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The right ingredients:
the need to invest in child nutrition

ENOUGH FOOD FOR EVERYONE IF

UNICEF UK is part of the Enough Food for Everyone IF campaign, a great movement of individuals and organisations united to tackle global hunger. This year, many of the world's most powerful leaders will meet in the UK. IF we get together, we can make them act. These leaders have the power to change the future for millions of people who face a daily struggle against hunger.

They can make sure there is enough food for everyone

- IF ... our Government keeps its promise on life-saving aid and finds new ways to support low-income countries to adapt to climate change.
- IF ... governments stop poor farmers being forced off their land and grow crops for food not fuel.
- IF ... governments and big companies are honest and open about the actions that stop people getting enough food.
- IF ... governments close tax loopholes so big companies pay their fair share of taxes in poor countries.

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Every minute, four children in our world die of malnutrition. It shouldn't be like this.

UNICEF believes that no child should die from malnutrition.
Today, UNICEF is doing more than anyone to stop children suffering from hunger and dying from malnutrition. In 2011, UNICEF provided

UNICEF know what works and, with your help, can put a stop to it for good.
With your help, every child could have the food they need to live and grow.

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FOREWORD

by Lawrence Haddad

In the global efforts to reduce the scandal of malnutrition, UNICEF has long been a beacon of light. It has exposed the scale of the global challenge and guided us towards solutions. It has led the way with its path-breaking work on explaining the determinants of malnutrition through its famous 'UNICEF model'; the value of rights-based nutrition programming; the highlighting of the Asian engima of high malnutrition rates in South Asia; the collection of invaluable nutrition data, and the benefits and costs of reaching the very poorest and most excluded. This report continues this proud tradition of leadership on reducing child and maternal malnutrition.

As is well documented in this report, malnutrition is invisible and yet it has massive consequences for survival, health, productivity and intergenerational well being. Malnutrition is irreversible if not caught right at the beginning of a child's life. Yet if addressed, the benefits are life-long. Malnutrition can be caused by a number of failings in a number of sectors, and yet each of these sectors represents an investment opportunity to address malnutrition.

Malnutrition is everyone's business but nobody's responsibility. That is why leadership is so important. UNICEF has made the reduction of child malnutrition their responsibility, and has inspired others to do so as well. This report highlights the key role that the UK Government can have in demonstrating leadership on nutrition. Politicians, like all of us, care about their legacy. They want to achieve things that are enduring. By helping to lead the fight against malnutrition, the UK Prime Minister David Cameron will massively enhance this generation's legacy to the 165 million malnourished infants throughout the world. This report should inspire him and help him convince others.

Director of the Institute of Development Studies, Sussex

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EXECUTIVE SUMMARY

"They stand as a silent rebuke to us: millions of young children around the world who are sick, dying, wasted, or stunted by inadequate nutrition. Even in times of abundance, they wait at the end of the line for their share. Now, as food, fuel, and financial crises continue to spread hardship across rich and poor nations alike, they are the most vulnerable." Graham Wheeler, Managing Director, World Bank

Malnutrition is one of the great iniquities and social injustices of our age. Every minute of every day, four children die because of malnutrition.[1] Of those children that survive, one in four are stunted, their physical and mental growth permanently damaged by the lack of nutritious food.[2]

This is a tragedy for these children, their families, their communities and their nations, and tackling malnutrition is becoming ever more urgent due to a variety of challenges – from climate change to the global economic crisis. Hundreds of millions of children are not getting the food they need to survive and flourish.

The impact of global food and financial crises on the poorest and most vulnerable communities make investing in child nutrition more urgent than ever. The needs of these children simply cannot wait. The future of communities and nations depend on them, and the actions that we take will help determine their futures.

Adequate nutrition is as critical as clean water and as indispensable as education to human development. Nutritious food is essential for every child's physical and intellectual development.

First 1,000 days

The most critical time in a child's development is the first 1,000 days from conception to their second birthday. These first days are the window of opportunity to ensure that children survive, flourish and fulfil their potential.

Preventing malnutrition in a child begins with the mother. The health of the mother is critical to the future health of her child. A child's development inside the womb is affected if their mother is malnourished. During pregnancy, a woman needs nutrients like iron, iodine and calcium for the healthy development of her child. After birth, exclusive breastfeeding for the first six months of a child's life is the best nutrition for a baby. Increasing rates of breastfeeding can dramatically reduce deaths of babies. Babies who do not breastfeed are more than 14 times more likely to die from diarrhoea or respiratory infections than babies who are exclusively breastfed for the first six months.[3]

Mothers and children both need sufficient nourishing food. The education, empowerment and involvement of women is essential if we are to enable every child to have the opportunity to survive and flourish.

Effects of climate change

Children are already feeling the effects of climate change. More than one in three deaths of children under the age of 14 is caused by illnesses and conditions related to a poor environment.[4] Those children that survive may be weakened and more susceptible to malnutrition and infectious diseases, their physical and mental development permanently harmed. Climate change is already intensifying the threat of diarrhoea, malnutrition and malaria: three of the greatest killers of children.

Climate change also increases the frequency and severity of natural disasters.[5] We know that children are hit hardest during natural disasters such as floods and droughts. These also damage food production. Less food and higher food prices increase the risk of children going hungry and becoming malnourished.

Martina holds her baby son Johannes, while he is tested for malnutrition at a UNICEF-supported clinic in the Korogocho slum, Nairobi, Kenya. Johannes is diagnosed as severely malnourished and receives high-energy peanut paste.

UNICEF: a leader in child nutrition

80 per cent of the world supply of therapeutic food

In 2012, treatment for 850,000 severely malnourished children in the Sahel

Health, wealth and welfare

Malnutrition is not only an immediate issue affecting child health and mortality. It also affects long-term educational achievement and national economic growth. Chronic malnutrition in early childhood harms children's physical and mental development, putting them at a disadvantage for the rest of their lives. Malnourished children are more likely to perform poorly in school, may be less productive and earn less as adults, and face a higher risk of disease than adults who were adequately nourished as children.[6]

Malnutrition also harms national economies. The World Bank estimates that low-income countries can lose 2 to 3 per cent of their annual GDP because of child malnutrition.[7] In the 2012 Copenhagen Consensus, five leading economists concluded that fighting child malnutrition should be the top priority for global funding. They agreed that the best solution was a bundle of interventions to prevent malnutrition in pre-school children.[8]

Vital progress

Progress has been made. Since 1990, 50 million fewer children are malnourished. In the same period, the prevalence of stunting in developing countries has also fallen – from 44 per cent to 28 per cent.[9] This achievement in reducing the number of malnourished children forms part of a wider success story in child survival work over the past two decades. More children now live to see their fifth birthday than ever before: the global number of under-five deaths has fallen by more than 40 per cent since 1990.[10]

But these great advances must be balanced by the scale and challenge of the unfinished business that confronts us. Despite all we have learned about saving children's lives, more than 2 million children die every year of causes related to malnutrition. UNICEF believes and works for zero hunger. No child should go hungry when the world produces enough food for everyone.

UNICEF and child nutrition

UNICEF has been a leader in child nutrition since being founded to help feed children after World War 2. UNICEF programmes meet the urgent life-saving needs of malnourished children, while at the same time building long-term solutions that seek to prevent malnutrition in the first place. These programmes provide life-saving high energy food to treat malnourished children, deliver essential nutritional supplements for mothers and children, train health workers and parents, and promote and protect exclusive breastfeeding for a baby's first six months. Good water, hygiene and sanitation are also vital. UNICEF works around the world to provide clean water for drinking and food preparation, toilets in schools and communities, and hygiene training for parents.

What must be done?

UNICEF and partners know what needs to be done to improve child nutrition and how to deliver it. We are ready to tackle the problem of malnutrition, starting with the children and countries in greatest need. Countries are also ready. Beating malnutrition is achievable. What is needed is the political will to provide the financial resources. Relatively modest, strategic investments would have significant impact.

There must be a renewed global political focus on tackling malnutrition in children. Over a decade ago, global leaders made a commitment to the world's poorest and most vulnerable people through the Millennium Development Goals (MDGs).

MDG1 aimed to halve the number of people living in extreme poverty and hunger. We are currently off-track to meet this target.

In 2013, the UK has a leading role to play in tackling child malnutrition. UK Prime Minister David Cameron co-chairs the UN Secretary-General's High Level Panel for the Post 2015 UN Development Agenda. He will also host the G8 and a global event on hunger (that follows the 'Hunger Summit' held in London in August 2012).

Governments have promised money to help developing countries combat the effects of climate change. This money is in addition to existing aid budgets, so new, innovative sources need to be found and agreed upon. This money would help communities to adapt and build resilience against the impact of climate change, and thereby ameliorate the impact of climate change on child nutrition.

Tackling child malnutrition is the best development investment the world can make. And it is the right thing to do.

This report seeks to highlight the issues around child nutrition, shows the work UNICEF does to prevent and treat child malnutrition, and makes recommendations to the UK Government on how it can help save and change children's lives.

Recommendations to UK Government

1. Deliver 0.7 per cent of GNI to aid to increase funding for child nutrition
2. Show global leadership in tackling child nutrition
3. Commit to new and additional climate finance
4. Increase resilience programmes
5. Expand social protection programmes for vulnerable families.

A mother holds her daughter as she eats a slice of watermelon in Niamey, capital of Niger. After a baby is six months old, they should be properly fed with adequate and safe complementary food, while breastfeeding continues up to age two or beyond.

MALNUTRITION MATTERS

Every child has the right to the best possible health. Governments must provide good quality health care, clean water, nutritious food and a clean environment so that children can stay healthy. Richer countries must help poorer countries to achieve this.

Article 24, UN Convention on the Rights of the Child

Malnutrition is the cause of one in three of all child deaths. In 2011 alone, 2.3 million children died because they did not get the nourishment they needed.[11] Where children survive, their development and that of the country in which they live can be irreversibly damaged. This makes malnutrition one of the most vital and urgent challenges in global development.

The UN Convention on the Rights of the Child is the most widely accepted human rights treaty in history, ratified by every country in the world except three (Somalia, USA, South Sudan). In the Convention, governments agreed that every child, wherever they are in the world, has the right to life and to the highest possible standard of health. Governments promised to reduce child mortality, combat malnutrition and provide adequate nutritious food, as well as ensure parents and children have quality information about child health and nutrition, including the advantages of breastfeeding and hygiene. They also agreed that higher-income governments should support lower-income countries to achieve this.

Yet there are millions of children whose rights are not being met. Every minute of every day, four children in our world die because of malnutrition.[12] Of those that survive, one in four under the age of five are stunted because of a lack of nourishing food.[13] Children are going hungry and do not have the balance of nutrients they need to survive and flourish.

Quantity and quality

Nutrition is about the *quantity* and *quality* of food that a child needs. Children need enough food with a balance of nutrients (carbohydrate, protein, fat, vitamins and minerals) in order to grow up healthy and develop to their full potential.

Hunger and malnutrition are intrinsically related but different. Hunger is about not having *enough* food (quantity). Malnutrition is about not having the mixture of nutrients necessary for good health. Malnutrition is not just a consequence of too l ittle food, but a combination of factors including frequent illness, poor food quality, poor feeding practices, inadequate health services, and poor water and sanitation.

Double burden

While this is not a major theme for this report, children who are overweight are also defined as malnourished because they do not have a balanced diet. Since 1990, the prevalence and numbers of overweight children have increased in every part of the world except East Asia. The prevalence of overweight children in high-income countries has doubled in the past 20 years. Many middle-and low-income countries are facing a double burden of malnutrition: increasing numbers of underweight and overweight children.[14]

Hawa eats high protein peanut paste to help him recover from severe malnutrition in western Mali. Recent conflict and drought has increased the vulnerability of children.

