



Capacity development was fostered through training sessions on emergency nutrition, the detection and management of acute malnutrition, and the 'cluster approach' to coordination and partnership. Developing the capacity of partners working at the community level and coordinating their actions helped to improve local ownership of programmes, thus solidifying efforts to implement the nutrition programme nationally.

The results were significant. Between 2007 and 2011, the number of children admitted for treatment more than tripled.¹⁰¹ Treatment of SAM has been integrated into the minimum health package and in health facilities is addressed along with illnesses such as malaria, pneumonia and diarrhoea. Ready-to-use therapeutic food has been added to the Ministry of Health's list of essential drugs. Geographic coverage reportedly increased from 143 health zones in 2007 (28 per cent) to 270 in 2011 (52 per cent).¹⁰²

Factors that contributed to these successes included:

- Development of government policy, including the change in protocol that allowed for treatment of SAM at home.
- Improved surveillance and analysis of the problem through the monitoring surveys.

- Advocacy with the government, donors and NGOs on the national nature of the problem, based on survey results.
- Effective training to build the capacity of government and NGO staff.
- NGO capacity to expand coverage where government capacity was initially limited.
- Increase of humanitarian funding for treatment of SAM between 2007 and 2011.¹⁰³

This experience shows that emergency interventions can be a model for scaling up nutrition programmes.

Looking forward

In 2011, approximately 800,000 children suffering from SAM still lacked access to treatment.¹⁰⁴ One of the reasons for this limited access is that poor families have to pay out-of-pocket for health and nutrition services. In addition, about 5 million of the country's children suffer from stunting, accounting for nearly 20 per cent of the burden in West and Central Africa.¹⁰⁵ With the support of donors and the international community, the government is committed to scaling up SAM treatment to all health centres in every district, at a cost families can afford. ■

Sri Lanka: Reducing under-five mortality by expanding breastfeeding

Sri Lanka is a lower-middle-income country that has successfully improved child health and nutrition over the past two decades. Between 1990 and 2011, the under-five mortality rate fell from 29 to 12 deaths per 1,000 live births and the infant mortality rate fell from 24 to 11 deaths per 1,000 live births.¹⁰⁶ Progress has been made in breastfeeding – the exclusive breastfeeding rate among infants up to 6 months of age increased from 53 per cent in 2000 to 76 per cent in 2006–2007. The most recent estimates show that 80 per cent of babies are breastfed within the first hour after birth.¹⁰⁷ Yet, Sri Lanka has pockets of inequity: Undernutrition rates are higher in rural areas and in the tea-growing estates of the highlands than in other parts of the country.

Key strategy: Legislation and services to support breastfeeding mothers

Sri Lanka's achievements in improving exclusive breastfeeding rates are the result of:

- High levels of political commitment, leading to protective legislation.
- A well-developed health-care system and an enabling environment.
- A committed group of professionals and organizations that championed breastfeeding.
- A dedicated and well-trained field workforce of public health midwives reaching mothers before, during and after delivery.
- Multiple strategies for extensive awareness creation at all levels, especially among mothers' support groups.



Women make up more than 30 per cent of the workforce in Sri Lanka, and the government has addressed their participation by passing maternity protection laws. In 1992, paid maternity leave in government jobs was extended from 6 weeks to 84 working days. Women in the private sector are also entitled to a 60- to 120-minute paid nursing break every nine hours during their work day for a year. In 1981, the nation was one of the first to adopt the International Code of Marketing of Breast-milk Substitutes as law, expanding it in 1993 and revising it in 2002. At the Ministry of Health's request, UNICEF provided technical support for a revised Code to address weaknesses in late 2011.

Beyond legislation, cross-sectoral programming supports outreach to mothers. A key factor in Sri Lanka's success has been the contribution of over 7,000 government-trained midwives, who are part of the public health team responsible for providing comprehensive maternal and child health care. The midwives provide post-partum care to mothers and support them in adopting appropriate breastfeeding practices – each mother receives four home visits from the midwife during the first six weeks after delivery.

Sri Lanka has developed a 40-hour training course in lactation management and delivered it to an estimated 10,000 paediatricians, obstetricians and nurses – almost the entire health workforce. Mother-baby and lactation management centres have been set up in all major hospitals to provide mothers with breastfeeding support, and print, radio and social media materials promote awareness of appropriate infant feeding practices and the benefits of breastfeeding. Studies on infant and young child feeding practices help guide programme development.

Looking forward

Sri Lanka has joined the SUN movement and is addressing undernutrition as a priority through high-level commitment and evidenced-based programming. A National Nutrition Council, established in 2011 and chaired by the President of the country, is focusing on preventing stunting and controlling malnutrition during pregnancy and in the first two years of the child's life. ■

Kyrgyzstan: Reducing iron deficiency with home fortification of food

Kyrgyzstan is one of the poorest countries in Europe and Central Asia, with approximately one in three people living in poverty. The effects of the global economic crisis, increasing food prices and political instability have had an impact on vulnerable groups, including women and children.¹⁰⁸

Yet, Kyrgyzstan has become one of the first countries in the world to scale up home fortification of complementary food for children aged 6 to 23 months.

Key strategy: A successful pilot programme and nationwide education

In 1997, Kyrgyzstan's national Demographic and Health Survey showed that almost half of the nation's children under 36 months of age were anaemic, mainly due to a deficiency of iron,¹⁰⁹ which is crucial to a child's development, especially during the first years of life. Anaemia was a major public health challenge.

In 2007, a study found that just two months' use of micronutrient powder (MNP) reduced anaemia prevalence by 28 per cent among children 6 to 36 months old.¹¹⁰ In 2009, the Ministry of Health launched a pilot MNP home fortification programme to reach children aged 6 to 23 months in Talas Province.

Single-serving MNP sachets, which could be mixed at home into solid or semi-solid complementary foods, were distributed to families by health-care providers at government clinics through a programme called *Gulazyk*, a Kyrgyz word referring to a dried meat product rich in nutrients and energy that was traditionally eaten by warriors or travellers to give them strength. A slogan was developed: 'Gulazyk – For the health and mind of your child'.

Each child's caregiver was given 30 MNP sachets, enough to administer one to the child roughly every other day for two months. Caregivers were instructed to make sure that all 30 sachets were given within the two months and not to administer more than one sachet per day. Community counselling was available to address problems.

At the same time, a national campaign on maternal, infant and young child nutrition was developed to educate caregivers on diet during pregnancy and the importance of exclusive breastfeeding and adequate complementary feeding. It was developed by the government with partners that included the United States Centers for Disease Control and Prevention (CDC),



UNICEF and the Swiss Red Cross. Village health volunteers educated parents on early childhood development, showing them how to promote learning and giving them a Gulazyk-branded children's book to read to their child. Media messaging promoted optimal feeding, and extensive monitoring ensured successful outcomes.

In 2008, before the MNP pilot programme was launched, a baseline survey of the nutritional status of children in Talas Province had been undertaken by UNICEF and the CDC. A follow-up survey in 2010, a year after initiation of the pilot, showed a decline in iron deficiency anaemia from 46 to 33 per cent,¹¹¹ and that 99 per cent of caretakers had heard of Gulazyk.

There were challenges – MNPs were first distributed when seasonal diarrhoea was high, and mothers associated this with the micronutrient powder. The government worked hard to show that the intervention was safe, effective and cost-efficient.

