

Child malnutrition IN NORTHERN NIGERIA: An Illustrative Case Study



Nigeria is a middle-income country. It is also home to the highest number of stunted children in the continent and ranks third globally with more than **10 million stunted children**.¹ Nigeria is one of six countries that account for half of all child deaths worldwide,² with **1 million children under five dying every year**. Malnutrition contributes to over **one-third** (35%) of those deaths.³ The magnitude of the problem must be met with a response that reflects the scale and gravity of the situation.

The information presented here relates to child malnutrition⁴ in Katsina State, northern Nigeria. The findings are largely drawn from three surveys/studies conducted by Save the Children UK in 2010 in two local government areas (Daura and Zango LGAs) in Katsina: a SMART nutrition survey, a household economy analysis, and a cost of diet analysis.⁵ Little information on malnutrition in northern Nigeria exists. These studies were therefore conducted to develop a better understanding of the underlying causes of child malnutrition and to aid the design of interventions. As outlined below, these results are alarming and require urgent and sustained responses.

THE PROBLEM OF MALNUTRITION

A staggering 41% of all children under five in Nigeria are chronically malnourished, 23% are underweight, and 14% suffer from acute malnutrition. In the northern region the statistics are even more alarming with more than half of all children stunted. This problem is also present in some pockets in the south.

One of the northern states with the highest rates of **acute** malnutrition is Katsina with **under-five acute malnutrition rates at 20%, and severe acute malnutrition at 10%**.⁶ In the two LGAs studied in Katsina in late 2010 (Daura and Zango LGAs),⁷ 17% of children under five were acutely malnourished,⁸ **exceeding the WHO global “critical” threshold** of 15%; severe acute malnutrition was also found to be high at 6%. The absolute numbers of children with moderate and severe acute malnutrition in these two LGAs alone were estimated at 9,100 and 5,100 children respectively at the time of the survey. Figures are worse than those found by a similar survey carried out in the same livelihood zone in 2007. Acute malnutrition or wasting greatly increases the risk of illness and death in children.

Rates of **chronic** malnutrition are also extremely high in the northern states: **48% of under-fives in Daura and Zango LGAs are chronically malnourished (or stunted)**, of whom 23% are severely stunted, translating to approximately **40,200 under-fives** in these two LGAs alone. Stunting increases the risk of premature death, impairs the development of the brain and has far-reaching impacts on the wider economy through its impacts on education levels, health and economic productivity.

In recent years Nigeria has developed a number of policies to tackle these issues, including the National Policy on Food and Nutrition from 2001 (re-printed, 2004), with its Plan of Action (2004), as well as the National Policy on Infant and Young Child Feeding (2005). However, implementation has been weak with insufficient political support to transform policy around improving nutrition into practice. Agencies on the ground are supporting the Ministry of Health to treat children suffering from malnutrition, but more is needed to scale-up this vital work, as well as to tackle the root causes of malnutrition.⁹

THE CAUSES OF MALNUTRITION

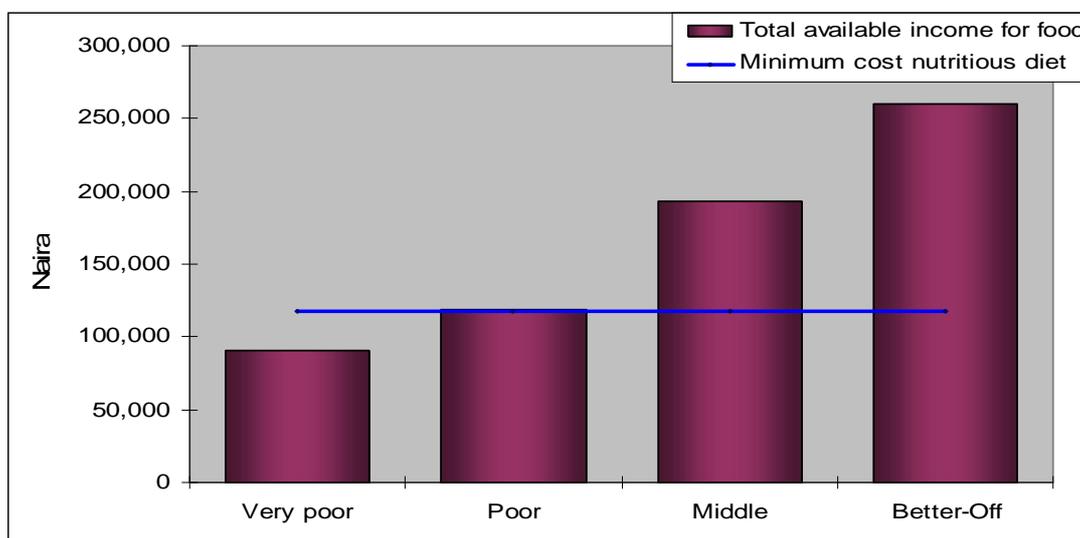
A multitude of factors lead to malnutrition. These include not having enough money to buy sufficient nutritious food and not having a reliable supply of food throughout the year; gender inequality; poor infant and young child feeding practices; and limited access to healthcare, safe drinking water and adequate sanitation.