Acute malnutrition

The typical measurement for acute malnutrition is *low weight for height*. There are three types of acute malnutrition: wasting or severe weight loss (marasmus), kwashiorkor or bi-lateral oedema (bloating caused by water retention on both sides of the body), and a combination of wasting and oedema (marasmic kwashiorkor). An early identification of and treatment for malnutrition is crucial, as a child's chances of survival are greatly reduced when they are severely malnourished.

Worldwide, one in every six children is moderately or severely underweight.[15]

Wasting

A rapid decline in nutrition can lead to wasting. This is the most common form of acute malnutrition during a major food shortage and, in its severe form, can quickly lead to death if untreated. It is characterised by severe wasting of body fat and muscle, which the body breaks down to make energy. A wasted child's body tries to conserve as much energy as possible by reducing physical movement and growth, restricting bodily processes and shutting down the immune system. This reduced activity results in limited function of the liver, kidney heart and gut, putting the child at risk of low blood sugar, low body temperature, infection and heart failure. Children who suffer from wasting face a markedly increased risk of death.

Worldwide, 52 million children under the age of five suffer from wasting because of malnutrition. That's about 1 in every 12 children.[16]

Severe acute malnutrition

A wasted child is considered moderately malnourished or severely malnourished based on body measurements. Mid-Upper Arm Circumference (MUAC) and Weight-for-Height Z-score (WHZ) are the measurements used to determine the extent of wasting. UNICEF and the World Health Organization define a child as being severely malnourished if the circumference of their mid-upper arm is less than 115mm. Severe acute malnutrition (SAM) is common in emergency situations such as the 2011 famine in Somalia. If a moderately malnourished child does not receive appropriate and timely treatment, they may become severely malnourished.

Severe acute malnutrition affects about 20 million children under the age of five and is associated with 1 to 2 million preventable child deaths every year.[17]

TABLE 1 **Impact of reducing malnutrition on the Millennium Development Goals**

MDG 1: Eradicate extreme poverty and hunger	Reducing prevalence of underweight children under five years of age is an agreed target for MDG 1. Reducing malnutrition increases economic growth.
MDG 2: Achieve universal primary education	Reducing malnutrition increases cognitive development and contributes to learning and school completion rates.
MDG 3: Promote gender equality	Promoting better nutrition practices contributes to empowering women and to reducing discrimination against girls in family feeding practices.
MDG 4: Reduce child mortality	Malnutrition remains the underlying cause in one in three of all deaths of children under five.
MDG 5: Improve maternal health	Improved maternal nutrition and reduced maternal mortality through iron-folic acid, calcium and other micronutrient supplements.
MDG 6: Combat HIV/AIDS, malaria and other diseases	Reduces maternal and child mortality caused by the interaction of malnutrition with HIV/AIDS and other infectious diseases.
MDG 7: Ensure environment sustainability	Better nutritional practices mean more effective use of available food and so better adaptation to environmental stress (Target 7a), better health from improved access to water and sanitation (Target 7c), and improvement in lives of slum dwellers (Target 7d).
MDG 8: Global partnership for development	Addressing hunger and malnutrition around the world is a key element of, and argument for, the global partnership for development. This applies particularly for the least developed countries (Target 8b) where levels of malnutrition are highest.

A malnourished infant is weighed in a sling at a nutrition centre in Port-au-Prince, capital of Haiti. One child in every three is chronically malnourished in Haiti.

Chronic malnutrition: stunting

Chronic malnutrition occurs over time and results in stunting. The main method of measuring stunting is *low height for age*. Stunting generally occurs before the age of two. It is due to a chronic lack of nutrients during a child's first 1,000 days, from conception to their second birthday. Stunting often starts before birth if the mother is herself malnourished and cannot pass on enough nutrients to her unborn child. Poor feeding practices, poor food quality, and frequent infections are other causes of stunting.

Whatever the cause, the damage caused by stunting is irreversible. It significantly increases the risk of childhood death: for instance, a stunted child is five times more likely to die from diarrhoea. Those children who survive are at much greater risk of illness and disease.

Stunting also causes major long-term damage to brain and nerve development and function. These include reduced mental skills and activity, and impaired physical movement and coordination. This damage may result in lower IQ and poorer performance in school.

Stunting or chronic malnutrition is a greater global problem than acute malnutrition. Most countries have stunting rates much higher than their underweight rates. In six countries (Afghanistan, Burundi, Ethiopia, Madagascar, Timor-Leste and Yemen), one in every two children under the age of 5 suffers from stunting.[18]

Across the world, 165 million children under the age of five are stunted. That is one in four of the world's children.[19]

Rabia survives

Rabia is two years old and lives in Djibouti, East Africa. In 2011, East Africa suffered its worst drought in 50 years. Due to pressures like climate change, food prices spiralled out of control, and Rabia's family could not afford to buy the food they needed to feed the family. As a result, Rabia did not get enough nourishing food.

Luckily for Rabia, her village has a new health centre, supported by UNICEF, where community health workers check children's health. Rabia was diagnosed as severely malnourished and received peanut paste to eat every day, packed with the nutrients she needed to get stronger.

Since taking the peanut paste, Rabia is now able to stand up by herself. Although Rabia is now two years old, she still cannot walk. Every day her older sister Safa, 7, tries to teach Rabia to walk. It is still uncertain whether she will ever be able to walk. Rabia's legs are too weak to support her body. She is chronically malnourished.

CAUSES AND CONSEQUENCES

"The world produces enough food to feed every man, woman and child on Earth. Hunger and malnutrition therefore are not due to lack of food alone, but are also the consequences of poverty, inequality and misplaced priorities." Kul Gautum, former Deputy Executive Director of UNICEF

UNICEF has developed a conceptual framework of the causes and consequences of child malnutrition. There are three levels of causes:

1. *immediate causes* – individual level
2. *underlying causes* – influencing family and community
3. *basic causes* – social structure and process

This framework helps us to assess, monitor and evaluate. It directs us to explore issues of food security, water and sanitation services and caring practices that may have led to child malnutrition. It helps us to predict how changes in circumstance might influence future events. For example, if economic crisis or war forces a family member to leave the home, the distribution of labour in the home is likely to change. We can anticipate that this in turn may affect child-caring practices and family income, and possibly affect a child's nutritional status.

This framework considers environmental, economic and socio-political factors that cause child malnutrition.

Poverty

Poverty is a significant factor driving hunger and malnutrition. Too often children are malnourished not because there is not enough food, but because their families cannot afford to buy the food that is available in the market. Children from the poorest 20 per cent of society in developing countries are twice as likely to be malnourished than children in the richest 20 per cent.[20]

UNICEF's social protection programmes focus on the most disadvantaged children, helping them and their families and communities. Social protection can help to increase the quality and quantity of food for children through cash or voucher transfer schemes, price subsidies, and improving food storage for lean seasons and periods in crisis.

Gender

Adequate nutrition begins at the household level, where gender discrimination and lack of nutrition awareness can restrict the diets of women and children.

Data indicates in some countries might be differences in the feeding and care of girls compared to boys.[21] Improving gender equality is a recognised component of improving the health and well-being of children.

Food prices and land

Since 2003, the price of cereal crops has more than doubled, making it even more difficult for families to feed their children. In 2008 alone, food prices increased by 6.8 per cent, adding 44 million people to the ranks of the malnourished. The price of grain soared again in 2011 and remained high in 2012.[22]

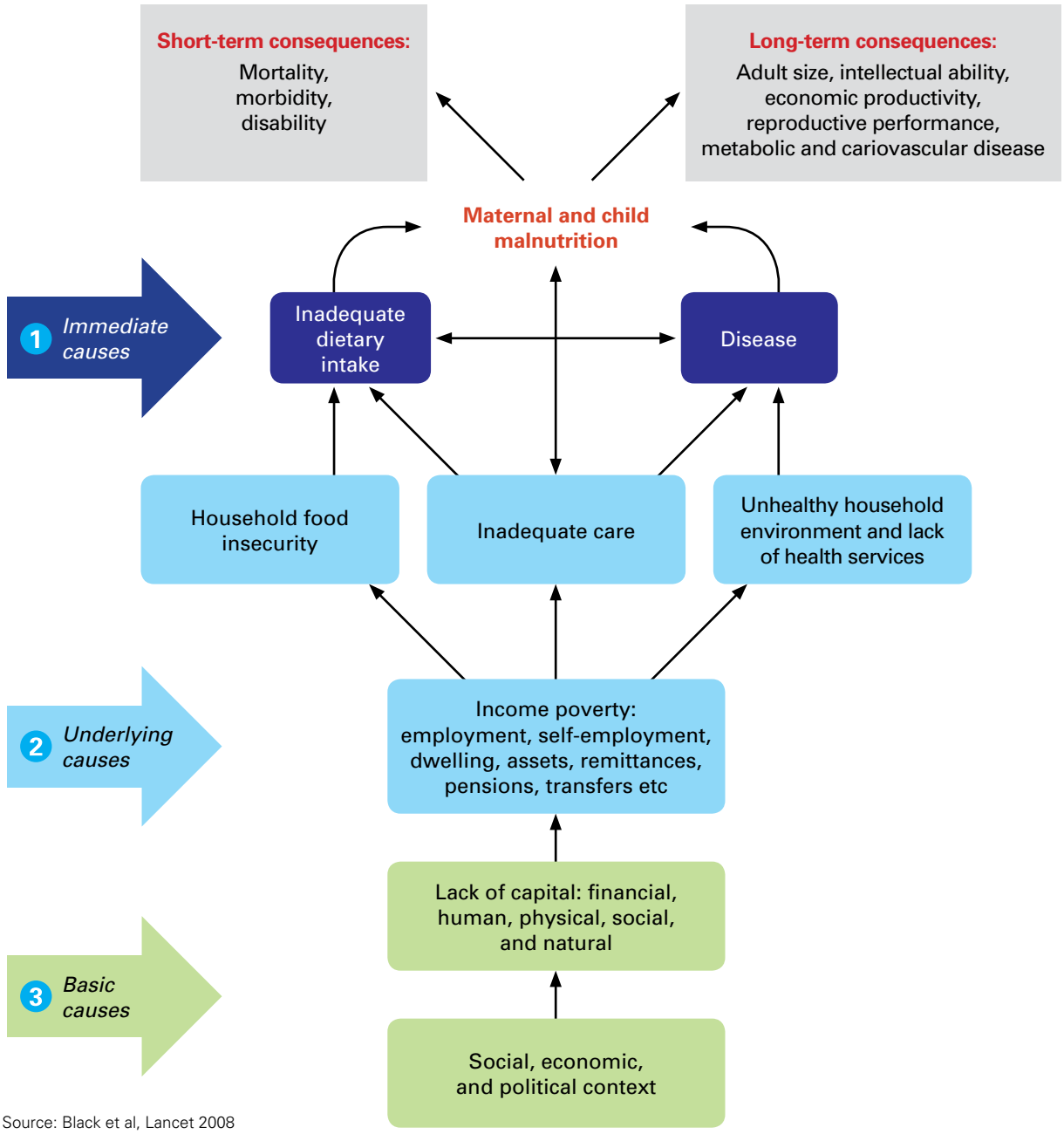
Furthermore, the land available for small-scale farming is shrinking rapidly. Every week in poor countries, foreign investors buy up an area of land the size of London.[23] These land grabs are increasing the risk of child malnutrition, as ground previously used to grow food for the local community is repurposed to produce biofuel and other commercial crops.

