



Briefing Note

December 2015

Stunting in protracted emergency contexts

What are the implications for humanitarian programming of responding to stunting in protracted emergency contexts, and what should we be doing about it?



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Carmel Dolan and Jeremy Shoham (contributing
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Photos

Cover: Families in rural Damascus who have fled from Eastern Ghouta and Darayya where access to food has been difficult; Anne Yzebe, Niger, 2005.

Page 1: School meals programme in schools across Syria; WFP/Dina El Kassaby.

Page 3: A team measuring length during coverage survey; S Karanja/Goal, Ethiopia, 2007

Page 7: Children at a feeding centre in Moadishu; SAACID, Somalia.



Introduction

A number of recent reviews of crises, including Syria (ENN 2014), Lebanon and the Ukraine (GNC-ENN 2015) have raised questions about the humanitarian nutrition response in contexts where levels of wasting are not elevated or high in terms of emergency thresholds, but where stunting is prevalent.

ENN decided to investigate the implications of operating in situations of protracted crisis where levels of stunting may be high and of concern. This brief investigation included a review of documents and informal discussions with a number of nutrition focal points in some of the donors and agencies¹. The purpose is to begin to explore the issues and pose questions and in so doing get the issue of stunting in protracted contexts higher up the nutrition agenda.

The numbers

Globally, an estimated 165 million children under five years of age are stunted² (have linear growth failure and are short for their age) at any point in time (UNICEF/WHO/WB 2015)³, with more children either being born stunted or becoming stunted in infancy and childhood

¹ UNICEF, UNHCR, ACF, DFID, ECHO, GNC and IPC.

² Height-for-age Z-score below -2 standard deviations of the population median.

³ This data set consists of 778 national survey data which were standardised for analysis purposes and updated as of June 2015

all the time. Stunting occurring before the age of two is a well-established risk marker of poor child development, predicting poorer cognitive and educational outcomes in later childhood and adolescence (Grantham-McGregor *et al* 2007, Walker 2007, Black *et al* 2013, Martorell *et al* 2010) and in turn hindering economic productivity of individuals, households and communities. Although it is generally emphasised less, stunting is also associated with an increase in risk of death. While lower overall than for wasting, the risk is still 5.5 times that of a healthy child for severe stunting (a higher risk than moderate wasting at 3.4 times) (Olofin *et al* 2013). When stunting and wasting (either severe or moderate) are combined, the mortality risk rises to 12.3 times that of a healthy child (McDonald *et al* 2013).

Stunting is a result of multiple risk factors, including maternal age and health status before, during and after pregnancy (Ozaltin *et al* 2010). Evidence suggests that a substantial 20% of childhood stunting (Christian *et al* 2013) is pre-

determined in utero. Other risk factors include inappropriate complementary feeding (WHO 2015), poor hygiene and sanitation, a high frequency of infections (Prendergast & Humphrey 2014) and poor access to healthcare. Irrespective of its causal pathways, in general stunting is viewed as a chronic problem requiring long-term, development-orientated actions focused on addressing the multitude of risk factors.

However, **45% of stunted children globally (and therefore a large proportion of those children becoming newly stunted all the time) live in countries classified as Fragile and Conflict Affected States (FCAS) by DFID** (Last updated in 2013 - see Annex 1). As such, they are exposed to numerous protracted humanitarian crises. Extreme poverty is forecast to become more concentrated in fragile states (Burt *et al* 2014). Given the links between stunting and income, it is reasonable to assume that the prevalence of stunting could increase in the future (IFPRI 2015). Protracted crises are also becoming the norm rather than an exception. According to the UN Food and Agriculture Organization (FAO) in 2010, 19 out of 24 (79%) countries in food crisis were classified as such for eight of the previous ten years; i.e. were chronic/protracted (FAO 2010).

As illustrated in Table 1 and in Box 1 below, the prevalence levels of stunting in over half of FCAS are, according to the WHO classification⁴, either serious or critical. Furthermore, nearly half of the FCAS countries have levels of severe stunting >15%. Although there is no global guidance on 'alert' levels for severe stunting, the associated mortality, which is greater than that reported for moderate wasting (Olofin *et al* 2013), suggests that a prevalence of severe stunting >15% should be a cause for humanitarian concern.