Poverty

According to the results from the studies carried out in the two LGAs, limited access to cash is one of the determining factors of malnutrition. Nationally, the likelihood of a child being underweight is 3.5 times higher for children in the poorest households (bottom 20% of households) than children in the richest households (top 20% of households).¹⁰ This is due to several reasons.

- **Low income levels mean the very poor cannot afford the cost of a nutritious diet.**

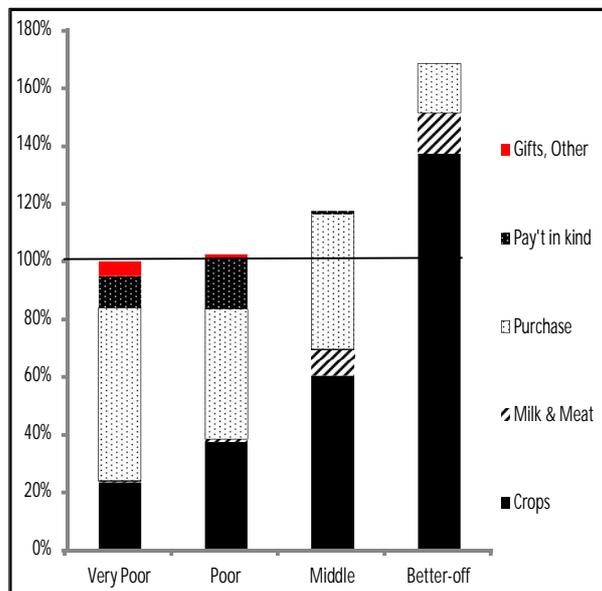
Almost half (47%) of households in Daura LGA cannot afford the cost of a nutritionally adequate diet.¹¹ **Very poor households have around US\$600 (NGN 90,000 Naira) annually to spend on food, while the lowest-cost nutritionally adequate diet per annum is around US\$785 (NGN 117,873).**¹² A further 30% of households are only just able to afford the cost of an adequate diet. This is reflected by the poor quality of the diet currently seen among children under 2 years¹³. If prices increase later in the year, or households have other urgent non-food needs (such as medical costs), 78% of households may not be able to afford a nutritious diet, meaning households affected by ill health are particularly vulnerable. Better-off households were found to be able to consume a nutritionally adequate diet from locally available foods during the post-harvest period showing that a sufficient diversity of foods is available at that time.



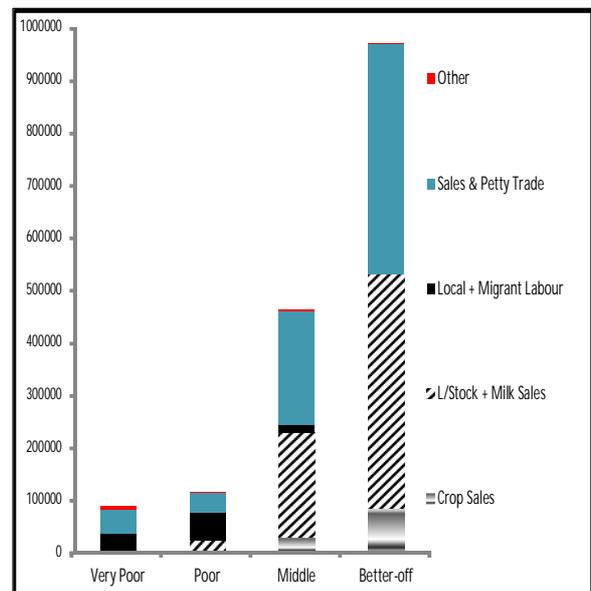
- **Poor¹⁴ households are net buyers of food.** Malnutrition disproportionately affects poor households since the poorest families spend the greatest proportion of their income on buying staple foods, making them highly vulnerable to price fluctuations. In **47% of surveyed households in Daura LGA, agriculture production was found to account for less than 25% of the total household food consumption. The remainder of poor household's diet comes largely from buying food in local markets and food received for work.** The poor own few livestock and survive through a combination of smallholder agriculture, casual labour and petty trade. A lack of purchasing