Changes in land use and a lack of investment in small-scale farming have left many communities stuck in precarious subsistence farming that does not always provide adequate nutritious food. In all regions of the world, children in rural areas are more likely to be malnourished than those in urban areas.[24]

In 2012, ahead of the G8 Summit, UNICEF Executive Director Anthony Lake argued, *"Supporting small-scale farming in developing countries is an important element of a food security policy. But governments can do more than enable small-scale farmers to buy seed and fertiliser. They can also advocate for greater diversity – more nutritious crops, more plentiful sources of protein and more production of staples such as vegetable oil."*[25]

DIAGRAM 1 **UNICEF model of the causes of malnutrition**

Framework of the relations between poverty, food insecurity, and other underlying and immediate causes of maternal and child undernutrition, and its short-term and long-term consequences.



Source: Black et al, Lancet 2008

CAUSES AND CONSEQUENCES

Lack of care for mothers and children

"Long-term investments in the role of women as full and equal citizens – through education, economic, social, and political empowerment – will be the only way to deliver sustainable improvements in maternal and child nutrition, and in the health of women and children more generally."[26]

In many developing countries, the low status of women is a major determinant of child malnutrition. The better educated a women is, the more equipped she is to make healthier lifestyle choices for her child. A number of studies have shown the correlation between low education and poor nutrition in women. A study in Pakistan, for instance, found that the majority of children with malnutrition had mothers with virtually no formal schooling.[27]

Inadequate health care

Where there is little public health provision for vulnerable families, malnutrition may go unchecked. Without a good quality public heath system and caring practises, families may lack the services and information they need for care throughout pregnancy, at birth and during the first two years of a child's life. Improving integrated health services is a vital step in preventing maternal and child undernutrition and forms part of the United Nations' *Every Woman and Every Child*[28] global strategy.

Umna holds her 16-month-old daughter, Shahista, who was born with low birth-weight and is recovering from acute malnutrition in Sindh Province, Pakistan. Umna is nine months pregnant, but she also suffers from malnutrition and struggles to care for her children. One in three children in Pakistan is moderately or severely underweight.

Habsatou holds her daughter Maniratou, age six months, at a UNICEF-supported nutrition screening in Niamey, capital of Niger. Monitoring Maniratou's growth ensures that signs of malnutrition can be detected early.

CLIMATE CHANGE AND MALNUTRITION

Children are already feeling the effects of climate change as the changing climate intensifies the threat of diarrhoea, malnutrition and malaria: already three of the greatest killers of children.

Climate change has **immediate** effects on children's health, nutrition, and education. And it also has **longer-term** impacts on families and communities. Climate change may force changes in employment, food production patterns, increase food prices, the spread of disease and illness, and competition over scarce natural resources.[29] The effects of climate-related shocks may be passed from generation to generation, leaving a lasting impact on children's ability to survive, grow and flourish.

Climate change also increases the frequency and severity of natural disasters.[30] We know that children are hit hardest during natural disasters such as floods and droughts.[31] These disasters also damage food production, killing livestock, destroying crops and forcing people to abandon their land. Less food and higher food prices increase the risk of children going hungry and becoming malnourished.

The effects of climate change on livelihoods can be sudden, such as droughts and floods, or slower but cumulative, such as changing long-term rainfall patterns. This cumulative effect is particularly notable in the case of food security and nutrition. Figures quoted by the Stern Review suggest that, with temperature increases of 2°C, up to 200 million people will be placed at risk of hunger across the world, rising to as many as 550 million with warming of 3°C in the next 50 years. By the end of this century, climate change is likely to double the frequency of extreme droughts and increase their average duration six-fold.[32]

Less food to go round

Developing countries across Asia, Africa and Latin America are forecast to see reductions in agricultural productivity of between 9 and 21 per cent by the 2080s due to climate change.[33] In some places, the effects will be felt much sooner than that. By 2020, rising temperatures and variable precipitation are likely to reduce the production of staple foods by up to 50 per cent in some African countries.[34]

Declining agricultural yields and increased rural poverty is already making it harder for parents to feed their children. Malnutrition is particularly increasing in countries where large populations are dependent on rain-fed subsistence farming, especially in semi-arid areas like the Sahel. There is already clear evidence of the impact of climate-related malnutrition on children. For example, children ages 12 to 24 months were found to have lost 1.5 to 2 centimetres of growth in the aftermath of a drought in Zimbabwe.[35]

This pressure is likely only to increase as our planet warms, with profound consequences for child nutrition. Crop volumes and crop diversity may be further reduced by drought and floods and other climate-related stresses, diminishing what is immediately available to the farming household as well as what can be bought at market. Livestock are also affected by the changing climate (both by gradual change and by the sudden impact of natural disasters). This may have consequences for the availability of meat and dairy products, and for the use of animals in small-scale agriculture. All of these factors affect the ability of parents to feed themselves and their children.

A boy runs across a flooded rice field in northern Bangladesh. Low-lying Bangladesh is prone to natural disasters and is especially vulnerable to the effects of climate change. Localised cyclones and floods affect Bangladesh every year, while larger scale disasters periodically wreak wider spread havoc.

Mitigation and adaptation

Due to the devastating effects that climate change is projected to have on food production and nutrition, we all must seek to minimise the scale of climate change and find ways to adapt so that children have enough food and can grow up healthy.

The world urgently needs to reduce global greenhouse gas emissions so that global warming is kept below 2°C, and so prevent wider and greater damage. Without adequate emissions reduction (known as '**mitigation**'), climate change will further undermine the food system, triggering more cases of child hunger and malnutrition.

However, whilst action on mitigation is essential, climate change is happening now and future warming is already unavoidable and will undoubtedly affect food security and nutrition. Those likely to face the biggest challenges from climate change have the fewest resources to prepare. It is therefore necessary to invest in adaptation to help children and communities cope with the impacts of climate change so that we can enable every child to grow up safe and healthy in a changing climate.

Adaptation involves the skills and resources that communities need to cope, survive and thrive in the face of increased threats posed by climate change. In the context of food security and nutrition, adaptation responses can include early warning systems to monitor food security levels and rates of malnutrition, growing crops that can better withstand drought, mapping children's vulnerability to food-related climate stresses, and ensuring there are safe and secure water supplies.

The 100-billion-dollar need

There is an urgent need to increase financial resources to fund adaptation. In 2009, governments agreed to mobilise US$100 billion dollars per year by 2020 for climate change adaptation and mitigation in developing countries. This is based on the projected need from 2020 onwards and it must be "new and additional" resources; that is, additional to the existing international aid budget or Official Development Assistance (ODA). This sum is roughly equivalent to the total current global flows of ODA.

Long-term climate finance (additional to ODA) is essential to protect those children most vulnerable to climate change. Mobilisation of long-term climate finance is therefore essential if we are to protect children everywhere from malnutrition and other health consequences of a changing climate.

Climate change increases the severity and frequency of floods and droughts.

WHERE IN THE WORLD

Child malnutrition is a global problem, but not everywhere in the world is affected equally. Nine out of 10 children who are malnourished live in sub-Saharan Africa and South Asia. While many people may think of Africa when they think of child malnutrition; in fact, one in every three malnourished children in the world lives in India.

In this section, we reveal global, regional and national measures of child malnutrition.

These measures are

stunting – proportion of children with low height for age
wasting – proportion of children with low weight for height
underweight – proportion of children with low weight for age

More than 90 per cent of the world's stunted children live in Africa and Asia. Eight out of 10 live in just 21 countries (see table 2).[36] There are six countries in the world where more than 50 per cent of children under the age of five are stunted: Afghanistan, Burundi, Ethiopia, Madagascar, Timor Leste and Yemen.

Stunting

One in three children under the age of 5 is stunted in Africa and one in four in Asia. Stunting is most prevalent in East Africa (42 per cent), but South-Central Asia[37] has the greatest number of stunted children – a shocking 69 million children whose physical and mental growth has been permanently damaged by a lack of nutritious food.[38]

Wasting

Seventy per cent of children who are wasted live in Asia; most in South-Central Asia, where one in six children is moderately or severely wasted because of lack of nutritious food.[39] These children are at substantially increased risk of severe acute malnutrition and death.

Underweight

One child in every three is moderately or severely underweight in South Asia. The total number is simply staggering: 58 million children underweight (more than the entire population of England and Wales).[40]

West and Central Africa have the next highest prevalence rate of underweight children: here one child in every four is moderately or severely underweight.[41]

By gathering and processing this data, UNICEF is able to plan and prioritise work on preventing and treating child malnutrition. It helps UNICEF to focus efforts on: where children are in the greatest need. It also allows UNICEF to monitor and evaluate progress. For instance, we know that UNICEF's work in Asia has helped to halve the number of stunted children in the past 20 years (188.7 million stunted children in 1990 to 95.8 million in 2011).[42]

Choti, age 18 months, is severely malnourished. He is being cared for at a residential Nutritional Rehabilitation Centre in Jharkhand, eastern India, set up with the support of UNICEF.

DIAGRAM 2 Prevalence of stunting among children under the age of five

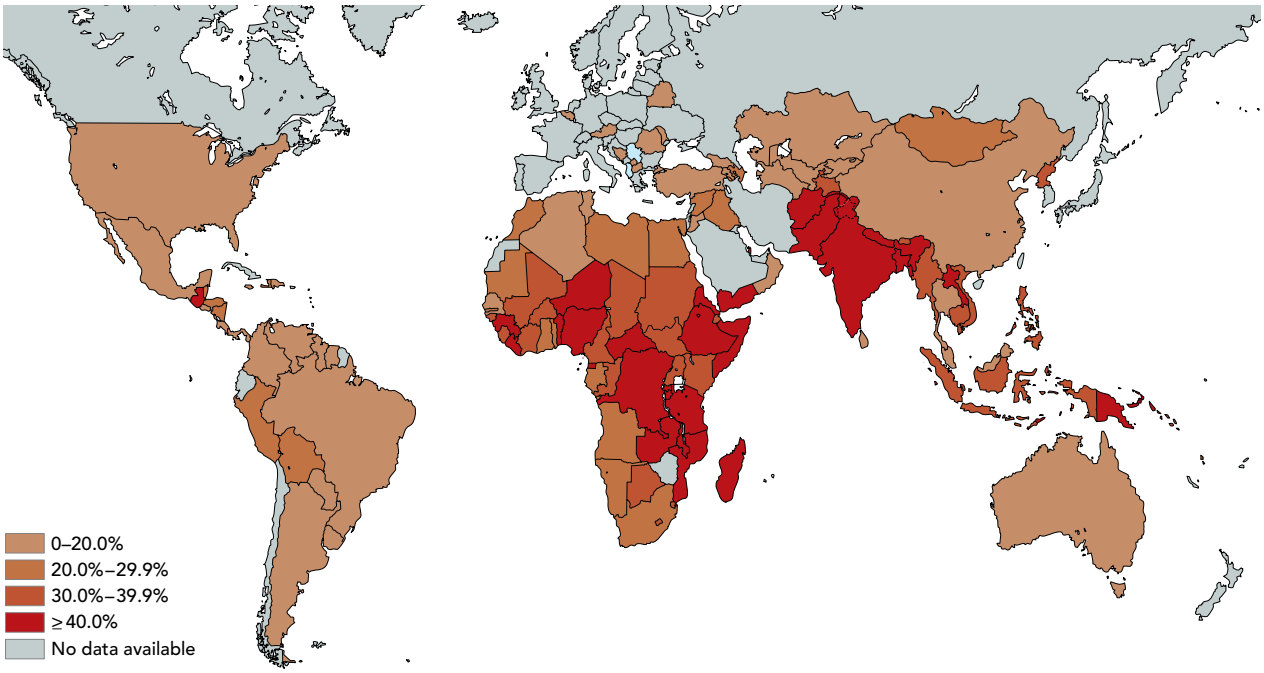


TABLE 2 Child stunting: numbers and prevalence by country

Rank	Country	Number of children who are stunted, 2012	Stunting prevalence %	Percentage of developing world total
1	India	61,430,160	48.0	34%
2	Nigeria	10,786,980	40.6	40%
3	Pakistan	9,359,715	43.7	45%
4	China	7,996,369	9.8	49%
5	Indonesia	7,941,026	36.8	53%
6	Bangladesh	6,353,568	43.2	57%
7	Ethiopia	5,297,661	44.4	60%
8	Democratic Republic of the Congo	5,142,043	43.4	63%
9	Philippines	3,635,178	32.3	65%
10	United Republic of Tanzania	3,364,008	42.0	66%
11	Afghanistan	3,288,759	59.3	68%
12	Egypt	2,603,346	28.9	70%
13	Sudan	2,524,590	39.5	71%
14	Uganda	2,463,270	38.1	72%
15	Kenya	2,352,506	35.3	74%
16	Yemen	2,340,944	57.7	75%
17	Viet Nam	2,191,688	30.5	76%
18	Nepal	1,728,469	49.3	77%
19	Mexico	1,719,702	15.5	78%
20	Mozambique	1,693,995	43.7	78.9%
21	Madagascar	1,655,944	50.1	79.8%