The factors that led to the success of the programme included:

- A successful pilot programme, showing the potential of the intervention.
- An effective distribution strategy, implemented by dedicated local health-care providers.
- Communication and social mobilization at all levels, from communities to mass media, with clear arguments and messages supporting the intervention.
- Provision of learning opportunities for early childhood development, appealing to mothers, which contributed to high adherence.
- A comprehensive monitoring and evaluation system, which showed the effectiveness of MNPs and supported national scale-up.
- The support of government and other high-level decision-makers and broad partnerships.
- Involvement of a broad range of stakeholders in design, implementation and advocacy – from local nurses to professors, scientists and politicians.

Looking forward

As part of its national nutrition programme, Kyrgyzstan is now reaching 250,000 children with Gulazyk. Local production of MNPs is under consideration, and the government is working to evaluate the programme's performance and impact. The initiative has clearly shown that iron deficiency anaemia can be reduced in children aged 6 to 23 months. As the programme is scaled up nationwide, careful and continuous monitoring and evaluation are expected to ensure quality and reach, show results and maintain the support of all stakeholders. The country has joined the SUN movement and is committed to scaling up nutrition programming to benefit all of its children. ■

United Republic of Tanzania: Institutionalizing vitamin A supplementation

The United Republic of Tanzania has maintained high coverage of vitamin A supplementation (VAS) among children aged 6–59 months since twice-yearly supplementation events were introduced in 2001.¹¹² Between 2005 and 2011, national coverage of vitamin A supplementation has consistently exceeded 90 per cent.¹¹³ High coverage is one of the key factors in the country's declining rate of child mortality,¹¹⁴ from 126 deaths per 1,000 live births in 2000 to 68 per 1,000 in 2011.¹¹⁵

The country has maintained this coverage and in recent years has been working to strengthen national and district ownership by empowering local government authorities to take responsibility for planning and budgeting the vitamin A programme. The United Republic of Tanzania is among a group of countries taking the initiative to build national and local ownership of vitamin A programming.

Key strategy: Using Health Basket Funds to maintain coverage

Vitamin A supplements are delivered to children aged 6 to 59 months through twice-yearly events and routine health services. Until 2006, operational costs to support supplementation in each of the country's districts were funded directly by UNICEF; a more sustainable, government-led solution was thus needed. For the 2007–2008 fiscal year, funds contributed by

the Canadian International Development Agency to UNICEF for the operational costs of VAS (US\$ 500,000) were channelled to districts through the Health Basket Fund of the Ministry of Health and Social Welfare. This arrangement continued until fiscal year 2010–2011.

Health Basket Funds are not earmarked for specific interventions, so it was essential to ensure that districts allocated adequate resources for VAS in their annual budgets. Helen Keller International helped strengthen district capacity to plan and budget for the operational costs of distributing supplements, working through A2Z, the USAID Micronutrient and Child Blindness Project, in collaboration with the government's Tanzania Food and Nutrition Centre and UNICEF. Advocacy and capacity development events are organized during the annual planning and budgeting cycle to inform district health departments about the benefits of VAS and to strengthen planning and budgeting capacity.

A VAS sustainability assessment in 2007 had led to the creation of a simple, spreadsheet-based planning and budgeting tool, which was introduced in 2008 to help districts determine financial, human resource and supply needs. District health management teams were equipped with information, evidence and skills to defend VAS budgets to local government authorities. Advocacy was focused on district executive directors and councillors involved in decision-making. District financial allocations and VAS coverage rates were closely monitored to track the impact of all these efforts and ensure there were no negative consequences of transferring responsibility for planning and budgeting to the districts. Districts that budgeted insufficient funds or that had low VAS coverage were targeted for more intensive advocacy, including sustainability assessments and additional training.

Several factors supported the institutionalization of VAS:

- Strong partnerships were fostered among international agencies, NGOs, donors and the national government. Partners sought to find feasible solutions to promote VAS, building on knowledge generated from earlier studies.

- Sustained advocacy ensured that the benefits of VAS were understood by decision-makers and planners at national and district levels, assuring that funds were earmarked for this intervention.
- Practical steps were taken to develop capacity and create tools to empower local governments to take responsibility for district planning and budget allocation, together with close monitoring to track implementation.
- A flexible financing mechanism existed through Health Basket Funds, which offered a more sustainable source of funding.

Districts increased their allocation of Health Basket Funds for VAS more than fourfold from 2004–2005 to 2010–2011. High VAS coverage was sustained when responsibility for planning and budgeting was transferred to local government.

Looking forward

Beyond expanding coverage of vitamin A supplementation, this experience has provided an entry point to improve the planning and budgeting of other nutrition services in the United Republic of Tanzania. A new budget line for nutrition was introduced in 2012, and nutrition is now a priority in the Ministry of Finance's national planning and budgeting guidelines. District and regional teams have been oriented on how to integrate nutrition into plans and budgets in four sectors (health, agriculture, community development, and education). Public expenditure reviews on nutrition are being used to track budget allocations and expenditures on nutrition. The country joined the SUN movement in 2011, showing its willingness to make further progress on nutrition for the nation's children. ■



Viet Nam: Protecting breastfeeding through legislation

Viet Nam's exclusive breastfeeding rates, at about 17 per cent, have not improved since 1997;¹¹⁶ they have been hindered by inadequate provisions of maternity leave and aggressive promotion of breastmilk substitutes. A 2011 study by Alive & Thrive, an initiative promoting good infant and young child feeding practices, cited returning to work as one of the main reasons mothers stopped exclusive breastfeeding. At the same time, poor regulation of marketing of breastmilk substitutes had made artificial feeding extremely popular in the Asia-Pacific region. The region accounts for 31 per cent of global retail value of baby food sales, compared with 24 per cent in Western Europe and 22 per cent in North America.¹¹⁷ In response, Viet Nam's National Assembly recently enacted legislation that extends paid maternity leave and bans advertising of breastmilk substitutes for infants up to 24 months.

Key strategy: Joint advocacy by diverse partners to persuade lawmakers

The new legislation is the result of an advocacy strategy implemented by a group of partners that included the Vietnamese National Assembly's Institute of Legislative Studies, the Ministry of Health, UNICEF, the World Health Organization, Alive & Thrive and other organizations. The partners drew legislators' attention to the 1981 International Code of Marketing of Breast-milk Substitutes and subsequent World Health Assembly resolutions and the 2000 International Labour Organization Maternity Protection Convention and Recommendation. These international regulatory frameworks were used to persuade legislators of the need to protect the nutritional and breastfeeding rights of mothers and their babies. Also highlighted were the government's obligations under the Convention on the Rights of the Child, which addresses breastfeeding specifically in article 24.

Information on the proposed legislation was provided to the 200 members of the National Assembly and to policy advisers from Provincial Parliament Offices during consultative meetings held at regional and

provincial levels. Participants discussed the scientific evidence on breastfeeding, international standards and the socio-economic challenges to meeting the standards.

They learned that breastmilk substitutes are vulnerable to mixing mistakes, manufacturing errors and contamination, which contribute to increases in disease and child death.

Advocacy efforts paid off. On 21 June 2012, the National Assembly passed a Law on Advertisement banning promotion of breastmilk substitutes for children up to the age of 24 months. A provision in the Labour Code extending paid maternity leave from four to six months also passed by an overwhelming majority. Both these provisions were passed with more than 90 per cent of the votes.

