenge:</b> <ul style="list-style-type: none"> <li>How to align other sectors such as agriculture and health with nutrition goals (e.g. stunting) (E, S), when such policies lack nutrition indicators and budgets (S), and/or disagreement about whether actively coordinated nutrition-sensitive actions are needed (N).</li> <li>Coordinating bodies/platforms may lack authority/mandate to enforce cross-sectoral mainstreaming of nutrition (S) or not be clear on how to do so (Z). Nutrition still struggles to find an appropriate institutional home (S).</li> <li>Difficulty aligning agenda of international community/donors with national agenda (risks neglect of e.g. obesity, chronic disease (Z). But also there is a lack of accountability of government to non-binding international pledges (Z).</li> <li>Need for broader partnerships (beyond sectors) including NGOs, CSOs, private sector and other sectors (N)</li> <li>Differing levels of front line workers, target populations, authorities, and sector responsibilities means a need for more joint design, and monitoring and feedback mechanisms (N).</li> <li>Other sectors (e.g. sanitation) not seen as a priority (O).</li> </ul>	<b>Change:</b> <ul style="list-style-type: none"> <li>Policies/programs developed in different sectors aligned to nutrition outcomes have contributed to improvements in nutrition, alongside education and women's empowerment (B), latrine use (E), food security (O, Z), and malaria reduction (Z).</li> <li>Good collaboration between frontline workers in different sectors has improved implementation and coverage of health and nutrition interventions (O, E). Several responsibilities shifted to front line worker level (O).</li> <li>Better vertical communication/information flows between policy makers and implementers at different administrative levels (S, O).</li> <li>Better vertical coherence due to national level multisectoral programs that have coordination mechanisms at sub-national levels (N).</li> </ul> <b>Challenge:</b> <ul style="list-style-type: none"> <li>Lack of vertical coherence, i.e. national level policies and programs do not all filter through to local levels (E, B). Officials at lower administrative levels, with in-depth local knowledge, bypassed in national level planning, and/or struggle with lack of sectoral coherence at local level (E).</li> <li>Adherence to national-level policies limits local innovation (O).</li> <li>Clarity needed on how nutrition can be addressed by different sectors at different administrative levels, and appropriate benchmarks/indicators for program success (E). Challenging to involve certain sectors in national level nutrition-sensitive programs (E, e.g. in NNP, PSNP). Certain areas need particular improvement (e.g. post-natal care in B).</li> <li>Success of scale up across sectors varies, which makes cross-sectoral coordination challenging (B); and/or lack of guidance and capacity for scaling up multi-sectoral policies/program pilots (N, Z).</li> <li>Limited translation of high level policy documents into implementation guidelines (N).</li> <li>Some communities (e.g. <i>adivasis</i> in O) disproportionately suffer from undernutrition for various reasons (e.g. lack of access to land, health, adequate water, sanitation and livelihood opportunities, environmental degradation).</li> </ul>

framework, for each of the two stages of commitment-building and implementation. We highlight both change and challenges, as perceived by different stakeholders. The factors cited in these tables were those that featured most often in the interviews, with the countries in which they were emphasized indicated in the legend.

## 4. Discussion

As with the individual country reports, this synthesis has highlighted the importance of a set of interlinked factors that underpin,

Table 6

Capacity, leadership, financing.

Source: compiled by authors based on SoC country reports.