SUB-SAHARAN AFRICA

Four in every 10 children in sub-Saharan Africa are stunted because of lack of nutritious food. That is a total of more than 56 million children, roughly equivalent to the entire population of England and Wales.[43] Stunting is more common here than any other region. Eleven of the 20 countries with the highest rates of stunted children are in sub-Saharan Africa. One in every two children is stunted in Burundi, Ethiopia and Madagascar.[44]

Stunting

While the overall prevalence of stunting has declined in the past 20 years, the total number of stunted children has increased from 43.6 million to 55.8 million. Indeed, sub-Saharan Africa is the only region that has seen an increase in absolute numbers of stunted children over the past 20 years. The prevalence of stunting in children is slightly less in West and Central Africa than in Eastern and Southern Africa, but there are 1.5 million more stunted children in West and Central Africa because it has a larger child population.[45]

Underweight

One in five children in sub-Saharan Africa is moderately or severely underweight. That is a total of more than 30 million children.[46] Niger, Eritrea and Somalia have the highest prevalence rates. West and Central Africa has a greater number and a higher prevalence of underweight children than in Eastern and Southern Africa: around one in four children are underweight in this sub-region.

EAST AFRICA : Famine in Somalia, 2011

In 2011, drought, soaring food prices, and continuing conflict and insecurity in Somalia left 320,000 children severely malnourished and in need of treatment (that's the equivalent of all the children born in the UK in six months last year).

It was the worst drought for 50 years in parts of East Africa, leaving pastures barren, water sources dry, and livestock dead. Food prices rose to a record high. For month after month, tens of thousands of families fled Somalia to Kenya and Ethiopia. At the height of the crisis, the Dadaab refugee camp in Kenya, already the largest in the world, was receiving 1,000 Somali refugees a day.

UNICEF was the main provider of high-energy therapeutic food for malnourished children in East Africa. One of these children was Hawa, age four. Famine and conflict forced Hawa and her family to flee their home in Somalia. They travelled for days until they reached a UNICEF supported nutrition centre in north-east Kenya. Here Hawa's arm is being measured with a Mid-Upper Arm Circumference (MUAC) band to assess her nutritional status. Hawa's arm measurement is in the red zone, which means that she is severely malnourished.

UNICEF provides therapeutic food to children like Hawa. The most severe cases first receive therapeutic milk to stabilise their medical condition. Then, after three or four days, the milk can usually be substituted with a high-energy peanut paste packed with nutrients to help children rapidly recover.

Hawa, age four, from north-east Somalia, is severely malnourished.

A girl works in a vegetable garden in northern Burkina Faso. The garden is run by a collective of 54 women who each manage one hectare of land. With support from UNICEF, the collective produces vegetables year-round, improving family nutrition. The region is part of a UNICEF and EU-supported nutrition security programme to benefit 25 million children and 5.5 million mothers.

TABLE 2 **Child stunting: numbers and prevalence by country**

Country	Stunting prevalence	Underweight prevalence	Wasting prevalence
Burundi	58%	29%	6%
Ethiopia	51%	33%	12%
Madagascar	50%	–	–
Malawi	47%	13%	4%
Niger	47%	40%	16%
Zambia	45%	15%	5%
Rwanda	44%	11%	3%
Eritrea	44%	35%	15%
Mozambique	44%	18%	4%
DR Congo	43%	24%	9%

WEST AFRICA : Drought in the Sahel, 2012

In 2012, a severe drought hit the semi-arid Sahel region of West and Central Africa, producing widespread crop failure and loss of livestock. One million children faced severe acute malnutrition. The plight of children was exacerbated by conflict and displacement in Mali, limited national health care services, lack of clean water, and the fact that many of the affected areas were difficult to reach.

UNICEF helped to treat 335,000 severely malnourished children in the Sahel region, including 8-month-old Alimou.

His mother Halima explained what happened:
"I fled Mali in a panic following violence. We left in the dead of night with only the clothes on our backs. We walked 30 miles and had nothing to eat. Alimou became ill very quickly with diarrhoea and vomiting. I was crying all the time, but there was nothing I could do. When I arrived at the camp, I was told to go to the health centre."

Alimou weighed just five kilos and was severely malnourished. He received life-saving food three times a day. Halima says *"I feel better now because Alimou is also better. I am so relieved. He now plays with his brother."*

UNICEF helped to increase the number of health facilities providing nutrition services from 3,100 to nearly 5,000. In addition, 1.9 million children were vaccinated against measles and 7.3 million families received mosquito nets to prevent malaria.

WHERE IN THE WORLD

MIDDLE EAST AND NORTH AFRICA

In North Africa, the percentage of children suffering from stunting has fallen by nearly 10 per cent in the past 20 years. In 2011, there were 1.7 million fewer chronically malnourished children than in 1990. The number of moderately or severely underweight children has halved in the past 20 years – from 1.7 million to 0.9 million.[47] However, the recent unrest in Syria, Egypt, Libya and Tunisia may offset some of these gains.

Furthermore, these regional figures mask issues in specific countries. Yemen, for instance, has the highest recorded prevalence of severely underweight children in the world (19 per cent) and the joint second highest rate of stunting (58 per cent) after Afghanistan. In Sudan (figures are pre-South Sudanese independence in 2011), four out of 10 children are stunted and nearly one in three are underweight.[48]

TABLE 4 **Child stunting: numbers and prevalence by country**

Country	Stunting prevalence	Underweight prevalence	Wasting prevalence
Yemen	58%	43%	15%
Sudan	40%	27%	16%
Djibouti	31%	23%	10%
Egypt	29%	6%	7%
Syrian Arab Republic	28%	10%	12%
Iraq	26%	6%	6%
Libyan Arab Jamahiriya	21%	4%	4%
Algeria	15%	3%	4%
Oman	10%	9%	7%
Tunisia	9%	3%	3%

YEMEN : Nutrition crisis

Yemen has the second-highest rate of stunting in the world, behind Afghanistan. One in every two children is stunted. More than four in 10 children are moderately or severely underweight (second only to East Timor), and 15 per cent suffer from wasting. More than 250,000 Yemeni children suffer from severe acute malnutrition and are at real risk of dying.[49]

The malnutrition crisis is exacerbated by poverty. Yemen is the poorest country in the Middle East, with nearly half the population living on less than US$2 per day. Other factors include high food prices, conflict, drought, unsafe water, poor nutritional practices, and a lack of basic public services. Lack of access to affected areas also hampers humanitarian aid delivery.

To try to tackle the child malnutrition crisis, UNICEF runs feeding centres in all 22 of Yemen's governorates and outpatient contact points in all 334 districts. Yemen is also one of the newest countries to join the Scaling Up Nutrition (SUN) initiative and is receiving financial support from the UK Department for International Development.

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Shamsan, 9 months, is severely malnourished. He is being treated at the UNICEF-supported therapeutic feeding centre in Sana'a, capital of Yemen.

WHERE IN THE WORLD

EAST ASIA AND THE PACIFIC

The economic progress of recent decades in the East Asia and Pacific region has helped to bring great improvements in child mortality rates and levels of child malnutrition. It is one of the few regions to have achieved the Millennium Development Goal to halve hunger.

Stunting

The prevalence of stunting in East Asia and the Pacific has fallen by more than a third. In 1990, four in every 10 children was stunted; by 2011, it was one in 10 children. There are now 60 million fewer children in the region whose physical and mental development has been damaged because of malnutrition.[50]

Underweight

There has been a similar decline in the prevalence and numbers of children moderately or severely underweight. In 1990, one in five children was underweight; by 2011, this had fallen to one in 20. Today, there are 30 million fewer underweight children than in 1990.[51]

However, this success at the regional level masks some struggles in specific countries. In Laos, for instance, nearly one in two children is stunted and one in three is underweight. While Timor-Leste (East Timor) has the world's joint second highest rate of stunting (after Afghanistan) and nearly half of all children here are underweight. Timor-Leste is one of the world's poorest nations and depends on external supplies of food. Around two-thirds of the rural population experience food shortages for about four months each year. The underlying causes for this lack of food include climate change, poor soil quality due to slash and burn agriculture, frequent droughts, poor farming practices and lack of government support for farming.

TABLE 5 **Child stunting: numbers and prevalence by country**

Country	Stunting prevalence	Underweight prevalence
Timor-Leste	58%	45%
Lao People's Democratic Republic	48%	31%
Papua New Guinea	43%	18%
Cambodia	40%	28%
Indonesia	37%	18%
Myanmar	35%	23%
Solomon Islands	33%	12%
Democratic People's Republic of Korea	32%	19%
Philippines	32%	22%
Viet Nam	31%	20%

LAOS : Emergency

In 2010 and 2011, southern Laos suffered a series of floods and storms that devastated the region's rich fields, leaving families struggling to feed their children. A UNICEF assessment confirmed that nearly one in five children were suffering from acute malnutrition.

In response, UNICEF supported volunteer workers in local communities to check children for malnutrition. Once diagnosed as malnourished, children received high-protein peanut paste and other specialised treatment at health centres and hospitals.

UNICEF's emergency work complements the long-term programmes to tackle Laos's high prevalence of stunting. Education and community participation are helping to address low rates of exclusive breastfeeding. Nutrient supplements are helping to balance a diet that is often over-reliant on rice.

A malnourished girl from southern Laos eats high-energy protein paste.

WHERE IN THE WORLD

SOUTH ASIA

South Asia has the largest number of malnourished children in the world: 69 million children here are moderately or severely underweight, more than the entire population of the UK. India is home to one in every three of the world's malnourished children.[52]

Underweight

While the popular perception may be that hunger and malnutrition are 'African problems', the prevalence of moderate or severe underweight is more than 10 percentage points higher in South Asia than in sub-Saharan Africa. Every third child in South Asia is underweight. In India[53] and Bangladesh, more than 40 per cent of children are underweight.[54]

However, while in Africa the total number of underweight children has increased in the past 20 years, in South Asia there are nearly 50 million fewer underweight children than in 1990. The prevalence rate has also dramatically reduced. In 1990, one in two children were moderately or severely underweight; by 2011 it was one in three.