The combination of strategies that helped Viet Nam achieve these results included:

- Identification of key operational partners and of their comparative advantage in influencing policy dialogue and evidence generation.
- Use of stakeholder mapping to identify key counterparts: the Ministry of Health; the Ministry of Labour, Invalids and Social Affairs; the Women's Union; the General Confederation of Labour; and the Institute of Legislative Studies.
- Monitoring of progress and updates from counterparts, including daily updates prior to approval of the law, which helped spur timely action.
- Careful preparation of evidence-based advocacy materials illustrating the problem; explaining the harmful health, social and economic impact for individuals, families, communities and the nation as a whole; and providing information on regulatory solutions within the context of internationally agreed instruments.
- Face-to-face advocacy with counterparts, providing consistent messages, evidence, facts and statistics to support the course of action being recommended.

The process was arduous at times. Some National Assembly members and other stakeholders became hesitant to expand the advertising ban when interest groups raised concerns about violation of international trade laws. The partners responded with proof that the measures were perfectly compatible with world trade rules. They also maintained that adoption of the proposed measures would improve the country's efforts to fulfil its obligations under the Convention on the Rights of the Child. In addition, they provided evidence from a monitoring exercise that revealed the harmful marketing practices that were taking place, the impact on child development and the extent to which the country was lagging behind the rest of the world in terms of protection, promotion and support of breastfeeding.

Another barrier was the assumption that employers and even female workers themselves did not want extended maternity leave. This was addressed through a survey by the General Confederation of Labour, which found that 80 per cent of employers

and nearly 90 per cent of female workers supported six months of paid maternity leave. The government confirmed that funds were sufficient to cover the cost. As an added persuasion, estimates were presented suggesting that the effect of improved breastfeeding practices on children's health in later life could help Viet Nam save millions of dollars in long-term health-care costs.

Looking forward

The next steps include monitoring enforcement of this new legislation and educating mothers and communities on the importance of breastfeeding their babies, particularly exclusive breastfeeding for the first six months. The partners will support the Government of Viet Nam in disseminating information, developing the capacities of key stakeholders such as health workers and ensuring that all primary-health-care facilities provide skilled counselling and support for breastfeeding so that all mothers have access to these services close to their homes. ■

Chapter 6



NEW DEVELOPMENTS IN GLOBAL PARTNERSHIPS

Improving nutrition, particularly of children and women, is increasingly recognized as imperative for reducing poverty, promoting sustainable social and economic development and narrowing inequities. The existence of solutions and the formation of new partnerships committed to taking action have created an unprecedented opportunity to address child under-nutrition through country-led, cross-sectoral actions based on evidence. This report does not review all of these partnerships, but rather highlights two initiatives in which UNICEF plays a major role.

Scaling Up Nutrition

Launched in 2010, the SUN movement is catalysing action to build national commitment to accelerate progress in reducing undernutrition and stunting. It works through implementation of evidence-based nutrition interventions and integration of nutrition goals across diverse sectors – health, social protection, poverty alleviation, national development and agriculture – focusing on the window of opportunity of the 1,000 days covering pregnancy and the child's first two years.

Globally, more than 30 countries have joined the SUN movement and are working with multiple stakeholders to scale up their nutrition programmes, supported by donor countries, United Nations organizations, civil society and the private sector. Working together, these stakeholders support country-led efforts to scale up nutrition, increasing access to resources, both financial and technical, to improve coordination of nutrition-specific interventions and

nutrition-sensitive approaches. SUN focuses on both the short term (recognizing nutrition's crucial role in improving maternal and child health) and the long term (building the foundation for a healthy, more prosperous future and resilience in times of crisis).

The SUN movement Lead Group was established in 2012 by the United Nations Secretary-General to improve coherence, provide strategic oversight, improve resource mobilization and ensure collective accountability. Members of the Lead Group are high-level leaders who represent the array of partners engaged in SUN, including heads of state, donors, civil society, business and the United Nations system. In September 2012, the Lead Group agreed to a new strategy with specific, measurable targets for the next two to three years. More work is needed to encourage countries to join SUN – just 5 of the 10 countries with the highest burden of stunting have joined the movement.

REACH

A key partner in SUN is REACH – Renewed Efforts Against Child Hunger and Undernutrition – under which the World Food Programme, UNICEF, the Food and Agriculture Organization of the United Nations and the World Health Organization have made commitments. REACH helps to coordinate multiple agencies and governments, including ministries of health, agriculture, education and finance, as they design and implement national child undernutrition policies and programmes.

REACH is increasing the emphasis on strengthening nutrition management and governance while also supporting multi-sectoral nutrition actions, including nutrition-sensitive programmatic approaches. This

shift aligns with the SUN movement, which has stressed the need for nutrition-sensitive development. Donors and other partners consider REACH a valuable capacity-development and coordination mechanism for mainstreaming nutrition management and governance, as well as a key vehicle for supporting SUN in countries.

REACH is currently operational in 13 countries: Bangladesh, Ethiopia, Ghana, the Lao People's Democratic Republic, Mali, Mauritania, Mozambique, Nepal, Niger, Rwanda, Sierra Leone, Uganda and the United Republic of Tanzania. REACH is working in synergy with SUN, helping to plan implementation of Sierra Leone's food and nutrition policy, for example, and acting as a catalyst in establishing a civil society alliance for SUN in Bangladesh.

BOX 5

Millennium Development Goals Achievement Fund – Joint programming for children, food security and nutrition

The MDG Achievement Fund (MDG-F or MDG-Fund) was established in 2007 following an agreement between the Government of Spain and the United Nations system. The aim was to accelerate progress towards achievement of the MDGs, primarily by supporting 130 joint programmes in 50 countries in thematic areas corresponding to the goals. A central tenet of the MDG-Fund's programmes is their 'jointness' – bringing together multiple United Nations agencies to 'deliver as one' at the country level, in keeping with the common United Nations Development Assistance Framework.

UNICEF is the lead convenor agency for the Children, Food Security and Nutrition thematic area, covering 24 joint programmes. Each of these has tried to spur innovation by capitalizing on the strengths and expertise of the individual partners and encouraging all to focus on achieving strong and equitable results.

For example, in Timor-Leste, multiple United Nations agencies and national partners are working to improve complementary feeding practices through numerous activities. These include cultivating home gardens and aquaculture to improve access to diverse, locally available foods and generate income; holding cooking demonstrations to educate mothers about how to prepare safe, nutritious foods; and working with mother support groups to improve knowledge of safe infant and young child feeding practices.

The joint programme in Mauritania is working to strengthen the capacity of government officials and other stakeholders to coordinate implementation of multi-sectoral nutrition and food security policies. The programme was designed following a joint analysis conducted by REACH and its partners, benefiting from the country's previous experience in joint programming. An innovative aspect

of this programme is the establishment of flexible operational coordination mechanisms at national, regional and local levels. At the local level, decentralized implementation has allowed for experimentation with different coordination mechanisms. Nutrition and food security task teams collaborate with communities to coordinate a community-owned response to undernutrition. Early results suggest that these mechanisms have improved the effectiveness of the joint programmes and encouraged local ownership. They have also provided a platform to respond flexibly to local conditions.

The work of all joint programmes is aligned with national priorities and supported by inclusive partnerships, helping to ensure programme relevance and sustainability.



THE WAY FORWARD

Over the past few years, national and global interest in nutrition has increased dramatically. There are a number of reasons for this new interest.