power reduces a household's ability to buy the food it needs, which combined with the other causes mentioned above increases the likelihood of malnutrition.

Annual Food Sources in Naira, 2009-2010



Annual Income Sources in Naira, 2009-2010



Gender inequality and mothers' nutritional status

The health and nutrition needs of mothers, newborns, and children are closely linked. Maternal under-nutrition¹⁵, reported in 18.4% of women at child bearing age in Katsina State,¹⁶ increases maternal mortality as well as the risk of giving birth to low birth-weight babies.

Anaemia is an underlying cause of maternal and infant mortality and increases the risk of premature delivery and low birth-weight¹⁷; at least half of all anaemia cases in pregnancy are due to nutritional iron-folate deficiency.¹⁸ Taking iron supplements for 90 days during pregnancy is the recommended level of supplementation for all women.¹⁹ In Katsina State, only 4.5% of women reported to have taken iron supplements during their last pregnancy.²⁰

The problem of maternal under-nutrition in northern Nigeria is compounded by the overall status of women in the region, where pregnancies at a young age (15-19 years) are very high and women's education levels very low. Empirical research has shown that the overall status of women corresponds with both mother and child nutrition.²¹

Poor infant and young child feeding practices

Exclusive breastfeeding in the first six months of life can significantly reduce mortality in children under five. During the nutrition survey conducted in Daura and Zango in 2010, no mothers of children below six months of age were found to practice exclusive breastfeeding,²² and less than half of the mothers reported to have put their newborn to the breast within one hour after birth to receive colostrum. Not receiving colostrum²³ deprives a baby of the first and most important immunisation against bacteria and various viruses.

Lack of access to healthcare, water and sanitation

Immunisation rates in northern Nigeria are some of the lowest in the world;²⁴ only 0.9% of infants in Katsina received all basic vaccinations.²⁵ In the two LGAs studied, 34% of the population do not have access to safe drinking water and 22% do not have a safe way of disposing of human waste.²⁶ Generally, the hygiene situation is considered to be very poor. These factors combine to increase the risk and incidence of child illness, which can lead to malnutrition.

WHAT IS NEEDED?

There is a need for **urgent and sustained action**. Without action to increase, add to, and scale up existing interventions to address the causes of malnutrition, children will continue to die or suffer the effects for the rest of their lives.²⁷ Current efforts underway to treat malnutrition must be intensified,²⁸ but bringing sustainable reductions in child malnutrition requires an integrated package of measures that tackle both the causes and effects of malnutrition, backed up by strong political and institutional support. There is a need to develop effective models that can be brought to scale and integrated into the healthcare system in a sustainable way. At the same time, the underlying causes of malnutrition must be recognised and tackled to reduce both chronic and acute malnutrition. Evidence-based advocacy from effective programmes will be an important tool to leverage resources from the government of Nigeria and donors to increase interventions to treat and prevent malnutrition.

Save lives through the expansion of Community Management of Acute Malnutrition (CMAM)

It is a humanitarian imperative to treat children at greatest risk of death because of severe acute malnutrition. The CMAM community-based approach has been shown across Africa to greatly reduce the cost and expand the reach of treatment, and to permit more timely identification of need. In this approach, only those with severe acute malnutrition and life-threatening complications require costly in-patient care; all others are treated at the community level using ready-to-use therapeutic foods.

CMAM, as a life-saving opportunity, should be scaled up and must become part of the routine services provided at the primary healthcare level with health workers trained to manage acute malnutrition and the appropriate level of resources allocated to the health system to provide this service.