Commitment-building	Implementation and impact
<p><b>Change:</b></p> <ul style="list-style-type: none"> <li>• Strong leadership at national level (government, coordination bodies, civil society, nutrition professionals) has raised awareness of multisectorality of nutrition and improved coordination (S, E, N, B), as well as implementation, funding and technical assistance (O).</li> <li>• Development of a supportive fiscal/policy framework at state level, and investment in social services and physical infrastructure (O).</li> <li>• Consistent appointment of committed/well-qualified bureaucrats to lead social sector programs; “bureaucratic space” for innovation and learning; long and stable tenure for bureaucrats (allowed reforms in health/nutrition programs to continue and for them to gain nutrition knowledge) (O).</li> </ul> <p><b>Challenge:</b></p> <ul style="list-style-type: none"> <li>• Lack of leadership within lead institutions/bodies for national level programs (B, Z).</li> <li>• Nutrition funding provided primarily by international community renders it precarious and/or misaligned with national priorities. Need for government ownership of internationally funded programs (Z).</li> <li>• Lack of institutional home for nutrition can lead to limited if any accountability and participation (E); nutritionists at subnational levels have little voice; hesitancy to praise/blame individuals/government departments misses opportunity for recognizing and cultivating leadership (Z).</li> </ul>	<p><b>Change:</b></p> <ul style="list-style-type: none"> <li>• Increasing number of trained nutritionist specialists (S), and new BSc degree (Z).</li> <li>• Nutrition funding precarious due to its international nature (Z); though technical and financial support from development partners has helped implementation of programs (O).</li> </ul> <p><b>Challenge:</b></p> <ul style="list-style-type: none"> <li>• Technical and funding challenges mean policies are only implemented in a few pilot areas (Z) or there is generally a lack of funding and capacity for national-level policies (E, B); lack of budget to facilitate further coherence across sectors and between administrative levels (S).</li> <li>• Need for capacity building of local NGOs / more support for decentralized programs (N).</li> <li>• Lack of, or high turnover of, personnel, especially at lower levels (N, E) may exacerbate technical capacity gaps (N, Z) and high frontline workloads (E).</li> <li>• Lack of materials in local languages challenges subnational implementation (E).</li> <li>• Lack of planning for issues such as obesity/overweight, anemia (N, Z).</li> <li>• Lack of leadership on nutrition and nutrition-sensitive programming at lower administrative levels (E).</li> <li>• Quick scale up of programs by government can lead to gaps in implementation capacity at various levels and in quality of services provided (E).</li> <li>• Political instability, geography (landlocked), natural disasters poses further risks to service provision (e.g. electricity, fuel crises, health and nutrition service delivery) (N)</li> <li>• Complex bureaucratic structures can lead to implementation challenges (e.g. development partners’ funding for WASH in O).</li> </ul>

enable and drive change in nutrition. We see that **commitment, coherence, accountability, data, leadership, capacity and finance** all need to be present over time for progress to be made and for it to be sustained. While the choice of actual policy and program actions (the “what”) will necessarily be driven by context – including the type of problems being faced, available solutions, and the capacity to act – these interlinked factors are the fundamental building blocks that determine *how* change happens, and can be (proactively) made to happen.

Starting with **commitment**, adapting recent analytical approaches used by Pelletier et al. (2011) in the *Mainstreaming Nutrition Initiative*, along with Reich and Balarajan (2012) (who build on the work of Brinkerhoff (2000), Clark (2002), Heaver (2005), and Shiffman and Smith (2007)), SoC subscribes to a broad-based definition of commitment as consisting of the following forms/stages:

- political attention (stated intent),
- political commitment (intent reflected in policy),
- system/institutional commitment (actual change in institutional procedures, incentives, decisions and actions),
- budgetary or financial commitment (new actions backed up by new funds).

Indeed, in recent years, a new global focus has been applied to understanding and unpacking the elements of commitment. The Hunger and Nutrition Commitment Index (HNCI) for example, ranks 45 national governments on their political commitment to tackling hunger and undernutrition, measures government achievements, and assesses whether improved commitment leads to reduced hunger and undernutrition (te Lintelo, 2014). The set of HNCI indicators comprise those that measure spending (public expenditure), policies (government policies and frameworks), and laws (legal frameworks), and span both curative and preventive measures. In their 2015 paper, te Lintelo and Lakshman define nine indicators of political commitment: explicitness,

irrevocability, voluntariness, publicness, mobilizing support, continuity and capacity, analytical rigor, credible incentives, and implementation (te Lintelo and Lakshman 2015). More recently, the Global Nutrition Report (2016) turned its attention to how many new-found commitments are “SMART” in nature (that is, specific, measurable, achievable, relevant, and time-bound) (IFPRI, 2016).

Although political commitment is essential for progress in nutrition, it is not enough – and it is in danger of grinding to a halt unless it leads to – and is expressed in – action that yields results on the ground. This is a key finding of the SoC country studies, and it represents a new frontier for nutrition. Major progress has clearly been made in terms of generating political attention and in many cases political and policy commitment to nutrition as a multisectoral development issue. Ethiopia, for example, has made a prominent commitment to address stunting, and recognizes nutrition as an important part of its Productive Safety Net Program (PSNP). Nepal's government now prioritizes nutrition and the need for broad-based responses as reflected in its Multisectoral Nutrition Plan. In Zambia however, it appears that high-level political attention has been bypassed by the influx of donor funds and technical assistance. The Scaling Up Nutrition (SUN) Movement has been on the frontline of such political change at the global level in recent years, and it has been successful in catalyzing political attention to nutrition in member countries.