Underweight

South Asia has also seen a marked decrease in the incidence of stunting in children. In 1990, six out of 10 children were stunted. By 2011, it was one in four children. Over the same period, the number of stunted children in the region has fallen from more than 100 million to under 69 million.[55]

Despite this progress, South Asia has the largest number of stunted children, and stunting persists as a major public health problem in many countries of the region. Indeed, Afghanistan has the greatest prevalence of stunting in the world: a staggering 59 per cent of children under the age of 5 are stunted. More than one in four children are stunted in Nepal, India, Bangladesh and Pakistan.

Poor access to health services and poor sanitation contributes to the incidence of malnutrition in mothers and children. Persistent gender discrimination is also a factor. South Asia is the only region in the world where girls are more likely to be underweight than boys.

Maternal health and education is another significant factor. In South Asia, nearly one in three babies is born with low birth-weight (less than 2.5 kilos). Low birth-weight caused by premature birth and/or restricted foetal growth due to malnutrition, greatly increases a child's risk of death in their first days.

TABLE 6 **Child stunting: numbers and prevalence by country**

Country	Stunting prevalence	Underweight prevalence	Wasting prevalence
Nepal	49%	39%	13%
India	48%	43%	20%
Bangladesh	43%	41%	17%
Pakistan	42%	31%	14%
Bhutan	34%	13%	6%
Maldives	19%	17%	11%
Sri Lanka	17%	21%	15%

The Dular Strategy

Vinita and her eight-month-old daughter Akankhsha are at a discussion on care in pregnancy and early childhood near their home in Ranchi, eastern India. The discussion is part of the UNICEF-supported Dular Strategy that trains women to teach new mothers about breastfeeding, nutrition, childcare and hygiene. The strategy has already brought major improvements in mother and child nutrition in these states. It is expected to prevent about one quarter of newborn deaths and save the lives of thousands of older babies and children.[56]

The Dular Strategy is of particular importance to tribal children who are most vulnerable to disease, malnutrition and lack of educational opportunities, as discrimination and isolation make it difficult for these families to get the health care and education they need.

Vanita and her daughter Akankhsha

Vitamin A for Bangladesh

Bangladesh is one of the most densely populated countries in the world, and one of the poorest. It is also subject to increasingly frequent and severe flooding. Half of the population live on less than US$1.25, and malnutrition is a constant. Four in ten children under the age of five are stunted because of chronic malnutrition. One in three are underweight.

For more than a decade, UNICEF has supported a vitamin A programme in Bangladesh. Bangladesh has a poor dietary intake of vitamin A and less than 40 per cent of mothers receive enough vitamin A as part of their diets. One third of women are underweight for their height and almost half of women suffer from anaemia. Supplements of vitamin A help reduce child mortality rates by combating malnutrition, diarrhoea and other diseases. The supplement protects against night blindness, helps cells function, aids the production of protective red blood cells and boosts the body's immune system.

In 2010 UNICEF helped to provide vitamin A supplements to 95 per cent of children age 1 to 4. In 2011 the programme was extended to include infants age six to eight months. The one day campaign reached 900,000 infants. More than 400,000 volunteers and 60,000 health service providers helped administer the droplets and provided information about the importance of vitamin A and healthy living.

THE FIRST 1,000 DAYS

The most critical time in a child's development is the first 1,000 days from conception to their second birthday. These first days are a window of opportunity for helping children to survive, flourish and fulfil their potential. The right nutrition in this period helps children to survive and grow up healthy.

Well-nourished children become adults who contribute to the economic and social development of their families, communities and nations. Some estimates suggest that focusing global efforts on nutrition in these first 1,000 days could reduce child mortality by 25 per cent and neonatal deaths by 35 per cent.[57] More recent estimates propose that the right nutrition during the first 1,000 days could save more than one million lives each year.[58]

These solutions are simple and inexpensive. They fall into four main categories:

1. Providing essential vitamins and minerals for mother and child
2. Promoting and supporting breastfeeding
3. Support for complementary feeding
4. Diagnosis and treatment of acute malnutrition.

TABLE 7 **Key nutrition interventions in the first 1,000 days**[59]

LIFECYCLE STAGES

PREGNANCY	NEWBORN	0–6 MONTHS	6–24 MONTHS
• Breastfeeding promotion and support • Iron-folic acid supplements • Iron fortification of staple foods • Vitamin A supplements • Multiple micronutrient supplements • Salt iodisation • Iodine supplements if iodised salt is unavailable • Calcium supplements • Reduction in tobacco consumption and indoor air pollution • Handwashing with soap and promotion of hygiene behaviors • Deworming • Insecticide-treated mosquito nets • Treatment for malaria	• Initiation of breastfeeding in the first hour • Delayed cord clamping • Vitamin A supplement • Handwashing with soap and promotion of good hygiene practices	• Promotion and support for exclusive breastfeeding • Handwashing with soap andpromotion of good hygiene practices • Insecticide-treated mosquito nets • Cash transfer or voucher scheme to buy nourishing food • Vitamin A supplements for mother • Prevention and treatment of moderate malnutrition in children • Treatment of severe acute malnutrition with therapeutic foods	• Continued promotion and support for breastfeeding • Promotion of appropriate complementary feeding • Deworming • Handwashing with soap andpromotion of good hygiene practices • Vitamin A supplement • Therapeutic zinc supplements • Iron fortification of staple foods • Salt iodisation • Iodine supplements if iodised salt is unavailable • Multiple micronutrient powders • Prevention and treatment of moderate malnutrition in children • Treatment of severe acute malnutrition with ready-to-use therapeutic foods

Pregnancy and maternal health

Preventing malnutrition in a child begins with the mother. The health of the mother is critical to the future health of her child. A child's development inside the womb is affected if their mother is malnourished. During pregnancy, a woman needs nutrients like iron, iodine and calcium for the healthy development of her child.

Mothers are integral to a child's health because

- Malnourished mothers are more likely to have malnourished babies.
- Low birth-weight (less than 2.5 kilos), caused by premature birth or restricted foetal growth due to maternal malnutrition, greatly increases a child's risk of dying in their first days.
- Breastfeeding within the first hour of life dramatically increases a baby's chances of surviving infancy.[60]
- Exclusive breastfeeding throughout the first six months continues to protect a baby from infections and gives the baby all the nutrients he or she needs.
- Mothers are usually the primary health carers for children – providing food, taking their child to a health centre, and administering medicine or other necessary health interventions.

Every Woman Every Child is a global movement supported by UNICEF that recognises the strong link between maternal health and child health. UNICEF programmes recognise that health care should be holistic, starting with the mother and continuing throughout a child's first years of life – known as the continuum of care. Basic maternal health and education services can dramatically improve child nutrition. UNICEF also works with mothers and communities to improve water and sanitation, and to promote and protect breastfeeding.

Maternal health

Since 1990, annual maternal deaths have fallen by 47 per cent, but too many mothers are still dying. Every two minutes, somewhere in the world, a woman dies from complications of pregnancy.[61] Her newborn baby's chances of survival are very poor.[62]

For every woman who dies, between 20 and 30 mothers suffer significant and sometimes life-long problems as a result of their pregnancy.[63] Short maternal stature, often a result of stunting in childhood, and micronutrient deficiencies put pregnant women at greater risk of complications during pregnancy and of giving birth to low birth-weight babies.

Iron deficiency

Anaemia caused by iron deficiency is a significant cause of maternal mortality. It is estimated that 19 per cent of maternal deaths could be prevented if all women took iron supplements while pregnant.[64] Iron supplements also strengthen children's resistance to disease and may reduce premature birth and low birth-weight. Almost half of children in low- and middle-income countries are affected by anaemia, impairing cognitive and physical development.[65]

Bhuvaneshawari breastfeeds her newborn baby boy at a health centre in Tamil Nadu, southern India. Only about one in three mothers in Tamil Nadu exclusively breastfeed their babies for six months. UNICEF is focused on further improving child survival and nutrition in the state by supporting programmes to train health workers on infant and young child feeding and survival.

THE FIRST 1,000 DAYS

Newborns

Four in 10 deaths of children under the age of 5 occur during the first month of life.[66] Most of these deaths are preventable through better nutrition and access to health services before, during and immediately after childbirth. Complications due to premature birth are the leading cause of newborn deaths.[67] Low birth-weight (less than 2.5 kilos) is caused by premature birth and/or restricted foetal growth due to maternal malnutrition. It greatly increases a child's risk of dying in their first month. In South Asia, for instance, nearly one in three babies are born with low birth-weight.[68]

Breastfeeding within the first hour of life dramatically increases a baby's chances of surviving infancy.[69] This first breast-milk or colostrum contains vital antibodies to protect a baby against disease. It is rich in proteins, vitamin A and salt. It helps the development of the gut, reducing the incidence of diarrhoea. In 2010, fewer than half of all newborns were breastfeeding within an hour of birth.[70]

After this first hour, exclusive breastfeeding throughout the first six months continues to protect a baby from infections.

The first six months

Importance of breastfeeding

Breastfeeding is the single most effective nutrition intervention for saving children's lives. Babies who do not breastfeed are more than 14 times more likely to die from diarrhoea or respiratory infections than babies who are exclusively breastfed in the first six months.[71] With best practice, breastfeeding could prevent 1 million child deaths each year.[72]

After birth, exclusive breastfeeding for the first six months of a child's life is the best nutrition for a baby. Breastmilk is the optimal food for a baby, providing all of the nutrients, vitamins and minerals they need in their first six months. Breastmilk also carries antibodies from the mother that help combat disease.

To improve breastfeeding rates, it is vital to establish good breastfeeding practices in the first hour after birth, improve knowledge about the benefits of breastfeeding for mother and child, gain broader support from health professionals, and prevent the unethical marketing practices by formula milk companies that undermine breastfeeding and make false claims about the health benefits of formula milk.

From six months to two years

After a baby is six months old, there should be timely introduction of adequate, safe and properly fed complementary foods, while breastfeeding continues up to age two or beyond.

Complementary feeding

Rates of child malnutrition usually peak during the time of complementary feeding. Growth faltering is most evident between six and 12 months, as low nutrient foods begin to replace breastmilk and cases of diarrhoea increase due to food contamination. Complementary feeding can significantly reduce stunting during the first two years of life.[73] If all children in the developing world received adequate complementary feeding, stunting rates at 12 months could be cut by 20 per cent.[74]

For breastfeeding to continue beyond the first six months, mothers need accurate, impartial information on when to introduce appropriate foods. There is also a role for the private sector to play in ensuring that mothers who return to work are protected from discrimination. In 2000, the International Labour Organization (ILO) adopted the Maternity Protection Convention 183 and Recommendation 191 to ensure that work does not threaten the health of a mother or her children and that having a baby does not compromise her economic and employment security. Included in the Convention and subsequent recommendations are the right to one or more daily breaks, or a daily reduction in hours of work, to allow for breastfeeding, and protection from dismissal and discrimination and entitlement to return to a former position with breastfeeding support on return to work (for example, private spaces for breastfeeding or expressing milk, flexible scheduling for breastfeeding mothers, childcare and so on).

To prevent malnutrition, there needs to be good quality, locally available and affordable food with adequate nutrients. Support for continued breastfeeding, nutrition information, food supplements and cash transfers for the purchase of nutrient-rich food could also substantially reduce stunting in children.