Increase the incomes of the poor so they can afford to buy nutritious foods

Without an increase in purchasing power, households cannot access a nutritionally adequate diet. Improving understanding of the nutritional needs of mothers and infants alone will not lead to change if households cannot afford to purchase the necessary foods. Livelihoods must be promoted and protected to enable households to increase their incomes.

Interventions to support livelihoods must include an analysis of gender roles and should be designed to increase women's control over resources. This support should be designed to increase access to nutritious foods and to enable women to have the time available to adequately feed themselves and their children. Possible and inter-linked interventions for increasing incomes should include the following:

- Regular and/or seasonal cash transfers to cover at a minimum the cost gap of an adequate diet as well as of the cost of access to basic needs (such as healthcare, education costs, clothing etc) for the very poor (47%). Studies in other middle-income countries have shown that cash transfers can have a significant effect on increasing the consumption of an adequate diet.²⁹ Cash transfers should be combined with livelihood promotion activities such as community-based savings and credit groups and agriculture and livestock interventions that include access to a nutritious diet as a key aim. Further analysis is required to define the targeting (eg, of households with children under the age of two and pregnant women) and to design cash transfer interventions that maximise the impact on nutrition.
- Value-chains with high potential for income and growth, such as livestock, sesame, and groundnut should be analysed from a pro-poor perspective and support given to integrate poor households into these markets where possible, either as producers, farm labourers and/or in value addition activities.
- Rural labour markets require in-depth analysis to identify interventions aimed at strengthening these markets and supporting household incomes

Reduce gender inequality and improve the nutritional status of women

A reduction in low birth-weight rates requires greater care for women before and during pregnancy. Greater care and improvement of women's and girls' status overall will result in heavier, healthier babies and children. Increasing awareness of and support for the nutritional needs of pregnant women, combined with an increase in a household's ability to secure its nutritional needs, should be integrated with broader work related to reducing early marriage and pregnancy, increasing girls' access to education, and supporting women to benefit from improved livelihood options and opportunities. Together these interventions can support improvements in women's decision-making power so that they can make informed choices to improve their nutrition and that of their children.

Improve infant and young child feeding practices

Exclusive breastfeeding for the first six months of a child's life could save 12-20% of child deaths and appropriate complementary feeding a further 6%.³⁰ Awareness must be increased in communities, inclusive of women and men, on how to improve IYCF practices in order to help reduce child malnutrition. Support must come through IYCF interventions carried out by well-trained health workers and volunteers, and must be combined with efforts to increase incomes to enable households to put what they have learnt into practice.

Improve access to healthcare, water and sanitation

Direct interventions are required to improve access to a healthy environment and to reduce morbidities associated with malnutrition. These include iron-folate supplementation for pregnant women, zinc supplement in the management of diarrhoea, vitamin A fortification or supplementation for children under five, hygiene promotion, improved access to safe drinking water in communities and institutions, and increased vaccination coverage.

Translate policy into practice

Policies relating to nutrition and food security must be updated and translated into practice, backed by strong political and public support in order to maximise impact. For this to happen, adequate and efficient human and financial resources, policy coordination and delivery mechanisms must be put in place.

There is a need for a multi-sector approach to malnutrition through improved partnership and coordination within and across government institutions, as well as with other stakeholders to ensure nutrition is put high on the agenda and translates into real change.

Accountability and monitoring

Policy implementation, budget spending and programme interventions should be carefully monitored to ensure commitments to tackling child malnutrition are met and to produce evidence of the effectiveness of different interventions to determine which work best and which are the most cost-effective.

Further research

Further research is needed across the northern states to generate a broader evidence base of the underlying causes of malnutrition that can inform the design of interventions to tackle these causes at scale. Specific research should include developing a better understanding of the impact of current intra-household gender relations (between women, and between women and men) on child and maternal nutrition.

Endnotes

1 Nigeria Demographic Health Survey (DHS), 2008

2 Summary of Child Survival Partnership, *The Lancet* undernutrition series, 2008

3 Federal Ministry of Health Saving newborn lives in Nigeria: Newborn health in the context of the Integrated Maternal, Newborn and Child Health Strategy, Second edition, 2011

4 Chronically malnourished or stunted children are too short for their age; acutely malnourished or wasted children are too thin (their weight is too low for their height); an underweight child has a low weight for their age and could be chronically and/or acutely malnourished.