Recurrent food shortages, rising food prices and humanitarian crises in some regions have garnered global attention. The debate on climate change and the focus on building resilience in communities under stress have also focused attention on nutrition. At the other end of the spectrum, the rising numbers of people who struggle with overweight and obesity have become more glaring.

More persuasive evidence has become available on the harmful consequences of micronutrient deficiencies and the positive impact of exclusive breastfeeding and adequate complementary feeding for adult life and the next generation. At the same time, evidence has improved on the effectiveness of programme approaches to treat conditions such as severe acute malnutrition using ready-to-use therapeutic foods and iron and folic acid deficiency using wheat flour fortification – as well as on the feasibility of implementing these programmes at scale.

Scientific knowledge and understanding have also improved regarding the linkages between stunting and rapid and disproportionate weight gain in early childhood. This has resulted in a shift in response. Previously the focus was on efforts to reduce the prevalence of underweight among children under the age of 5, an indicator of MDG 1. Now it is shifting towards prevention of stunting during the period from pregnancy up to 2 years of age.

The improved scientific evidence on the impact of interventions has enhanced advocacy to position nutrition as a sound investment for poverty reduction and social and economic development.

A unified international nutrition community has been using the Scaling Up Nutrition movement to successfully advocate for reduction of stunting, acute malnutrition and micronutrient deficiencies. This message has been heard and echoed by other initiatives and channels, including the Secretary-General's Zero Hunger Challenge, the 1,000 Days initiative and the Copenhagen Consensus 2012 Expert Panel's findings that malnourishment should be the top priority for policymakers and philanthropists. The G8 has also included action to address stunting and other forms of undernutrition in its agenda.

As of the end of 2012, the SUN message had led more than 30 countries in Africa, Asia and Latin America to scale up their nutrition programmes, supported by a wide range of organizations and, in many cases, by the donor community. This is probably the clearest indication of the growing interest in tackling stunting and other forms of undernutrition. It is crucial to maintain this momentum and to further increase the level of interest and motivation.

How can this be done? By showing that success in the foreseeable future is not only possible, but realistically achievable. The 2009 *Tracking Progress on Child and Maternal Nutrition* report showed that there was scientific evidence supporting a set of interventions to improve nutritional status. This report goes a step further, showing that programmatic approaches and the experience necessary to implement these interventions at scale exist, and that the nutritional status of populations can improve significantly as a result.

A number of common determinants are at the basis of the successful implementation of the examples described in Chapter 5. These include the political commitment to reduce stunting and other forms of undernutrition; the design and implementation of comprehensive and effective national policy and programmes based on sound situation analysis; the presence of trained and skilled community workers collaborating with communities; effective communication and advocacy; and multi-sectoral delivery of services.

These and other positive experiences must be consistently and constantly used to advocate with policymakers and decision-makers, especially those who are not familiar with nutrition and its importance for health and development. Advocacy efforts have proved effective in recent years, but more work is needed to sustain the interest and motivation of governments, particularly to maintain budgetary commitments and expansion of programmes. Global initiatives should play a major role in this effort to keep nutrition in the spotlight.

An expanded range of interventions is needed in many countries to address stunting and other nutrition indicators. Maternal nutrition has a large impact on infant nutritional status, and not enough interventions to improve maternal nutrition are being implemented at scale across countries. Many countries have an official iron-folic acid supplementation programme for pregnant women, but in most cases its implementation is not optimal. Other proven options are not being used to the fullest extent, such as multi-micronutrient supplements, improving nutrient intake using locally available foods, providing food supplements where appropriate, and deworming.

Programmes to improve complementary feeding for children aged 6 to 24 months also require expansion. The same is true of efforts to improve nutritional status among adolescent girls. Adolescence presents an opportune and receptive time to promote healthy nutrition behaviours, and this opportunity must be harnessed.

Continued research is needed to strengthen the knowledge of the causes and consequences of stunting and other forms of undernutrition. The intergenerational impact of undernutrition, and the relationship between the timing of deficiencies during pregnancy and developmental impact after birth, and between early growth retardation and overweight, are only beginning to be understood. Applied research is also required to improve an understanding of effective programme approaches and strategies to improve caring practices, reduce child overweight through stunting prevention and improve both distribution and use of food and micronutrient supplements. Lipid-based supplements have been shown to reduce stunting and improve child development, but more evidence would strengthen understanding of their impact and possible use in various target groups, such as pregnant women, and help in the design of programme strategies to reach them.

Stunting and other forms of undernutrition are also linked to health, food availability, water and sanitation, cultural practices and social and political factors. But evidence on how improving these factors affects nutritional status is still limited. Few programmes aiming to improve these factors have the co-objective of improving nutrition of women and children, so nutritional status is rarely used as an indicator to gauge their success. As a result, information on cost-effectiveness is lacking.

This report notes the need for household food security to attain optimal nutrition, but the limited evidence base on the impact of agricultural interventions on child nutrition highlights the need for more work in this area. Similarly, the impact of social safety net programmes needs further documentation to improve the effectiveness of this intervention. These issues are of special importance in countries that experience regular food shortages and need to build resilience to such shocks to prevent the tragedies that require large numbers of children to be treated for severe acute malnutrition.

Now that many countries are scaling up nutrition programmes, it is important to ensure optimal use of resources and achieve results rapidly. If programmes are not making the necessary progress, strategies need to be adapted quickly. This requires a monitoring system to assess whether bottlenecks impeding programme effectiveness are effectively addressed and the collection of information in real time rather than reliance on large-scale household survey data, which are normally collected intermittently.

Wider use of innovative technology has the potential to transform programme coverage and effectiveness. In some countries the use of mobile phones for rapid messaging has enhanced programmes in terms of supply availability, service uptake, community engagement and quality of monitoring. Much broader application is possible. There are exciting possibilities to be explored, particularly when they are paired with interventions by community workers.

The evidence demonstrating the impact of stunting and other forms of undernutrition on survival, individual and national development, and long-term health is irrefutable.

As the world looks to the post-2015 development agenda, it is clear that prevention and treatment of undernutrition must be at its core. The evidence outlined in this report, the momentum around tackling the problem, the successes already achieved and the impact on equitable and sustainable poverty reduction show that improving child and maternal nutrition is both achievable and imperative for global progress.



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CHAPTER 3

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CHAPTER 4

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CHAPTER 5

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NUTRITION PROFILES

24 countries with the largest burden and highest prevalence of stunting



Bangladesh • Burundi • Central African Republic • China • Democratic Republic of the Congo • Ethiopia • Guatemala • Guinea • India • Indonesia • Liberia • Madagascar • Malawi • Mozambique • Nepal • Niger • Nigeria • Pakistan • Philippines • Rwanda • Sierra Leone • United Republic of Tanzania • Timor-Leste • Zambia

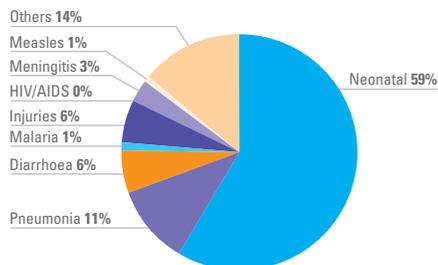
BANGLADESH

DEMOGRAPHICS AND BACKGROUND INFORMATION

| | |
|---|----------------|
| Total population (000) | 150,494 (2011) |
| Total under-five population (000) | 14,427 (2011) |
| Total number of births (000) | 3,016 (2011) |
| Under-five mortality rate (per 1,000 live births) | 46 (2011) |
| Total number of under-five deaths (000) | 134 (2011) |
| Infant mortality rate (per 1,000 live births) | 37 (2011) |
| Neonatal mortality rate (per 1,000 live births) | 26 (2011) |
| HIV prevalence rate (15–49 years old, %) | <0.1 (2011) |
| Population below international poverty line of US\$1.25 per day (%) | 43 (2011) |
| GNI per capita (US\$) | 770 (2011) |
| Primary school net attendance ratio (% female, % male) | 88, 85 (2007) |

Causes of under-five deaths, 2010

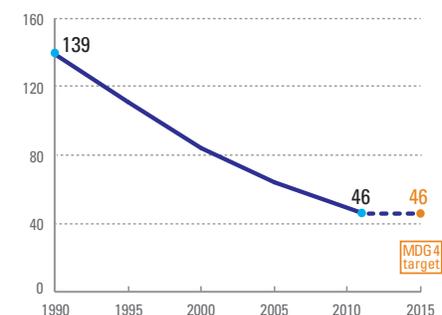
Globally, undernutrition contributes to more than one third of child deaths



Source: WHO/CHERG, 2012.