The next two levels of commitment-building (system/institutional commitment and budgetary/financial commitment) are when these promises and pledges are progressively translated into changes in incentives, decisions and actions. This is much more difficult, and it is clear that – while continuing to build and sustain political attention – policymakers and practitioners in SoC countries are struggling to grapple with the nuts-and-bolts challenges of turning political commitment into institutional and financial commitments, and into large-scale implementation of effective actions.

Second, **coherence** is when commitment has become embedded and reflected in institutional structures and processes that are appro-

appropriate and mutually-reinforcing. Such coherence applies horizontally (across or between sectors) and vertically (from national-level down to the grassroots community level). Both horizontal and vertical coherence are needed because nutrition requires action from several sectors and it requires engagement by a range of actors at different levels. This goes well beyond governmental action and sectors, to civil society and the private sector. Although most SoC countries still face challenges with regards to coordinating different sectors around nutrition-relevant policies and plans, many do have coordinating mechanisms in place. For example, in Senegal, the *Cellule de Lutte contre la Malnutrition* (CLM) was set up to coordinate and harmonize action on nutrition across sectors. In Odisha, an environment of collaboration and accountability around nutrition has been fostered over the years between the Health and Women and Child Development Departments. In Zambia, a multi-stakeholder forum has been established to coordinate nutrition-relevant programs. Challenges remain – for example, with regards to nutrition's institutional home, clarity of roles and responsibilities, and the ability/authority of coordinating mechanisms to mandate other sectors to incorporate nutrition into their plans.

Private sector engagement can generate problems or opportunities. Asymmetries of power and of incentives between governments and multinationals require proactive government regulation of the private sector. Governments have had to take measures to protect breastfeeding, for example, and increasingly to counteract food manufacturers' drive for profit from marketing calorie-dense, ultra-processed foods. But, partnerships involving the private sector *can* also be fruitful; in Bangladesh, SoC study leads found improvements in health indicators were partially driven by a pluralistic system of health care provision (with state, NGO, and private providers) and the spread of private as well as community health clinics. In Ethiopia, through a Feed-the-Future supported public-private partnership – the African Alliance for Improved Food Processing – the government is working towards wheat flour fortification, and universal salt iodization with UNICEF and GAIN. Stakeholders interviewed in several SoC countries highlighted the need for more research on how the private sector can best be constructively and transparently involved in implementation of nutrition programs.

These different levels of response to malnutrition are also *linked* vertically. Nutrition-sensitive sectoral actions (e.g. in agriculture or social protection) thus have the potential to support the scale-up of nutrition-specific interventions. For example, in Ethiopia, active discussions are being held at subnational level between the health and agricultural sectors around nutrition policy and programs. In Zambia, Mumbwa district set up a multisectoral District Development Coordination Committee, which is an example of how decentralized multisectoral coordination on nutrition can be strengthened. Decentralization processes in several places (e.g. Senegal, Odisha) have led to more room for sub-national decisionmaking. Challenges continue however, such as varying quality and numbers of frontline workers, and limited scale up.

Both nutrition-specific and nutrition-sensitive actions moreover need to be underpinned by policy and institutional environments that are enabling in nature. Synergies are possible both horizontally and vertically generating multiplier effects that can further enhance impact.

With regard to **accountability**, the question is about who is responsible for what type of action, where and when – and whose job is on the line if they consistently fail to deliver. Proper accountability can only exist when there is clarity and cross-sectoral consensus on roles and responsibilities. These roles and responsibilities will provide appropriate incentives if they are reflected in clearly articulated job descriptions of development workers (from FLWs to program managers) and in nutrition-sensitive systems of monitoring and evaluating multi-sectoral policies and programs. But stated roles and responsibilities will mean very little unless backed up by authority and power to act, and by the capacity and the resources (including adequate financing) to do so. Global and national accountability is key, but accountability is relevant

at all levels, and ultimately should be channeled downward to communities where nutritionally vulnerable populations live. SoC countries still face some challenges in this regard. As mentioned, nutrition's institutional homelessness can lead to a lack of ownership by different sectors/actors of the outcomes of agreed upon nutrition-related actions. And while there are national-level coordination mechanisms in place in some countries (e.g. Nepal, Senegal), ensuring that these plans are carried forward at lower administrative levels remains challenging, with job descriptions not always reflecting responsibility for cross-sectoral coordination (e.g. Ethiopia). Better institutionalization of local-level policy and programmatic processes is also needed.