Vitamin A

One in three of all pre-school-age children (190 million) and 15 per cent of pregnant women (19 million) do not have enough vitamin A in their diet. Vitamin A deficiency is the leading cause of preventable childhood blindness. Furthermore, vitamin A-deficient children also face a 23 per cent greater risk of dying from ailments such as measles, diarrhoea or malaria.[75]

Vitamin A is essential for eye health and the proper functioning of the immune system. It is found in foods such as milk, liver, eggs, red and orange fruits, and green leafy vegetables. In the developing world, daily intake of vitamin A is often insufficient to meet dietary requirements. Inadequate intakes are further compromised by increased requirements for the vitamin as children grow or during periods of illness, as well as increased losses during common childhood infections.

Providing young children with two high-dose vitamin A capsules a year is a safe, cost-effective, efficient strategy for eliminating vitamin A deficiency and improving child survival. Giving vitamin A to mothers who are breastfeeding helps protect children during the first months of life and helps replenish the mother's stores of vitamin A, which are depleted during pregnancy and lactation.

Vitamin A supplementation has been shown to produce mortality reductions ranging from 19 per cent to 54 per cent in children receiving supplements, which is in large part due to its impact on diarrhoea and measles deaths.[76] Vitamin A has also been shown to reduce the duration, severity and complications associated with diarrhoea.

Zinc

Diarrhoea causes the death of 750,000 children each year, most of them between the ages of six months and two years.[77] Undernourished children are at higher risk of suffering more severe, prolonged and often more frequent episodes of diarrhoea. Diarrhoea often leads to stunting in children, due to its association with poor nutrient absorption and appetite loss. Studies show that zinc supplementation results in a 40 per cent reduction in deaths due to persistent diarrhoea.[78]

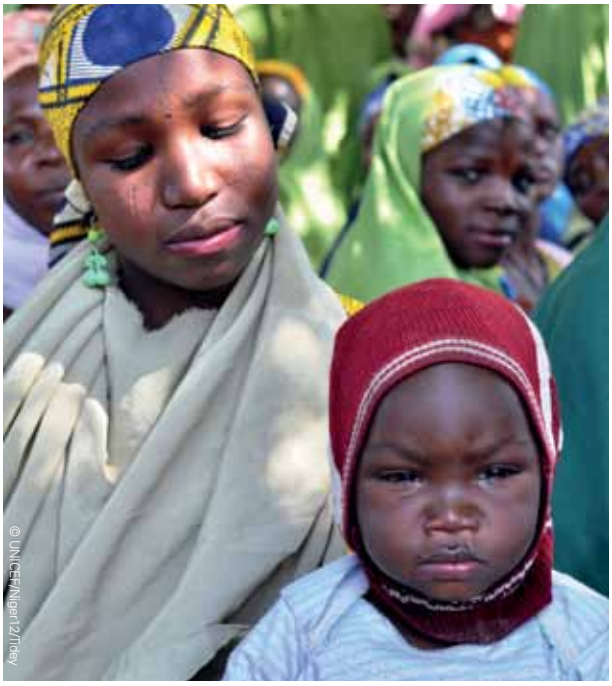
Adequate zinc intake among children is critical for normal growth and development. Zinc deficiency is estimated to cause 4 per cent of deaths in pre-school age children in lower-income countries.[79] A 10–14 day course of zinc supplements has proven to provide protection against future bouts of diarrhoea for up to three months.[80] Children receiving zinc often have better appetites and are more active during the diarrhoea episode; its use has also been associated with improving the effectiveness of oral rehydration salts (ORS) in treating diarrhoea.

NIGER : Nephisa

Nephisa, age 23, comes from the village of Masada Abdou in southern Niger. In 2012, following a third major drought in seven years, much of southern Niger was in the grip of a food crisis. Yet no child became malnourished in Nephisa's village. Why?

Nephisa credits a UNICEF-supported programme where community health workers work closely with villagers, focusing on hygiene and care for children at home. Nephisa says her children are healthier than ever. *"Since the programme began in our village, I have noticed a very positive change in the health of my children. Look at my child, he is so healthy!*

"Through the programme, we have learned proper hand washing and the importance of exclusive breastfeeding. My son Mahammadou is 18 months. He was my only child to be exclusively breastfed and he is far healthier than my other two children."



THE ECONOMIC CASE FOR INVESTMENT

Imagine a girl growing up in one of the world's poorest countries.[81] Born to an anaemic mother, she is underweight from birth. She does not receive the early breastmilk that she needs to prevent and fight illness, to grow and to overcome the nutritional deficiencies with which she is born.

In the first two years of her life, she is often hungry and rarely if ever gets the nutrients she needs. Poverty, lack of clean water and proper sanitation, nutritional deficiencies and lack of maternal education mean that she is often sick and her growth is irreversibly stunted. Somehow she survives.

She is lucky enough to attend school, but her undernourished brain and body makes it more difficult to learn, and she is the equivalent of 2 to 3 years behind her peers. When she is old enough to begin work, her diminished physical and cognitive development reduces her earning capacity by at least 20 per cent, making it more difficult to feed her own children.[82]

This is the tragedy of stunting.

Economic cost of malnutrition

Malnutrition not only inflicts a staggering human cost in terms of lives lost and lives damaged; it also imposes a huge economic cost. Low-income countries can lose at least 2–3 per cent of their gross domestic product to malnutrition.[83] It directly causes the loss of billions of dollars in productivity and avoidable health care spending. Maternal and child malnutrition accounts for 11 per cent of the total human burden of death and disease.[84]

Malnutrition also causes indirect losses from poor cognitive development and educational achievement. Stunting and poverty are associated both with fewer years at school and learning less while in school. Studies from more than 50 countries show that, on average, each year of schooling increases adult wages by nearly 10 per cent.[85] A study of nearly 2,400 rural Guatemalan children showed that infants and young children who received complementary food fortified with vitamins and minerals before they were three years of age grew up to have wages that were 46 per cent higher.[86]

Despite the scale and cost of malnutrition and the long-term implications it has for economic development, education and health, nutrition has been a low priority in funding for development. Globally, nutrition funding represents about 0.3 per cent of total official development assistance.[87]

Benefits of investing in nutrition

Investment in child nutrition is not just the foundation for a better world: it is also a powerhouse for development, driving improved health, productivity, educational achievement and economic performance. Because good nutrition empowers children, families, communities and nations, it is a cost-effective way to achieve major, sustainable, global progress.

The most effective nutrition interventions focus on the first 1,000 days from the start of pregnancy to two years of age because interventions targeted at this lifestage are best able to reverse stunting. Economic returns on investment in these nutrition programmes are extraordinarily high.

The 2008 Copenhagen Consensus ranked providing micronutrients to undernourished children as the most cost-effective way to advance global welfare.[88] It was estimated that providing vitamin A capsules and zinc supplements to children under the age of two would cost just over US$60 million annually and have benefits of over US$1 billion a year. Fortification of food staples with essential micronutrients – iodized salt and iron – would cost less than US$300 million a year, with a US$2.7 billion benefit.[89] And community based nutrition promotion – focusing on breastfeeding, complementary feeding and other education interventions – would cost about US$800 million and yield around $10 billion of benefit.[90]

A 2010 World Bank report calculated that an additional US$10.3 billion a year from the public sector would prevent more than 1 million child deaths and benefit more than 360 million children in the 36 countries with the highest burden of malnutrition.[91]

The 2012 Copenhagen Consensus identified improving nutrition as the key global challenge. The best solution was a bundle of interventions to prevent malnutrition in pre-school children with a

benefit to cost ratio of between 15:1 and 138:1.[92] Using the figures from the 2010 World Bank study, a US$3 billion investment would provide this bundle of interventions to 100 million children.[93]

The equity approach

Investment in children yields the greatest returns for poverty reduction. And investment in tackling child malnutrition should be the top priority for funding. There is a compelling reason for tackling the problem of malnutrition among the poorest first. This is not only right in principle, but also right in practice. Since much of the burdens of disease, malnutrition and ill health are concentrated in the poorest populations, the returns on investment are greater.

Research demonstrates that this approach will also bring families and communities out of poverty and their nations closer to economic prosperity. A 2010 UNICEF study showed that focusing on the poorest children and communities could save more lives per US$1 million than more traditional approaches to development. It concluded that prioritizing the most disadvantaged children in the poorest countries could save up to 60 per cent more children per dollar than through the current approach to development.[94]

The Copenhagen Consensus

In 2004, nine of the world's leading economists, including four Nobel Laureates, met in Copenhagen to look at the greatest challenges facing the world and to prioritise the best solutions to meet these challenges. They determined that controlling HIV infection and providing micronutrients to combat malnutrition were the two leading priorities.

The 2008 Copenhagen Consensus made the provision of vitamin A and zinc supplements to combat child malnutrition the leading priority. Four out of the top six solutions focused on combating malnutrition.

Four years later, in the 2012 Copenhagen Consensus, five leading economists concluded again that fighting malnutrition should be the top priority for funding. Nobel Laureate economist Vernon Smith said: *"One of the most compelling investments is to get nutrients to the world's undernourished. The benefits from doing so – in terms of increased health, schooling, and productivity – are tremendous."*

They agreed that the best solution to the greatest challenge of malnutrition was a bundle of interventions to prevent malnutrition in pre-school children. New research by the International Food Policy Research Institute showed that for just US$100 per child, interventions including micronutrient provision, complementary foods, treatments for worms and diarrhoea, and education programmes, could reduce chronic malnutrition by 36 per cent in developing countries.

www.copenhagenconsensus.com

Children play outside a local health clinic in Bihar, India, where they received zinc tablets, as part of the UNICEF-IKEA partnership to combat child mortality rates caused by diarrhoea. The 2008 Copenhagen Consensus regarded the provision of zinc and vitamin A as the most cost-effective priority for child malnutrition.

PRIVATE SECTOR SUPPORT

In the global fight against malnutrition, the private sector is needed to help deliver affordable and nutritious food to the most vulnerable.

Private sector involvement in the prevention and treatment of malnutrition has grown significantly in the past 10 years. The private sector can bring technical support, investment in research and development, delivery of new products, and distribution networks with unrivalled reach to help with the supply chain. Business can also help accelerate action to tackle the underlying causes of malnutrition like low income and insufficient yields and diversity of crops.

However, there are potential risks of private sector involvement in child nutrition. The focus and driving force for partnership has to be the health of children and mothers. The overriding principle must be the protection and promotion of public health. Private sector implementation must be harnessed to public health policy and practice.[95] Any involvement of business has to be carefully managed and transparent to the public. The public, private and third sectors must be careful before introducing products into markets, address conflicts of interest, and protect local markets and sustainable development.

UNICEF, together with Save the Children and the UN Global Compact, has adopted and promotes the Children's Rights and Business Principles to help guide private sector practice in support of children's rights. These principles include ensuring that products are safe, that marketing is appropriate and the environment is protected.

UNICEF encourages and facilitates public–private partnerships for the improvement of child and maternal nutrition. Careful monitoring and evaluation of these partnerships is important to ensure they continue to have the best outcomes for children and mothers.

Companies that are not directly engaged in food and agriculture can also contribute to child nutrition through fundraising, staff engagement and partnerships.

Babies and breastfeeding

There must be regulation to ensure that the sales, marketing and packaging of formula products do not undermine breastfeeding, as breastfeeding is the single most effective action for child survival and child nutrition.

UNICEF supports the development and enforcement of legislation to protect breastfeeding, based on the International Code of Marketing of Breast-milk Substitutes (1981) that stipulates there should be absolutely no promotion of breast-milk substitutes, bottles and teats to health professionals and the general public. We have helped to ensure that more than 80 countries have implemented at least part of the Code in their national law. UNICEF and the World Health Organization support the Baby Friendly Initiative that seeks to improve the support for breastfeeding in maternity wards around the world.