Under-five mortality rate

Deaths per 1,000 live births



Source: IGME, 2012.

NUTRITIONAL STATUS

Burden of malnutrition (2011)

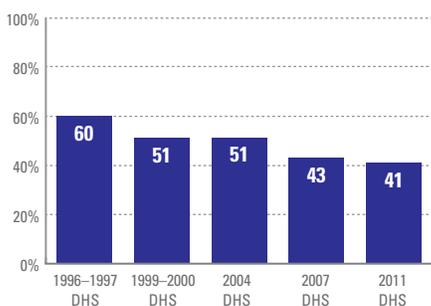
| | |
|------------------------------------|---|
| Stunting country rank | 6 |
| Share of world stunting burden (%) | 4 |

| | |
|------------------------------------|-------|
| Stunted (under-fives, 000) | 5,958 |
| Wasted (under-fives, 000) | 2,251 |
| Severely wasted (under-fives, 000) | 577 |

| | |
|--------------------------------|-----------------------|
| MDG 1 progress | Insufficient progress |
| Underweight (under-fives, 000) | 5,251 |
| Overweight (under-fives, 000) | 216 |

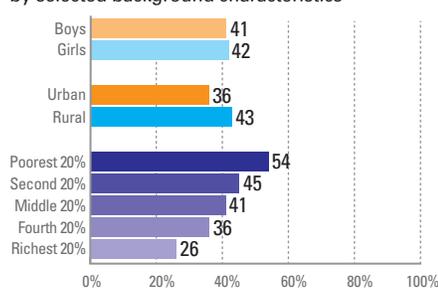
Stunting trends

Percentage of children <5 years old stunted



Stunting disparities

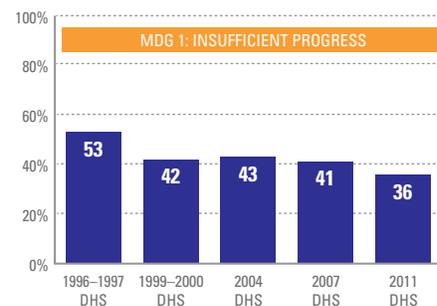
Percentage of children <5 years old stunted, by selected background characteristics



Source: DHS, 2011.

Underweight trends

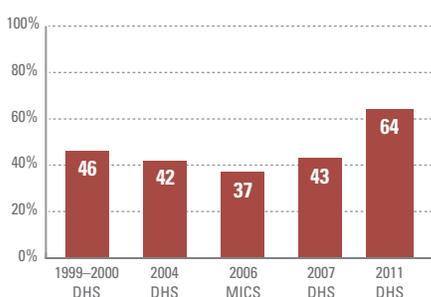
Percentage of children <5 years old underweight



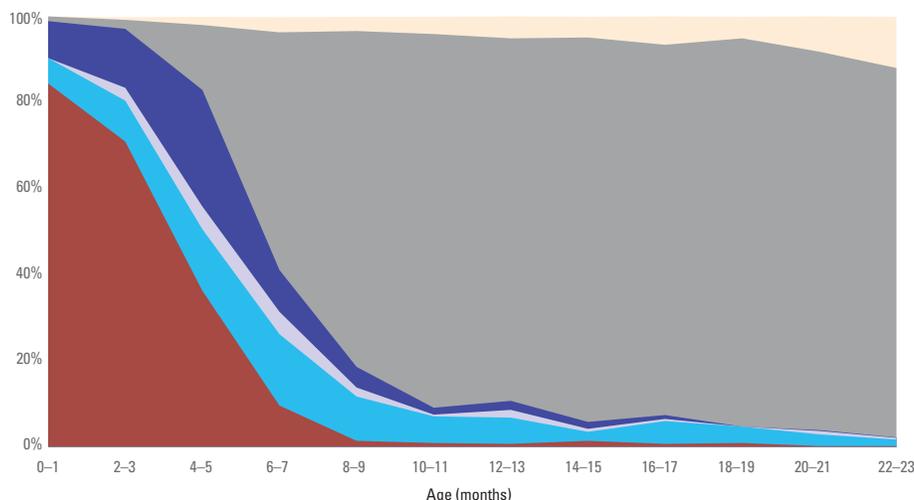
INFANT AND YOUNG CHILD FEEDING

Exclusive breastfeeding trends

Percentage of infants <6 months old exclusively breastfed



Infant feeding practices, by age



Source: DHS, 2011.



ESSENTIAL NUTRITION PRACTICES AND INTERVENTIONS DURING THE LIFE CYCLE

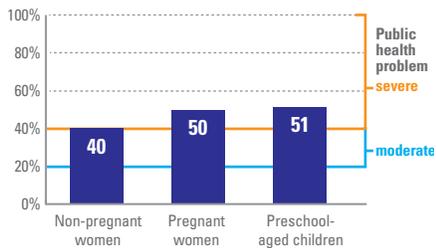
| PREGNANCY | BIRTH | 0-5 MONTHS | 6-23 MONTHS | 24-59 MONTHS |
|--|---|---|---|--|
| Use of iron-folic acid supplements | – | Early initiation of breastfeeding (within 1 hour of birth) 47% | International Code of Marketing of Breast-milk Substitutes Partial Maternity protection in accordance with ILO Convention 183 No | |
| Households with adequately iodized salt 82% | Infants not weighed at birth 85% | Exclusive breastfeeding (<6 months) 64% | Introduction to solid, semi-solid or soft foods (6–8 months) 62% Continued breastfeeding at 1 year old 95% Minimum dietary diversity 25% Minimum acceptable diet 21% | Full coverage of vitamin A supplementation 94% Treatment of severe acute malnutrition included in national health plans Yes |

To increase child survival, promote child development and prevent stunting, nutrition interventions need to be delivered during pregnancy and the first two years of life.

MICRONUTRIENTS

Anaemia

Prevalence of anaemia among selected populations



Source: DHS, 2011.

Iodized salt trends*

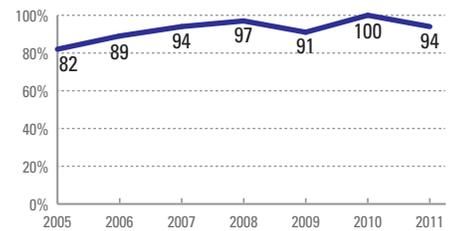
Percentage of households with adequately iodized salt
534,000 newborns are unprotected against iodine deficiency disorders (2011)



* Estimates may not be comparable.