Accountability cannot operate in a **data** vacuum. It is crucial that timely data on trends in different forms of malnutrition and on outcomes of actions and programs (from different sectors, at all levels) become available and accessible in the public domain. More data (and evidence from research) that is actionable at the subnational level is also needed. More and better evaluations are required – not just assessments of whether a program works but process evaluations that highlight impact pathways – to help understand why, how, and where programs work, or do not work. While the collection of accurate nutrition data is of course critical, so is the management, analysis, and dissemination of these data. This relates to the points above on coherence, regarding the timely manner in which data are shared, interpreted and communicated between and to relevant sectors and stakeholders. In several countries (e.g. Zambia, Odisha (India)), recent data on stunting rates contributed to knowledge on the importance of nutrition as well as its multi-sectorality. In Zambia, this prompted incorporation of stunting as an impact indicator in Zambia's National Agricultural Investment Plan (NAIP) under the Comprehensive Africa Agriculture Development Program (CAADP). While in Odisha there is a culture of constructive use of data, challenges remain with regards to, for example, the lack of inclusion of all relevant indicators in monitoring programs designed at national level, and the limited availability of data below district level. In Nepal, there is a need for more nationally representative data on micronutrient deficiencies and publicly available datasets for indicators on agriculture and nutrition, in order to better identify drivers of change in nutrition. In short, information systems are needed that strengthen accountability and drive and inform action at all levels.

Just as no single individual or organization can be held accountable unless they have the power to act, nor can they be held to account unless they have the actual **capacity** to do what is needed. Capacity is needed at different levels – individual, community, organizational, and systemic – and for different purposes. In particular, within the new generation of nutrition professionals, individuals with stronger strategic and operational capacities are needed, to go along with their technical skillsets. And there is a need to strengthen the capacity of individuals in other sectors, to empower and motivate them to apply a nutrition lens in their work, and to contribute to nutrition-relevant change through their programming and investments. For years, the word “capacity” has been preceded by the word “inadequate” in multiple evaluations of development programs. Now is the time for a major long-term investment in strengthening capacity for nutrition.

An example of transformational capacity is **leadership**. Leaders open doors, turn keys, and inspire others. Leaders in and for nutrition are not necessarily hierarchical; they tend to exhibit lateral leadership—the ability to successfully work across sectors, build collaborations and alliances, and communicate effectively. Nutrition champions and policy entrepreneurs are needed to catalyze social and political change and make development policy in general more nutrition-sensitive. Many stories in the country case studies shed light on how nutrition champions can spring from different quarters. We need to develop the next generation of nutrition leaders and strengthen existing initiatives, including academies and curricula that aim to build leadership capacity.

Finally, past work has highlighted the importance of **funding** to nutrition that is adequate, stable and flexible (Gillespie et al., 2015).



The country studies have shown that stakeholders continue to perceive funding as a challenge in different ways. Some report increases in nutrition-relevant funding, but others suggest that limited progress has been made in generating adequate finance for nutrition. For example, in Odisha, a lack of appropriate funding mechanisms was reported as a challenge to ensuring front line worker numbers and remuneration. Similarly, in Ethiopia, a lack of funding for training, transportation and salaries in agriculture was reported to adversely affect quality of services, particularly at subnational levels. Donors/international development partners play a significant role in funding nutrition-related programs in most countries (e.g. Zambia, Odisha, Nepal, Senegal, Ethiopia), although heavy reliance on external sources of funding can also make it precarious and subject to strict timelines and conditionalities (e.g. Zambia).

Again, the issue of finance is bundled with the other key factors we have discussed. For accountability to have teeth, it needs a clear understanding of which organization is responsible for which set of actions, and it needs to be matched by adequate capacity and financing to act. Nutrition plans need to be costed, and finance ministries properly engaged in budgeting discussions, especially given the need for engagement by several sectors. The SUN Movement is actively working to support countries in meeting this challenge, and it has helped bring donors together to support national development of plans. But more work is needed.

## 5. Summary of recommendations

In this final section, we highlight the main recommendations that emerged in different countries through the entire process of stakeholder engagement, including the case study work in the field, and a series of in-country stakeholder events at which initial draft reports were discussed and critiqued, before being finalized. In this, we do not differentiate between countries, we simply highlight the type of recommendations that appeared to be most commonly perceived. Country-level detail and nuance can be found in the subsequent papers in this Special Issue.