Box 1 Stunting in Fragile and Conflict Affected States

- 55% of the countries have Serious or Critical levels of stunting as defined by WHO;
- Only four of the countries have Acceptable levels of stunting (and of these two are out of date);
- Total stunted children in the world (WHO/ UNICEF/WB 2015) = 23.8%; 158,600,000 children.
- An estimated 45% of the total stunted children in the world live in FCAS;
- The 2030 global target is to reduce the number of stunted children in the world to 86 million;
- The prevalence of severe stunting is over 15% in 26 of the 54 countries; i.e. nearly half of the countries.

⁴ Low prevalence/Acceptable < 20%, Medium prevalence/Poor 20-29%, High prevalence/Serious 30-39%, Very high prevalence/Critical ≥ 40% (WHO 1995).



The funding context

If the ambitious WHA targets for reducing stunting are to be achieved (WHO 2015), it seems evident that nutrition-related programming in FCAS contexts needs to look at what is possible for stunting prevention. The recent Global Humanitarian Report estimates that **countries in protracted or recurring crisis (e.g. Syria, Somalia and Pakistan) receive two thirds (66%) of international humanitarian assistance** (GHA 2015); i.e. are recipients of repeated cycles of humanitarian funds. This means that, although it

has been identified as an inefficient use of funds (Venton 2013), programmes in these contexts are commonly being required to operate in the long term whilst managing short-term patchworks of humanitarian funds (Bennet 2015). There is a danger that with no or limited attention to stunting prevention within the design and monitoring of these ongoing humanitarian programmes, the drivers of stunting may persist or even escalate, leading to an increased burden. There is some evidence that this was indeed the case during the Syria Crisis (Dolan *et al* 2014).

Are we monitoring stunting levels?

Currently, anthropometric data are generally not being scrutinised to monitor whether stunting levels (and severe stunting in particular) are being affected by protracted crises. Trend data reported globally tends to be from national level statistics, yet fragility and protracted crises rarely occur nationally; rather they usually affect

specific geographical areas or populations. However, some data on area-specific trends in stunting may be available at country level through nutrition-surveillance systems. UNHCR has a database of surveys conducted in refugee camps, FEWSNET is working on the collection of sub-national data in a number of country contexts, and the 'IPC Chronic'⁵ (IPC 2014), incorporating

⁵ The IPC Chronic Food Insecurity Classification, abbreviated as IPC-Chronic, has been designed to complement IPC Acute Food Insecurity Classification and provide crucial information for strategic and interlinked food security programming and policies that focus on medium and long-term objectives.

stunting prevalence into its food security analysis, is now being rolled out. These initiatives offer an opportunity to look at what is happening to stunting in the context of protracted operations in more detail, including its relationship to levels of both wasting and food insecurity. A number of related issues and questions arise, however:

1. Do we trust the figures, given the difficulties in measuring both height and age in most contexts?
2. Stunting levels have been found to be seasonal, therefore the timing of

measurements is important.

3. Are our height-for-age standards appropriate in all populations, pastoralists in particular? (Myatt 2009).

With current available data however, we can see that of countries defined as FCAS only 19% (nine out of 47) of those with data are on course to meet WHA targets (IFPRI 2015). This compares to 43% of countries overall, indicating that more than is currently being done for stunting is required in these contexts.

What is being done?

Even if we do have confidence in the stunting data, including trends in protracted emergency contexts, at what level should we focus our attention? The WHO classification of public health significance is not linked to specific actions in the WHO literature. Furthermore, although the GNC handbook notes the importance of mapping stunting in children in the emergency context as part of the information management plan at country level, it doesn't give guidance on what to do with the information. There is some agency guidance available, however. For example, WFP within their Protracted Relief and Recovery Operations programming indicate that where stunting is $\geq 30\%$, or in high-risk situations, food-based prevention of stunting is indicated. UNHCR use a simplified version of the WHO criteria with programming actions linked to high ($>30\%$) stunting levels. ECHO noted in our discussions for this briefing, that their updated global position is that high levels of stunting are one of the aggravating factors referred to in their publication *Addressing Undernutrition in Emergencies* (EC 2013)⁶ staff working

document, for triggering emergency nutrition response (personal communication).

Linked to the above is the question of what could be done better with resources available given that we are programming for the long term in many FCAS. From the point of view of nutrition, shouldn't delivering long-term results, including delivering results for stunting, be a priority?