Vitamin A supplementation

Percentage of children 6–59 months old receiving two doses of vitamin A during calendar year (full coverage)



Source: UNICEF, 2012.

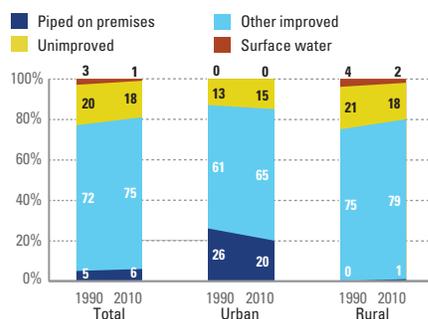
MATERNAL NUTRITION AND HEALTH

| | | |
|--|-------|--------|
| Maternal mortality ratio, adjusted (per 100,000 live births) | 240 | (2010) |
| Maternal mortality ratio, reported (per 100,000 live births) | 220 | (2010) |
| Total number of maternal deaths | 7,200 | (2010) |
| Lifetime risk of maternal death (1 in :) | 170 | (2010) |
| Women with low BMI (<18.5 kg/m ² , %) | 24 | (2011) |
| Anaemia, non-pregnant women (<120g/l, %) | 40 | (2011) |
| Antenatal care (at least one visit, %) | 55 | (2011) |
| Antenatal care (at least four visits, %) | 26 | (2011) |
| Skilled attendant at birth (%) | 32 | (2011) |
| Low birthweight (<2,500 grams, %) | 22 | (2006) |
| Women 20–24 years old who gave birth before age 18 (%) | 40 | (2007) |

WATER AND SANITATION

Improved drinking water coverage

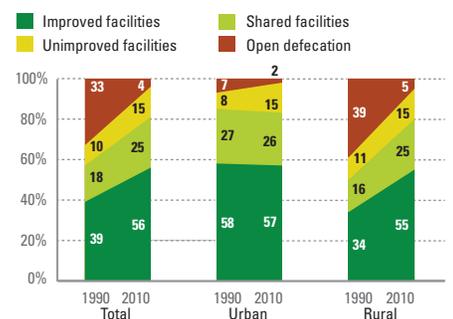
Percentage of population, by type of drinking water source, 1990–2010



Source: WHO/UNICEF JMP, 2012.

Improved sanitation coverage

Percentage of population, by type of sanitation facility, 1990–2010



Source: WHO/UNICEF JMP, 2012.

DISPARITIES IN NUTRITION

| Indicator | Gender | | | Residence | | | Wealth quintile | | | | | | Source | |
|--|--------|--------|-------------------------|-----------|-------|-------------------------|-----------------|--------|--------|--------|---------|-----------------------------|--------|--------------|
| | Male | Female | Ratio of male to female | Urban | Rural | Ratio of urban to rural | Poorest | Second | Middle | Fourth | Richest | Ratio of richest to poorest | | Equity chart |
| Stunting prevalence (%) | 41 | 42 | 1.0 | 36 | 43 | 0.8 | 54 | 45 | 41 | 36 | 26 | 0.5 | ■■■■■ | DHS, 2011 |
| Underweight prevalence (%) | 34 | 39 | 0.9 | 28 | 39 | 0.7 | 50 | 42 | 36 | 28 | 21 | 0.4 | ■■■■■ | DHS, 2011 |
| Wasting prevalence (%) | 16 | 15 | 1.1 | 14 | 16 | 0.9 | 18 | 16 | 18 | 14 | 12 | 0.7 | ■■■■■ | DHS, 2011 |
| Women with low BMI (<18.5 kg/m ² , %) | – | 24 | – | 14 | 28 | 0.5 | 40 | 30 | 26 | 20 | 8 | 0.2 | ■■■■■ | DHS, 2011 |
| Women with high BMI (≥25 kg/m ² , %) | – | 17 | – | 29 | 12 | 2.4 | 5 | 7 | 11 | 20 | 37 | 7.3 | ■■■■■ | DHS, 2011 |

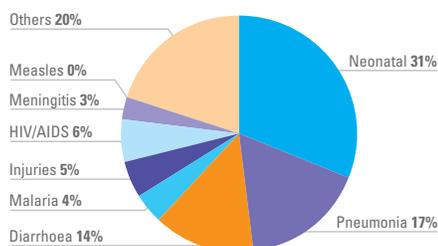
BURUNDI

DEMOGRAPHICS AND BACKGROUND INFORMATION

| | |
|---|---------------|
| Total population (000) | 8,575 (2011) |
| Total under-five population (000) | 1,218 (2011) |
| Total number of births (000) | 288 (2011) |
| Under-five mortality rate (per 1,000 live births) | 139 (2011) |
| Total number of under-five deaths (000) | 39 (2011) |
| Infant mortality rate (per 1,000 live births) | 86 (2011) |
| Neonatal mortality rate (per 1,000 live births) | 43 (2011) |
| HIV prevalence rate (15–49 years old, %) | 1.3 (2011) |
| Population below international poverty line of US\$1.25 per day (%) | 81 (2006) |
| GNI per capita (US\$) | 250 (2011) |
| Primary school net attendance ratio (% female, % male) | 74, 73 (2010) |

Causes of under-five deaths, 2010

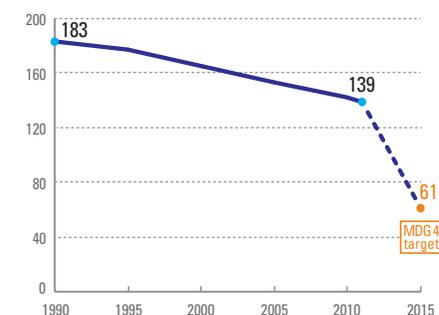
Globally, undernutrition contributes to more than one third of child deaths



Source: WHO/CHERG, 2012.

Under-five mortality rate

Deaths per 1,000 live births



Source: IGME, 2012.

NUTRITIONAL STATUS

Burden of malnutrition (2011)

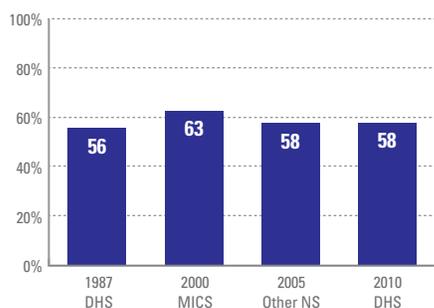
| | |
|------------------------------------|-----|
| Stunting country rank | 33 |
| Share of world stunting burden (%) | <1% |

| | |
|------------------------------------|-----|
| Stunted (under-fives, 000) | 703 |
| Wasted (under-fives, 000) | 71 |
| Severely wasted (under-fives, 000) | 17 |

| | |
|--------------------------------|-------------|
| MDG 1 progress | No progress |
| Underweight (under-fives, 000) | 351 |
| Overweight (under-fives, 000) | 33 |

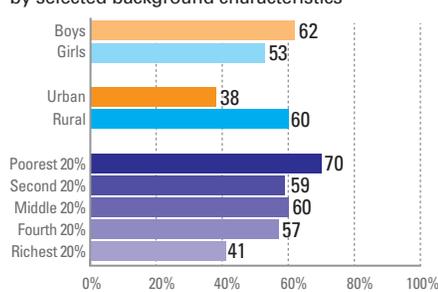
Stunting trends

Percentage of children <5 years old stunted



Stunting disparities

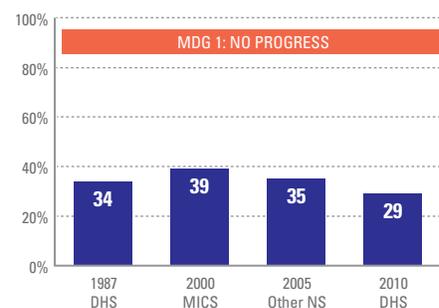
Percentage of children <5 years old stunted, by selected background characteristics



Source: DHS, 2010.