### 1. Building commitment

- Widen engagement of actors beyond the nuclear nutrition community, and continually assess how other sectors can contribute.
- Engage in international platforms and new research on nutrition.
- Capitalize on existing high-level political commitment and embed processes that catalyze political leadership at all levels.
- Articulate a clear vision and goals for nutrition.
- Disaggregate “government” with regard to commitment (technical units may be active, but financial and executive arms must be encouraged to provide support, politically and financially). Relatedly, it is important that a clear case can be made to financial branches of governments as to what the economic returns are to investing in nutrition: the benefits of “grey matter infrastructure” investment (i.e. highlighting the cognitive benefits of protecting young child nutrition) to minimize losses to productivity and health.
- Improve community awareness of nutrition problems, programs, rights, and government pledges to strengthen demand.
- Clarify advocacy roles of civil society organizations for coherence.

### 2. Strengthening cross-sectoral (horizontal) coherence

- Develop shared nutrition goals across sectors to foster coherence.
- Build on/maintain progress made in underlying sectors such as health, education, WASH, and women's economic and social welfare.
- Continue strong collaboration between government and non-government stakeholders.
- Improve integration of nutrition into other sectoral policies, both as an outcome and as a contributor.

- Explore placement of particular institutions to strengthen inter-sectoral alignment.
- Improve communication between sectors at local levels of government to monitor progress.

### 3. Improving (national to community) vertical coherence, scale and reach

- Improve nutritional literacy of local leaders, and ensure national commitments align with local implementation realities.
- Strengthen communication of agendas from national to district to sub-district/community levels, to ensure consistent and coherent commitment and implementation.
- Put commitment (high level speeches, policy documents) into practice by ensuring implementation and monitoring by government, civil society and communities.
- Resolve challenges in implementation of multisectoral plans (e.g. ownership, responsibility, accountability).
- Expand geographic reach of programs so that remote populations can access nutrition services.
- Build on success in nutrition-relevant sectors to strengthen coverage and implementation of nutrition-specific interventions.
- Strengthen implementation of nutrition-sensitive programs in order to improve their contribution to reducing undernutrition.
- Improve community awareness of nutrition problems, programs, rights and government pledges to strengthen demand.

### 4. Generating data and evidence

- There is a need for nationally-representative data and publicly available datasets that combine health and agricultural factors, collecting dietary data from different sections of the population to better identify drivers of nutritional change.
- Evaluate national level plans to identify weaknesses in policy and program design and implementation.
- Improve operational evidence-base on impacts of specific innovations within the Integrated Child Development Services (ICDS) (Odisha) and the health system.
- Improve data collection at district level and below to monitor and address disparities in outcomes and intervention coverage between socioeconomic and tribal/non-tribal groups (Odisha).
- Learn lessons from the experiences of other countries in the region and globally, including the other SoC case studies.

### 5. Strengthening capacity

- Assess and strengthen human resources and institutional capacity.
- Commitment needs to be manifested by addressing the causes of capacity constraints in nutrition governance.
- Build on existing technical and system capacities in health and nutrition.
- Develop frontline worker capacity and incentives, including appropriate remuneration, adequate numbers of workers, and exploration of innovative non-financial motivations; add an additional nutrition extension agent from agriculture or health, initiate training for frontline workers on cross-cutting aspects, including how to better engage with communities.

### 6. Cultivating and supporting leadership

- Ensure nutrition education aimed at developing a cadre of nutrition leaders.
- Strengthen lateral leadership on nutrition across sectors.
- Resolve tensions between praise and blame to cultivate strong leadership.
- Build on bureaucratic leadership and capabilities, and cross-departmental collaborative culture.
- Ensure that leadership for nutrition also supports nutrition-sensitive actions.

## 7. Financing

- Sustain government funding to nutrition programs to ensure long term institutionalization of nutrition services.
- Develop appropriate funding mechanisms to ensure adequate frontline worker remuneration, and adequate numbers of frontline workers to delivery nutrition-specific interventions.
- Continue investments in infrastructure such as rural roads, but also accelerate actions to address quality and functionality of water, sanitation, and rural electrification.
- International donors need to be flexible in terms of how objectives around fund disbursement are set.
- Financial arms of government can help explore ways to promote targeted resource mobilization for nutrition.

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