As indicated above, the only specific guidance this investigation could find on addressing stunting in humanitarian/protracted contexts comes from the WFP (WFP 2013) and UNHCR (UNHCR 2011), both of whom focus on product-based approaches, although UNHCR also includes complementary interventions (UNHCR 2008). The FAO states:

'Prevention of undernutrition (stunting) among children between conception and two years of age is as important as treatment of wasting'

⁶ Which stated that 'Although not justifying an emergency response, pre-existing high levels of chronic undernutrition are taken into account in the design of responses, as they can indicate the vulnerability of any given population'.

and:

‘Priority must be given not only to treating acute malnutrition but also to preventing undernutrition among young children by improving the nutrient intake of the children themselves as well as their pregnant and lactating mothers. In practical terms this means targeting such food interventions to pregnant women, lactating women, children aged 6–24 months, and children suffering from moderate or severe wasting (FAO 2010)’.

We were not able to find any evaluations of the available guidance in practice; in particular with respect to data on the effectiveness of emergency food interventions for pregnant and lactating women. However, a number of

prohibitive factors were outlined by agency staff with regard to addressing stunting in complex contexts. These included: reliance on short-term funding, finding sufficient funds for food-based products, internal resistance to stunting being seen as anything but a development issue to be tackled by livelihood interventions; the extremely challenging FCAS operating contexts; and the lack of an evidence base for stunting prevention in these contexts. The documentation of some experiences, particularly from UNHCR, is in progress. However, as noted by a number of individuals, short-term funding seldom lends itself to the sort of impact evaluation required to build the evidence base in this area. This could change, but only if it is viewed by donors as a priority.

What could/should we be doing?

A question linked to the above is whether evidence from stable contexts on what we should be doing to contribute to stunting reduction should also be sufficient to trigger a number of key actions in protracted crisis where stunting levels are high. *The Lancet* series on maternal and child nutrition identified ten direct nutrition interventions (see Box 2) which, if

implemented at 90% coverage in the 34⁷ high stunting burden countries, could reduce stunting by 20.3% (Bhutta *et al* 2013). The majority of these high stunting burden countries are also FCAS (see footnote 7, highlighted in red).

Are these direct nutrition interventions, or elements of them, appropriate for the protracted

Box 2 Ten evidence-based interventions for stunting reduction

1. Salt iodisation;
2. Multiple micronutrient supplementation in pregnancy (includes iron-folate);
3. Calcium supplementation in pregnancy;
4. Energy and protein supplementation in pregnancy;
5. Vitamin A supplementation in childhood;
6. Zinc supplementation in childhood;
7. Breastfeeding promotion;
8. Complementary feeding education;
9. Complementary food supplementation; and
10. (Management of SAM; included in *The Lancet* ten interventions for its impact on mortality).

⁷ Afghanistan, Angola, Bangladesh, Burkina Faso, Cameroon, Chad, Cote D’Ivoire, DR Congo, Egypt, Ethiopia, Ghana, Guatemala, India, Indonesia, Iraq, Kenya, Madagascar, Malawi, Mali, Mozambique, Myanmar, Nepal, Niger, Nigeria, Pakistan, Philippines, Rwanda, South Africa, Sudan, Tanzania, Uganda, Vietnam, Yemen, Zambia.

emergency context, albeit with context-specific implementation modalities? *The Lancet* series (Bhutta *et al* 2013) does not explore this specifically, although it notes that food assistance programmes suitable for acute emergencies might be less appropriate for protracted situations. There is an absence of research evidence of the impact of stunting prevention programming in the protracted emergency context, but whether this justifies doing nothing is a subject for debate. Should it prevent us from implementing common-sense approaches based on the conclusions from *The Lancet* series? A particularly pertinent example is that of energy and protein supplementation in pregnancy and the common de-prioritisation of appropriate supplementary food for pregnant women as part of the nutrition response. The implications of this in terms of a missed opportunity to prevent the 20% of stunting (and potentially also wasting) with in utero origins is rarely discussed. This question of evidence base in the protracted emergency context equally applies to the implementation of nutrition-sensitive interventions in FCAS. However, the general weakness of the evidence base globally for the impact of these approaches on the protection of nutritional status of at risk groups is well known.

We also do not know the implications of our existing humanitarian interventions on stunted individuals and populations. Are severely stunted children often included in CMAM programmes? To what effect? Are blanket interventions meeting their needs? There is some evidence that linear growth is negatively affected during wasting but, when the wasting is treated, linear growth does not recover. There is also some suggestion that preventing wasting could contribute to the prevention of stunting (Khara & Dolan 2014); however this is an area where more investigation is needed.