Underweight trends

Percentage of children <5 years old underweight



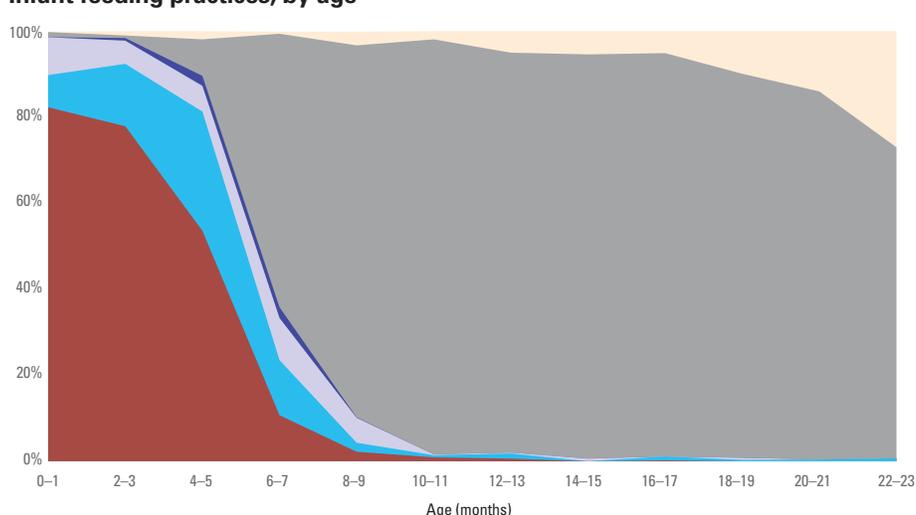
INFANT AND YOUNG CHILD FEEDING

Exclusive breastfeeding trends

Percentage of infants <6 months old exclusively breastfed



Infant feeding practices, by age



Source: DHS, 2010.

ESSENTIAL NUTRITION PRACTICES AND INTERVENTIONS DURING THE LIFE CYCLE

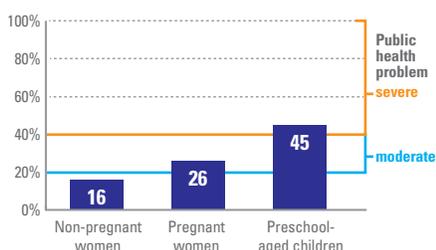
| PREGNANCY | | BIRTH | 0-5 MONTHS | 6-23 MONTHS | 24-59 MONTHS | |
|---|-----|--|-------------------------------------|--|--|-----|
| Use of iron-folic acid supplements | 7% | Early initiation of breastfeeding (within 1 hour of birth) | – | International Code of Marketing of Breast-milk Substitutes | No | |
| Households with adequately iodized salt | 98% | Infants not weighed at birth | 48% | Maternity protection in accordance with ILO Convention 183 | No | |
| | | | Exclusive breastfeeding (<6 months) | 69% | Introduction to solid, semi-solid or soft foods (6-8 months) | 70% |
| | | | | | Continued breastfeeding at 1 year old | 94% |
| | | | | | Minimum dietary diversity | 19% |
| | | | | | Minimum acceptable diet | 9% |
| | | | | | Full coverage of vitamin A supplementation | 83% |
| | | | | | Treatment of severe acute malnutrition included in national health plans | Yes |

To increase child survival, promote child development and prevent stunting, nutrition interventions need to be delivered during pregnancy and the first two years of life.

MICRONUTRIENTS

Anaemia

Prevalence of anaemia among selected populations

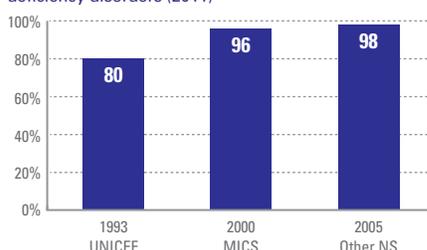


Source: DHS, 2010.

Iodized salt trends*

Percentage of households with adequately iodized salt

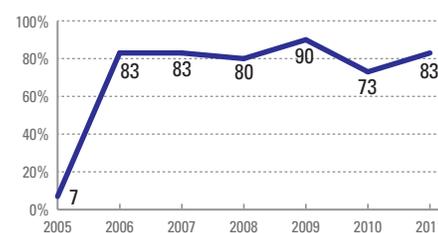
6,000 newborns are unprotected against iodine deficiency disorders (2011)



* Estimates may not be comparable.

Vitamin A supplementation

Percentage of children 6-59 months old receiving two doses of vitamin A during calendar year (full coverage)



Source: UNICEF, 2012.

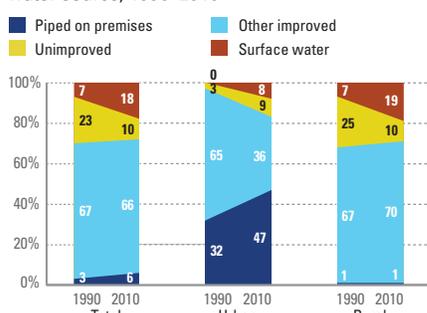
MATERNAL NUTRITION AND HEALTH

| | | |
|--|-------|--------|
| Maternal mortality ratio, adjusted (per 100,000 live births) | 800 | (2010) |
| Maternal mortality ratio, reported (per 100,000 live births) | 500 | (2010) |
| Total number of maternal deaths | 2,200 | (2010) |
| Lifetime risk of maternal death (1 in :) | 31 | (2010) |
| Women with low BMI (<18.5 kg/m ² , %) | 16 | (2010) |
| Anaemia, non-pregnant women (<120g/l, %) | 16 | (2010) |
| Antenatal care (at least one visit, %) | 99 | (2010) |
| Antenatal care (at least four visits, %) | 33 | (2010) |
| Skilled attendant at birth (%) | 60 | (2010) |
| Low birthweight (<2,500 grams, %) | 11 | (2005) |
| Women 20-24 years old who gave birth before age 18 (%) | 11 | (2010) |

WATER AND SANITATION

Improved drinking water coverage

Percentage of population, by type of drinking water source, 1990-2010



Source: WHO/UNICEF JMP, 2012.

Improved sanitation coverage

Percentage of population, by type of sanitation facility, 1990-2010



Source: WHO/UNICEF JMP, 2012.