Fortified food

To date, food fortification has been the principal way in which the private sector has been directly involved in tackling malnutrition. Micronutrient fortification consistently ranks among the top five

NIGER : Peanut paste

Food insecurity and malnutrition are an everyday reality for thousands of families in Niger, west Africa. The country had three child nutrition crises between 2005 and 2012.

During the 2005 crisis, UNICEF formed a partnership with local company Société de Transformation Alimentaire (STA) to produce ready-to-use therapeutic food for the treatment of severe acute malnutrition in children. STA began licensed production of Plumpy'Nut®, a high-energy peanut paste that gets malnourished children back to health fast.

In 2006, STA produced 30 tonnes of peanut paste for UNICEF's child nutrition programmes across Niger. By 2011, this had grown to 2,700 tonnes and the company was exporting to other countries in the region. UNICEF remains the largest customer.

UNICEF's partnership with STA has increased the Nigerien and regional supply of peanut paste and supported the local economy with the creation of new jobs. UNICEF has also been able to bring down the price of therapeutic food for

malnourished children in Niger by obtaining 100 per cent of its supply nationally. During the 2012 crisis, because of the increased production by STA, Niger was able to treat more than 300,000 severely malnourished children more rapidly and at lower cost.

most cost-effective development interventions. Fortification of food staples with essential micronutrients – iodized salt and iron – would cost less than US$300 million a year, with a US$2.7 billion benefit.[96] If food companies fortified their products in developing countries, families would have access to a greater range of more nutritious food.

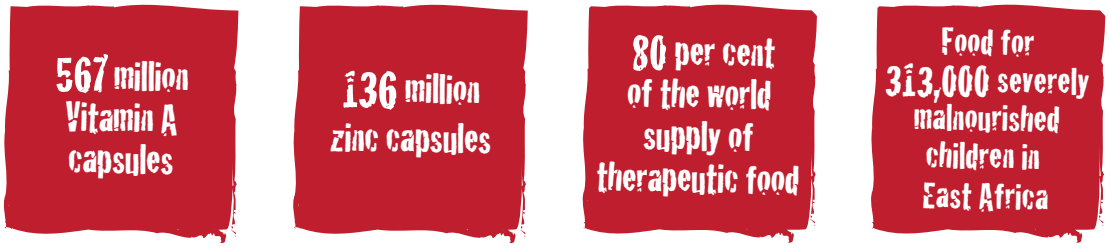
However, there are challenges as fortified products must be low cost, high quality and locally available to the poorest to have maximum impact. Caution must be exercised to ensure that products do not create a dependence on more expensive, packaged and processed foods where adequately nutritious and affordable foods are available locally. UNICEF has a long-established record of supporting companies to ensure that the poorest families can get fortified products at an affordable price.

A Malian boy eats misola, a blend of millet, soya and peanuts, fortified with micronutrients to treat and prevent malnutrition.

UNICEF: PREVENTING AND TREATING CHILD MALNUTRITION

"The causes of stunting may be complex – but in the end, our choice is very simple. As simple as whether a child can survive and then thrive. As simple as whether a child can learn and then earn. As simple as whether a nation can take crucial steps to lift its people out of poverty. As simple as nutrition." UNICEF Executive Director Anthony Lake

In 2011, UNICEF provided:



UNICEF has been a leader in child nutrition since being founded to help feed children in Europe after World War 2. UNICEF promotes and protects exclusive breastfeeding for a baby's first six months of life, provides essential vitamins and minerals for mothers and children, supports community nutrition programmes, and delivers life-saving treatment for malnourished children.

UNICEF meets the urgent life-saving needs of malnourished children, while at the same time building long-term solutions that seek to prevent malnutrition.

Breastfeeding

Breastfeeding saves more lives than any other single preventative intervention. It has the potential to prevent a million deaths of children under five in the developing world.[97] UNICEF works around the world to promote, support, and protect breastfeeding practices.

Working with **governments**, UNICEF supports the development and implementation of infant and young child feeding policies, and the development and enforcement of legislation such as the *International Code of Marketing of Breast-milk Substitutes*. UNICEF also encouages and facilitates public and private partnerships for the improvement of child nutrition.

Working with **health systems**, UNICEF and the World Health Organization jointly support the Baby Friendly Initiative that seeks to improve the care and advice that mothers receive in maternity units.

Working with **communities**, UNICEF empowers women with support and information for breastfeeding, good child nutrition, water and hygiene facts, and how to spot the early signs of malnutrition.

Community power

UNICEF supports and promotes nutrition programmes, empowering local communities, and helping them to improve nutrition, local water, hygiene and sanitation to keep children and parents healthy.

Complementary feeding is perhaps the most effective intervention to significantly reduce stunting during the first two years of life. UNICEF supports

a comprehensive, community-based approach to improve complementary feeding that includes helping to train and inform community health workers and parents. UNICEF also helps to improve the local availability of quality foods, and provide cash transfers and voucher schemes so that parents can afford to buy nutritious food for children.

Vitamins and minerals

UNICEF helps to provide iron and other nutrients for pregnant women to ensure that mother and baby have the best start.

For children age 6 to 24 months at risk of malnutrition, the focus is on delivering vitamin A and zinc capsules and multinutrient powders. UNICEF also helps to improve child nutrition by supporting the fortification of food such as wheat flour with iron and folic acid, and cooking oil with vitamin A. UNICEF also backs the iodization of salt: insufficient iodine is the most common and most preventable cause of brain damage throughout the world, with around 38 million newborns at risk each year.[98]

Treating malnourished children

Investing in prevention is critical, but treatment is urgently needed for children who are malnourished. Severe acute malnutrition affects about 20 million children under the age of five and is associated with 1 to 2 million preventable child deaths every year.[99]

UNICEF is the leader in the treatment of acutely malnourished children, helping to deliver services primarily through a community and outpatient approach, called "community management of acute malnutrition." It starts with community workers testing children using an mid-upper arm circumference tape (MUAC band) to identify those with acute malnutrition and refer them to the nearest health facility.

In the health facility, malnourished children age 6–59 months receive special, ready-to-use therapeutic food to take home, as well as routine medicines. The most severely malnourished children first receive therapeutic milk as inpatients in a hospital or nutrition centre. UNICEF uses this approach in both emergency and non-emergency situations. While emergencies heighten the risk of malnutrition, a majority of the 20 million children with severe acute malnutrition live in countries not affected by current acute emergencies.

UNICEF is the world's major provider of ready-to-use therapeutic food. In 2011 therapeutic food was supplied to 57 countries worldwide, with most of the food provided to the 10 countries most in need (Ethiopia, Somalia, Kenya, Niger, Pakistan, Nigeria, the Democratic Republic of Congo, Yemen, Sudan, and Chad). Almost half the total amount of ready-to-use therapeutic food provided in 2011 went to the Horn of Africa. In 2012, UNICEF helped provide life-saving treatment for 850,000 severely malnourished children during the emergency in the Sahel region.

If we are able to deliver large-scale, comprehensive strategies to prevent malnutrition, the numbers of children requiring treatment for severe acute malnutrition should reduce.

Girls tend the school garden at a primary school in western Rwanda. UNICEF supported the construction of the school and its sports and play areas, provided a water tank, toilets and educational supplies, and funded teacher-training at the child-friendly school. More than 1,570 children, about half of them girls, attend the school.

Ahmed, age 10 months, is weighed in a sling scale by a health worker at the UNICEF-supported nutrition centre in Gorgol, Mauritania. Ahmed is severely malnourished and weighs just 5.7 kilos. He is receiving fortified milk and medical care at the centre. In 2012 the family's crops failed and two thirds of their livestock died in a severe drought.

POST-2015: THE PATH TO GLOBAL CONSENSUS

"Ending hunger and malnutrition is a critical prerequisite for sustainable development and must be a top post-2015 priority."

UN System Task team on the Post-2015 UN Development Agenda

In 2000, 189 countries signed the UN Millennium Declaration, committing them to eradicating extreme poverty by 2015. To help track progress, they set goals, targets and indicators to measure progress between 1990 and 2015, called the Millennium Development Goals (MDGs). The MDGs focused interest and resources on human development and poverty reduction, and helped to shift the development agenda beyond economic growth.

MDG 1

Millennium Development Goal 1 was to "eradicate extreme hunger and poverty." Among the targets for this MDG was to "halve the prevalence of underweight children under the age of 5." In 1990, the global prevalence rate stood at 25.1 per cent. In 2011, it was 15.7 per cent.[100] Three regions – East Asia and the Pacific, Latin America and the Caribbean, and Central and Eastern Europe/Commonwealth of Independent States (CEE/CIS) – have already achieved the target. In South Asia between 1990 and 2011, underweight prevalence declined from 52 to 33 per cent.[101] Progress has been slowest in sub-Saharan Africa: from 29 to 21 per cent.[102] However, the FAO believes that if countries step up their efforts, we could still meet the Goal.

Much of this progress is because of increased attention on , and understanding of, child malnutrition through events such as the Copenhagen Consensus (see page 31) and *The Lancet* Series. As we have seen, the Copenhagen Consensus has consistently rated malnutrition as the greatest global challenge and recommended interventions for pre-school children as providing the most cost-effective solution.

The Lancet Series[103]

The Lancet Series on maternal and child nutrition in 2008 also helped focus efforts. It lamented the fact that malnutrition had been regarded largely as an afterthought in development priorities and that it had been seriously undervalued by both donors and developing countries. The Series highlighted the need to focus on the first 1,000 days, from pregnancy to age two. It provided evidence that breastfeeding counselling, vitamin A supplementation, and zinc fortification had the potential for the greatest benefits during this period.

The Lancet Series called for long-term investments in the education, economic, social, and political empowerment of women as the only way to deliver sustainable improvements in maternal and child nutrition. It concluded that the food system is broken and there was lack of leadership, resources and capacity. It urged governments to produce national plans to scale-up nutrition interventions, systems to monitor and evaluate the plans, and laws and policies to enhance the rights of women and children.

Scale up

In 2010, UNICEF and more than 100 other organisations including governments, civil society, the private sector, research institutions, and the United Nations system committed to work together to fight hunger and malnutrition, developing a Framework to Scale Up Nutrition. The framework had four main pillars:

- start at the country level
- expand the prevention and treatment of child malnutrition, focusing on the first 1,000 days
- increase domestic and global assistance and support for national nutrition programmes
- integrate nutrition into policies and programmes for food security, social protection, health, education, and water and sanitation.

By 2012, more than 30 countries had committed to taking action to prioritise food and nutrition security in their national programmes.

What next?

Global discussions are underway as to what should come after 2015 – the target achievement date for the MDGs. This 'Post 2015' process is a significant opportunity to increase the focus on tackling child malnutrition.

The UK Prime Minister, David Cameron, co-chairs the UN Secretary General's High Level Panel to advise what should replace the current MDGs. UNICEF believes that there is 'unfinished business' in the current MDGs that should not be lost in any new framework. Equally, there is a real opportunity to improve the system for the benefit of children and fulfilling their rights.

While significant progress has been made in tackling the prevalence of underweight children in most areas of the world, the prevalence rates of stunting have not seen a similar reduction. We need to look beyond the MDG targets for hunger reduction and towards the total eradication of malnutrition because, when it comes to malnourished children, the only acceptable number is zero.

A malnourished child receives food at a UNICEF-supported centre in Niger.