There has been some investigation of effects on stunting alongside wasting of short and long-

term seasonal blanket prevention interventions in a small number of studies (Isanaka, Roederer *et al.* 2010, Huybregts, Hounbé *et al* 2012, Grellety, Shepherd *et al* 2012, Thakwalakwa, Ashorn *et al* 2012), yet results are mixed. It has been suggested that inadequacies in the composition of the supplement (limiting in specific micronutrients required for linear growth) may be responsible (personal communication from Mike Golden). It is also possible that differences in the broadness of the interventions (for example, were women also being targeted to influence the number of children being born stunted?). It is encouraging, however, that some studies found effects on the incidence of stunting with short-term or seasonally repeated programming. As noted in the ENN review of the relationship between wasting and stunting, too often interventions and research look for results on one deficit or the other, rather than both, so it is encouraging to find at least a few studies looking at both.

That a more coherent approach to looking at both wasting and stunting in protracted crises is required by the nutrition community is highlighted by the Committee on World Food Security's newly developed *Framework for Action for Food Security and Nutrition in Protracted Crises* (CFS-FFA). This states:

'It is crucial in protracted crises to promote coherent and well-coordinated humanitarian and development programming to address food insecurity and undernutrition, to save lives and to build resilience'

The Framework includes a principle to focus on nutritional needs, with the objective of improving nutritional status of members of affected and at-risk populations and vulnerable and marginalised groups, as well as people living in vulnerable situations, over the **short, medium and long term**, outlining a number of actions, including those with proven effect on stunting, wasting and mortality⁸.

⁸ Those included in the 2013 *Lancet* series on maternal and child nutrition.



Conclusions

In conclusion, this investigation raises more questions that can currently be answered. We propose the following next steps:

- Conduct further roundtable discussion with agencies working in nutrition and related sectors, including clusters and sector coordination bodies in FCAS, to further explore the issues raised during our investigations.
- Investigate opportunities to improve monitoring of both wasting and stunting levels in protracted crises, including better understanding of sub-national trends, incidence and seasonality. Taking a number of countries with better systems in place for tracking nutritional indicators (e.g. Somalia) may be a good base to start investigating this further.
- Explore the question of how humanitarian interventions (both nutrition specific and sensitive) are, and could better, prevent impact of shocks on medium term nutrition outcomes such as stunting and low birth weight.
- Keep attention focused on the extent to which our response in protracted crisis (i.e. including Humanitarian Food Assistance (in kind and cash), WASH, Health) supports the nutritional needs of ALL individuals (including those with increased needs) based on knowledge of requirements, assessment of needs (e.g. using diet diversity tools) and the principle of the Right to Adequate Food.
- Monitor the extent to which *The Lancet* specific interventions are being scaled up in FCAS contexts and explore the relationship between intervention coverage and trends in stunting.
- Continue to advocate and propose interventions for longer-term funding in protracted crisis. Whilst some examples of this can be found for the prevention of wasting, an equivalent focus on addressing all forms of growth failure is needed.
- Advocate for greater adherence to common monitoring frameworks for nutrition, particularly in protracted crisis situations, which will allow results (including impact on stunting) to be tracked over the long term, including during periods of more acute crisis.
- Continue to advocate for a more coordinated and connected approach to addressing stunting across humanitarian and development programming and policy.

Annex 1

Fragile and Conflict Affected States (DFID 2015**) and/or countries in protracted crisis (FAO 2010) with stunting levels and burden

Country	Stunting prevalence (JME 2015)*^	Stunting Burden (JME 2015)*	Severe stunting prevalence (WHO 2015)+	Concurrence (Victoria 2015/DHS)	On course to meet WHA stunting target (IFPRI 2015)
DFID 2015					
DFID 2015 & FAO 2010					
Afghanistan	40.9% (2013)	2,042,523	31.8% (2004)		Yes
Angola	29.3% (2007)	1,114,276	12.2% (2007)		Unknown
Bangladesh	36.1% (2014)	5,549,928	15.7% (2013)	7.6% (2011)	Yes
Burkina Faso	32.9% (2012)	983,364	15.1% (2010)	5.0% (2010)	No
Burma/Myanmar	35.1% (2009)	1,809,699			No
Burundi	57.5% (2010)	990,429		3.7% (2010)	No
Cambodia	32.4% (2014)	571,434	14.0% (2011)	4.7% (2010)	Yes
Cameroon	32.6% (2011)	1,142,233	14.1% (2011)	2.6% (2011)	No
CAR	40.7% (2010)	267,094	18.3% (2010)	4.4% (1994)	No
Chad	38.7% (2010)	895,499	20.9% (2010)	7.1% (2004)	No
Comoros	32.1% (2012)	36,401	16.5% (2012)	2.4% (2012)	No
Congo	25.0% (2011)	173,771	8.4% (2011)	1.1% (2011)	No
Côte D'Ivoire	29.6% (2012)	1,014,163	12.0% (2012)	2.1% (2011)	No
DPRK	27.9% (2012)	471,732	7.2% (2012)		Yes
DRC	42.6% (2013)	5,632,957	22.6% (2013)	2.6% (2013)	No
Djibouti	33.5% (2012)	33,482	19.0% (2012)		No ~
Egypt	22.3% (2014)	2,615,176	16.1% (2008)	0.2% (2000)	Yes
Eritrea	50.3% (2010)	392,674			No ~
Ethiopia	40.4% (2014)	5,833,972	18.7% (2014)	4.3% (2011)	No
Guinea	31.3% (2012)	600,589	13.8% (2012)	2.4% (2012)	No
Guinea Bissau	27.6% (2014)	78,269	10.4% (2010)		No
Haiti	21.9% (2012)	274,437	7.8% (2012)	1.6% (2012)	No
Iraq	22.6% (2011)	1,161,596	9.9% (2011)		No
Kenya	26.0% (2014)	1,838,774	14.4% (2009)	1.9% (2008)	Yes
Kiribati					Unknown