5 Save the Children UK, December 2010: Household Economy Analysis – millet and sesame livelihood zone in Daura LGA, Katsina State, northern Nigeria; Cost of the Diet study conducted in Daura LGA; and a SMART nutrition survey conducted in Daura and Zango LGAs (all funded by DFID and ECHO)

6 See note 1

7 Save the Children UK, November 2010: Nutritional Anthropometric Survey: Daura and Zango LGAs, Katsina State, northern Nigeria

8 Based on the World Health Organisation standard growth curves

9 Save the Children UK, UNICEF, Action Against Hunger (ACF), Medicine Sans Frontier – France (MSF-F), Medicine Sans Frontier – Holland (MSF-H), funded by ECHO, DFID and other donors

10 UNICEF, Progress for Children No.9, September 2010

11 Save the Children UK, 2010: Cost of the Diet assessment, Daura LGA, Katsina State, northern Nigeria

12 The income data used was collected during the Household Economy Assessment and is for the reference year September 2009 – August 2010. The exchange rate at the time of the surveys was approximately NGN 150 = US\$1.

13 Save the Children UK, 2010. SMART nutrition survey, Daura and Zango LGAs, Katsina State, northern Nigeria

14 Wealth grouping were determined by communities themselves. Wealth differentiation was largely based on land and livestock holdings.

15 Undernutrition is defined as the outcome of insufficient food intake and repeated infectious diseases. It includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted) and deficient in vitamins and minerals (micronutrient malnutrition), <http://www.unicef.org/progressforchildren/2006n4/undernutritiondefinition.html>

16 See note 1

17 Weight less than 2.5 kilos at birth

18 Federal Ministry of Health, Saving Newborn Lives in Nigeria: Newborn health in the context of the Integrated Maternal, Newborn and Child Health Strategy, Second edition, 2011

19 Federal Ministry of Health, Saving Newborn Lives in Nigeria: Newborn health in the context of the Integrated Maternal, Newborn and Child Health Strategy, Second edition, 2011

20 See note 1

21 The Importance of Women's Status for Child Nutrition in Developing Countries, IFPRI Research report 131.

22 Defined as no food or liquid (not even water) other than breast milk is given to the infant from birth until six months of age

23 Commonly referred to as the first milk, colostrum is the leftover mixture of materials present in the mammary glands and ducts at delivery. One of the major purposes of colostrum is in the formation of the "good" bacteria in the GI tract. Colostrum is abundant in antibodies to protect the baby against bacteria and viruses in the birth canal and from human contact.

24 transaid.org/projects/nigeria,-programme-for-reviving-routine-immunization-in-four-northern-states,-2007-%E2%80%93-2011

25 See note 1

26 Save the Children UK, November 2010: Nutritional anthropometric survey, Daura and Zango LGAs, Katsina State, northern Nigeria

27 PRRINN-MNCH (immunisation and maternal, newborn and child health), SuNMaP (malaria), RUWASSA and SHAWN (water and sanitation), SPHCDA and Service to Humanity (health and nutrition education and promotion of indigenous foods), Millennium Hope (microcredit), NAPEP (conditional cash transfers), RERA (skills training), KTARDA (agriculture inputs and agriculture extension), GEP (girls education project), Save the Children, UK (

28 PRRINN-MNCH (immunisation and maternal, newborn and child health), SuNMaP (malaria), RUWASSA and SHAWN (water and sanitation), SPHCDA and Service to Humanity (health and nutrition education and promotion of indigenous foods), Millennium Hope (microcredit), NAPEP (conditional cash transfers), RERA (skills training) KTARDA (agriculture inputs and agriculture extension), GEP (girls' education project), Save the Children, UK (

29 Save the Children UK, 2009. *Lasting Benefits: The role of cash transfers in tackling child mortality*,

30 Gareth Jones, Richard W Steketee, Robert E Black, Zulfiqar A Bhutta, Saul S Morris, and the Bellagio Child Survival Study Group, 'How many child deaths can we prevent this year?' In Child survival II

who.int/child_adolescent_health/documents/pdfs/lancet_child_survival_prevent_deaths.pdf

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