SUN movement

The Scaling Up Nutrition (SUN) movement was established in 2010 to accelerate global progress on malnutrition, especially stunting and acute malnutrition. Chaired by UNICEF's Executive Director, Anthony Lake, SUN has already brought together more than 100 partners committed to encourage, coordinate and improve the effectiveness of support for countries that have pledged to put nutrition at the centre of their national agendas.

Already, 33 countries have joined SUN. These 'early risers' are reviewing their policies and programmes through the lens of improving nutrition. Some are reviewing their budgets to increase allocations for nutrition programmes.

Dang Phuong Thuy, age three, eats at a UNICEF-supported Micronutrient Day in southern Viet Nam. Viet Nam is one of the 'early riser' members of the SUN Movement.

2013: BEGINNING OF THE END FOR CHILD HUNGER?

On the closing day of the London Olympics in August 2012, David Cameron hosted a Hunger Summit. UNICEF's Executive Director, Anthony Lake, nutrition experts, global leaders and representatives from the private sector urged the world to "take decisive action before the 2016 Olympic Games in Rio to transform the life chances of millions of children by improving their nutrition."

The 2012 Hunger Summit

Participants at the event announced decisions to help reduce levels of child malnutrition including:

- Doubling of India's budget to improve the health and nutrition of 100 million women and children
- Major European Union (EU) commitment to take responsibility for reducing the number of stunted children in the world by 7 million by 2025
- World Food Programme (WFP) agreement to use its Purchase for Progress programme to help 1,700 farmers in Rwanda to grow iron-rich beans to be used in emergency food relief
- Multi-million pound annual investment by Children's Investment Fund Foundation to reduce stunting and malnutrition
- The Irish Government committed to host a major conference on Hunger, Nutrition and Climate Change in April 2013, during its Presidency of the EU.

EU and UNICEF

In December 2012, the EU and UNICEF joined forces to protect more than 30 million children's lives by improving nutrition security in five Asian and four African countries. The EU is providing €41 million over four years to fund programmes in Bangladesh, Nepal, Indonesia, Laos, the Philippines, Burkina Faso, Ethiopia, Mali and Uganda. The aim is to improve nutrition security for children during the first 1,000 days.

The year of great opportunity

The year 2013 sees a number of opportunities in the UK that provide a platform for transformative action to tackle child malnutrition. David Cameron's key role in setting the post-2015 agenda offers a chance to secure a global priority focus on child nutrition. The UK Government also chairs the G8 Summit, which provides a unique opportunity to lead the world's richest nations to action. Furthermore, Prime Minister David Cameron has pledged to hold a second 'Hunger Summit' just before the G8 meeting.

To tackle hunger and malnutrition, the Enough Food for Everyone IF campaign is urging world leaders to step up investment to tackle hunger and malnutrition, including new and additional finance for climate adaptation. Governments are being urged to take action on land grabs and the use of land to grow biofuel rather than food. There is also a spotlight on tax and transparency issues that impact on the global food system.

The UK Government's commitment to increase the aid budget to meet the 0.7 per cent of GNI will ensure that the UK has the resources to invest in programmes to eliminate child malnutrition.

The unique combination of events and opportunities in 2013, and the key role the UK will play in these, together with the increasing consensus on how to tackle child malnutrition and the growth of the SUN Movement.

CONCLUSION

Vital progress has been made in tackling malnutrition. Over the past 20 years, 50 million fewer children are malnourished thanks to the efforts of the global community.[104]

But this success must not make us complacent about the scale and challenge of the unfinished business that confronts us. Tackling child hunger and malnutrition is perhaps the single greatest public health issue of our age. Malnutrition is responsible for more than one in three of all child deaths.[105] Despite all we have learned about saving children's lives, more than two million children die every year because of malnutrition. UNICEF believes and works for zero hunger. No child should go hungry. No child should suffer or die from malnutrition.

Previously malnutrition was a silent crisis with little international consensus on what the problem was or how to fix it. Now, in 2013, there is a determination to act, and a road map to tackle child malnutrition around the world, involving governments, the private sector, civil society and UN agencies.

We know that malnutrition is not merely a result of too little food, but of a combination of factors: insufficient protein, energy and micronutrients, frequent infections or disease, poor care and inadequate health services, and unsafe water and sanitation. In all of our efforts to reach children, we must also recognise the effect of climate change on children and the impact it is having upon food security.

We know that child malnutrition is not just an acute health problem caused by sudden emergencies such as floods or drought. It is also a chronic health issue that is the result of more systemic factors. As a result of chronic malnutrition, there are 165 million children under the age of five who are stunted around the world.[106]

We urgently need to mobilise the resources to end child malnutrition. The World Bank has estimated that it would cost US$10.3 billion to reach 360 million children in the 36 countries with the highest rates of malnutrition, half of which needs to be financed by Official Development Assistance (ODA). Investing in nutrition will have excellent returns. Children will require less health interventions. They will do better at school and earn more when they grow up. Tackling malnutrition could give developing countries an extra 3 per cent of GDP.

In all our efforts to reach children, we must recognise the effect of climate change on children and the impact it is having upon food security.

UNICEF knows what works to tackle child malnutrition. UNICEF worked to ensure that mothers are involved in health care decisions from pregnancy, and that they receive iron and other supplements to keep them and baby healthy. UNICEF promotes, supports, and protects early initiation of breastfeeding and exclusive breastfeeding in the first six months. UNICEF provides nutrient supplements such as zinc and vitamin A, and supports community programmes that make sure that children from six months to two years receive nutritious food to complement breastfeeding. UNICEF champions social protection programmes so that children and families can afford to buy nutritious food in the local market. If children become malnourished, we make sure that they receive life-saving treatment as soon as possible.

However, UNICEF can't do this alone, and so is part of the SUN movement: a wide coalition of governments, the private sector and development organisations. We now need to ensure that each of us play our part in ensuring that nutrition remains a key priority.

If the UK seizes this opportunity to keep its promise of delivering 0.7 per cent of our GNI to international aid, to take the lead on food and nutrition at the G8 Summit, and to influence the post-2015 development agenda, we could see an end to the iniquity of child hunger and malnutrition. We can save and change the lives of millions of children.

Nanki and daughter Santoshi, 21 months, at a child care and nutrition meeting in Jharkhand, eastern India.

RECOMMENDATIONS TO UK GOVERNMENT

The UK can play a key role in the elimination of child malnutrition:

- by making a political and financial commitment to this goal as a priority
- by working to ensure this commitment is matched by other governments and included in the post-2015 framework
- by committing its fair share of resources to tackle climate change, and
- addressing the structural problems in the world food system.

UNICEF UK calls on the UK Government to

1 Deliver on the promise of 0.7 per cent of national income for international aid in the 2013 Budget
Reaching 0.7 per cent will enable the Department of International Development to expand its support for child nutrition and join governments around the world in finding the US$10.3 billion needed to support nutrition programmes for 360 million children in the 36 countries with the highest rates of malnutrition.

2 Show global leadership
The Prime Minister should continue to show global leadership on the issue of child malnutrition and hunger. Building on the 'Hunger Summit' he hosted during the London 2012 Olympics and his 2013 speech to the World Economic Forum in Davos, we call on the Prime Minister and the Department for International Development to press for concerted global action when they convene the pre-G8 Hunger Summit in June 2013.

3 Commit to new and additional climate finance
Climate change is impacting on child nutrition and increasing the number of natural disasters. The UK Government should explore innovative sources of finance and mobilise its fair share of the global commitment of US$100 billion per annum of new and additional climate finance, encouraging other governments to do the same.

4 Increase preparedness and resilience
Communities, especially children, need support to prepare for and cope with increasing vulnerability due to factors such as climate change. The UK Government should ensure all its international development programmes are disaster-proofed and increase work on and funding of child-centred disaster risk reduction and resilience to ensure disasters do not lead to child malnutrition.

5 Expand social protection programmes
Social protection is a vital tool to combat child malnutrition among vulnerable groups. The Department of International Development should continue to expand social protection programmes to enable families to buy food from local markets.

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GLOSSARY

breastmilk substitute
any food being marketed or otherwise represented as a partial or total replacement for breastmilk, whether or not it is suitable for that purpose.

complementary feeding
the process starting when breastmilk alone or infant formula alone is no longer sufficient to meet the nutritional requirements of an infant, and therefore other foods and liquids are needed along with breastmilk or a breastmilk substitute. The target range for complementary feeding is generally considered to be 6–23 months.

exclusive breastfeeding
infant receives only breastmilk (including breastmilk that has been expressed or from a wet nurse) and nothing else, not even water. Medicines, oral rehydration solution, vitamins and minerals, as recommended by health providers, are allowed during exclusive breastfeeding.

low birth-weight
an infant weighing less than 2.5 kilos at birth.

malnutrition
a broad term commonly used as an alternative to under-nutrition, but technically it also includes over-nutrition. People are malnourished if their diet does not provide adequate nutrients for growth and maintenance or they are unable to fully utilize the food they eat due to illness (under-nutrition). They are also malnourished if they consume too many calories (over-nutrition).

micronutrients
essential vitamins and minerals required by the body throughout the lifecycle in miniscule amounts.

micronutrient deficiency
occurs when the body does not have sufficient amounts of a vitamin or mineral due to insufficient dietary intake and/or insufficient absorption and/or suboptimal utilization of the vitamin or mineral.

moderate acute malnutrition
defined as weight for height between minus two and minus three standard deviations from the median weight for height of the standard reference population.

overweight
defined as weight for height above two standard deviations from the median weight for height of the standard reference population.

stunting
defined as height for age below minus two standard deviations from the median height for age of the standard reference population.

severe acute malnutrition (SAM)
defined as weight for height below minus three standard deviations from the median weight for height of the standard reference population, mid-upper arm circumference (MUAC) less than 115 mm, visible severe thinness, or the presence of nutritional oedema.

supplementary feeding
additional foods provided to vulnerable groups, including moderately malnourished children.

under-nutrition
the outcome of insufficient food intake, inadequate care and infectious diseases. It includes being underweight for one's age, too short for one's age (stunting), dangerously thin for one's height (wasting) and deficient in vitamins and minerals (micronutrient deficiencies).

underweight
a composite form of under-nutrition that includes elements of stunting and wasting and is defined as weight for age below minus two standard deviations from the median weight for age of the standard reference population.

wasting
defined as weight for height below minus two standard deviations from the median weight for height of the standard reference population. A child can be moderately wasted (between minus two and minus three standard deviations from the median.

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UNICEF is the world's leading organisation for children and their rights. UNICEF works with families, local communities, partners and governments in more than 190 countries to help every child survive and flourish. In everything we do, the most disadvantaged children have priority.

As champion of the UN Convention on the Rights of the Child, we advocate for governments to protect and promote the rights of every child. We believe that children's rights should never by compromised by their circumstances.

In 2011, UNICEF supplied 80 per cent of the world's therapeutic food for malnourished children, helping to treat 1.8 million severely malnourished children and saving tens of thousands of lives.

For more than 65 years, UNICEF has been a leader in providing life-saving help for children caught in emergencies around the world. Our emergency efforts to save children's lives complement our long-term development work that transforms children's lives. Helping them to survive and stay healthy, go to school, to be protected from abuse and exploitation, and to have a voice on matters that affect them.

In the UK, we raise money for our development and emergency work for children worldwide. Our UK programmes support child health and well-being in the UK. We also seek to change government policies and practices that violate child rights in the UK and internationally.

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Front cover
Sunita holds her newborn baby at a UNICEF-supported community health centre in Jharkhand, eastern India. Opened just a year ago, the centre has already helped to reduce the number of infant and maternal deaths. India is home to one in every three malnourished children.

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