Country	Stunting prevalence (JME 2015)*^	Stunting Burden (JME 2015)*	Severe stunting prevalence (WHO 2015)+	Concurrence (Victoria 2015/DHS)	On course to meet WHA stunting target (IFPRI 2015)
Lebanon	16.5% (2004)	54,256	9.8% (2004)		Unknown
Liberia	32.1% (2013)	220,096	12.6% (2013)	1.9% (2013)	Yes
Libya	21.0% (2007)	131,801	10.5% (2007)		Unknown
Madagascar	49.2% (2009)	1,631,433	26.3% (2009)	6.2% (2003)	No
Malawi	42.4% (2014)	1,227,594	20.9% (2010)	1.4% (2010)	No
Mali	38.5% (2006)	983,081	20.0% (2006)		
Marshall Islands					Unknown
Mauritania	22.0% (2012)	126,441	5.5% (2012)		No
Nepal	37.4% (2014)	1,067,473	16.3% (2011)	4.2% (2011)	Yes
Niger	43.0% (2012)	1,585,305	21.2% (2012)	8.2% (2012)	No
Nigeria	32.9% (2014)	10,028,847	21.0% (2013)	5.6% (2013)	No
Palestinian territories (WB&Gaza)	7.4% (2014)	50,976			
Pakistan	45.0% (2012)	10,683,321	24.5% (2012)	5.4% (2012)	No ~
Rwanda	37.9% (2015)	642,359	17.2% (2011)	1.1% (2010)	No
São Tomé & Príncipe	31.6% (2008)	8,558	14.3% (2008)	1.5% (2008)	No
Sierra Leone	37.9% (2013)	376,459	19.1% (2013)	3.0% (2013)	Yes
Solomon Islands	32.8% (2007)	24,850	8.5% (2007)		Unknown
Somalia	25.9% (2009)	460,529	24.3% (2006)		No
Sudan (North)	38.2% (2014)	2,244,920	19.5% (2006)		No ~
Sudan (South)	31.1% (2010)		17.1% (2010)		No
Sri Lanka	14.7% (2012)	256,244	4.6% (2009)		No
Syria	27.5% (2009)	707,003	15.3% (2009)		No ~
Tajikistan	26.8% (2012)	287,763	10.5% (2012)	1.7% (2012)	No
Timor-Leste	57.7% (2009)	86,070	33.0% (2009)	7.6% (2009)	No ~
Togo	27.5% (2014)	314,184	8.8% (2010)	4.9% (1998)	No
Tuvalu	10.0% (2007)	100	3.3% (2007)		Unknown
Uganda	34.2% (2012)	2,318,344	13.9% (2011)	1.3% (2011)	No
Yemen	46.5% (2014)	1,806,590	21.8% (2011)		No
Zimbabwe	27.6% (2014)	678,963	7.8% (2014)	0.9% (2010)	No
TOTAL (54)		71,718,333			

* UNICEF/WHO/WB joint estimates database – children aged 0-59 months included.

** Personal communication

^ stunting prevalence categorized according to WHO as Critical (30-39%) Serious (30-39%) Poor (20-29%) Acceptable (<20%)

+ figures from different surveys to the overall stunting prevalences quoted.

~ no progress being made on stunting.

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