DISPARITIES IN NUTRITION

| Indicator | Gender | | | Residence | | | Wealth quintile | | | | | | Source | |
|--|--------|--------|-------------------------|-----------|-------|-------------------------|-----------------|--------|--------|--------|---------|-----------------------------|--------|--------------|
| | Male | Female | Ratio of male to female | Urban | Rural | Ratio of urban to rural | Poorest | Second | Middle | Fourth | Richest | Ratio of richest to poorest | | Equity chart |
| Stunting prevalence (%) | 62 | 53 | 1.2 | 38 | 60 | 0.6 | 70 | 59 | 60 | 57 | 41 | 0.6 | ■■■■■ | DHS, 2010 |
| Underweight prevalence (%) | 32 | 26 | 1.2 | 18 | 30 | 0.6 | 41 | 30 | 30 | 25 | 17 | 0.4 | ■■■■■ | DHS, 2010 |
| Wasting prevalence (%) | 6 | 6 | 1.1 | 5 | 6 | 0.8 | 7 | 6 | 5 | 5 | 5 | 0.8 | ----- | DHS, 2010 |
| Women with low BMI (<18.5 kg/m ² , %) | – | 16 | – | 10 | 17 | 0.6 | 22 | 15 | 17 | 15 | 12 | 0.5 | ----- | DHS, 2010 |
| Women with high BMI (≥25 kg/m ² , %) | – | 8 | – | 27 | 5 | 5.3 | 4 | 3 | 6 | 6 | 19 | 5.4 | ----- | DHS, 2010 |

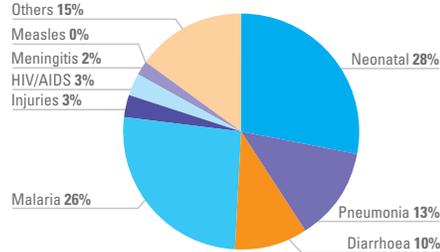
CENTRAL AFRICAN REPUBLIC

DEMOGRAPHICS AND BACKGROUND INFORMATION

| | |
|---|---------------|
| Total population (000) | 4,487 (2011) |
| Total under-five population (000) | 659 (2011) |
| Total number of births (000) | 156 (2011) |
| Under-five mortality rate (per 1,000 live births) | 164 (2011) |
| Total number of under-five deaths (000) | 25 (2011) |
| Infant mortality rate (per 1,000 live births) | 108 (2011) |
| Neonatal mortality rate (per 1,000 live births) | 46 (2011) |
| HIV prevalence rate (15–49 years old, %) | 4.6 (2011) |
| Population below international poverty line of US\$1.25 per day (%) | 63 (2008) |
| GNI per capita (US\$) | 470 (2011) |
| Primary school net attendance ratio (% female, % male) | 47, 56 (2006) |

Causes of under-five deaths, 2010

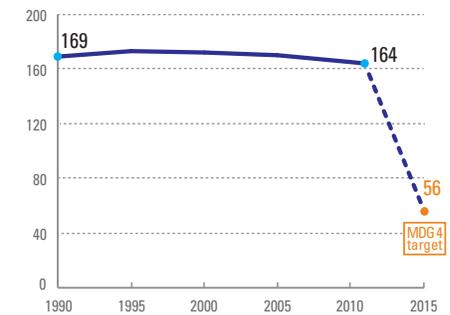
Globally, undernutrition contributes to more than one third of child deaths



Source: WHO/CHERG, 2012.

Under-five mortality rate

Deaths per 1,000 live births



Source: IGME, 2012.

NUTRITIONAL STATUS

Burden of malnutrition (2011)

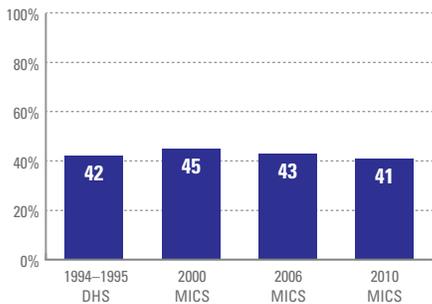
| | |
|------------------------------------|-----|
| Stunting country rank | 50 |
| Share of world stunting burden (%) | <1% |

| | |
|------------------------------------|-----|
| Stunted (under-fives, 000) | 270 |
| Wasted (under-fives, 000) | 46 |
| Severely wasted (under-fives, 000) | 13 |

| | |
|--------------------------------|-------------|
| MDG 1 progress | No progress |
| Underweight (under-fives, 000) | 158 |
| Overweight (under-fives, 000) | 12 |

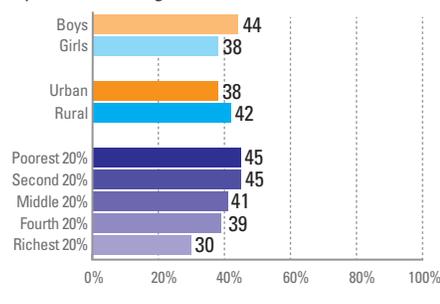
Stunting trends

Percentage of children <5 years old stunted



Stunting disparities

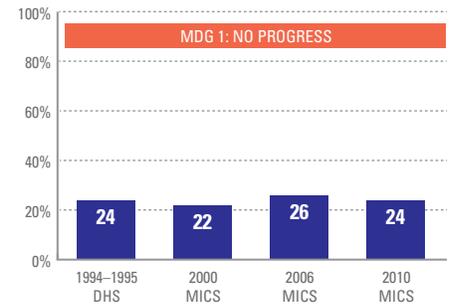
Percentage of children <5 years old stunted, by selected background characteristics



Source: MICS, 2010.

Underweight trends

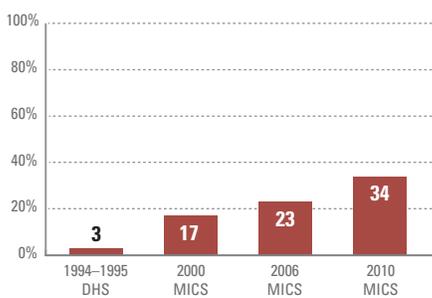
Percentage of children <5 years old underweight



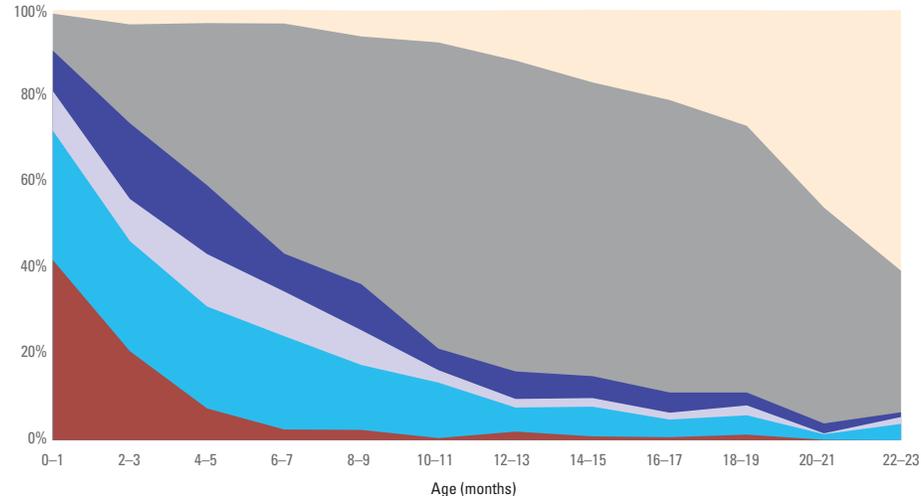
INFANT AND YOUNG CHILD FEEDING

Exclusive breastfeeding trends

Percentage of infants <6 months old exclusively breastfed



Infant feeding practices, by age



Source: MICS, 2010.

- Weaned (not breastfed)
- Breastfed and solid/semi-solid foods
- Breastfed and other milk/formula
- Breastfed and non-milk liquids
- Breastfed and plain water only
- Exclusively breastfed