



REGIONAL REPORT ON NUTRITION SECURITY IN ASEAN

Volume 2





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Message from the ASEAN SECRETARIAT

The establishment of the ASEAN Community in December 2015 came at a time of unprecedented peace and prosperity in the region, with ASEAN achieving key milestones in all its three mutually-reinforcing pillars. Underlying ASEAN's strong economic performance is a healthy populace that will continue to fuel its growth and sustainability in the years to come.

For this purpose, comprehensive initiatives have been undertaken by the ASEAN Health sector to ensure food and nutrition security at both national and regional levels that will achieve a Healthy ASEAN. Through appropriate advocacies and mechanisms as well as joint health initiatives, in cooperation with the ASEAN Dialogue Partners, external parties and stakeholders, ASEAN Member States have endeavoured to include health in all relevant policies and address health implications in the pursuit of economic progress and political stability. Health interventions in the food and agricultural regulatory sectors are of critical importance to ensure nutrition security. Efforts to localize and implement activities that are nutrition-specific and nutrition-sensitive should be undertaken, according to the needs in each ASEAN Member State and the region as a whole. Implementing programmes to ensure healthy lifestyles must be enhanced as ASEAN further consolidates its inclusive, people-oriented, people-centered community-building process.

As ASEAN Member States implement key policies and programmes consistent with the ASEAN Post 2015 Health Development Agenda from 2016 to 2020, raising awareness on nutrition security in ASEAN through evidence-based documents is imperative. This publication will serve as a reliable reference in further shaping the ASEAN health cooperation in nutrition, in pursuit of a healthy, caring, and sustainable ASEAN Community.



Le Luong Minh

Secretary-General of ASEAN

Message from UNICEF

The East Asia and Pacific region is one of the most economically and culturally diverse regions in the world. The ten countries that comprise the Association of Southeast Asian Nations (ASEAN) reflect this diversity, and are united in a model of regional cooperation that is essential to progress in the 21st century. The last few decades have seen notable progress in economic growth and food security, but many families and children still face significant barriers to prosperity, health, and reaching their full potential.

In 2014, ASEAN and UNICEF produced the Regional Report on Nutrition Security, Volume 1. In that volume, we compiled trends and evidence on a wide range of nutrition, health, and food security indicators for ASEAN member states. In Volume 2, we now synthesize that evidence, summarize the causes of all forms of malnutrition, review the latest global and regional evidence of what works to prevent malnutrition, and present case studies of successful programmes in each Member State.

UNICEF is particularly concerned about the nearly 18 million stunted (chronically malnourished) children in the region who will never reach their full potential for growth, learning or earning; the four million severely wasted (acutely malnourished) children who have a 12 times higher risk of death than non-wasted children; and the rapidly growing number of overweight and obese children who's risk of diet-related disease will bring personal and financial costs to them, their families, and the health care systems that serve them.

Fortunately, all of these forms of malnutrition can be prevented when sufficient political will enables the necessary coordinated actions: food security, adequate health care, clean water and sanitation, education on healthy choices and lifestyles, and poverty reduction. To support those actions, this report is a comprehensive technical resource, and offers practical solutions for programme directors and managers. It also provides convincing evidence for policy makers that investing in nutrition is essential and has very high human, social and economic returns.

Last year, all ten ASEAN member states, along with 183 other countries worldwide, adopted the 2030 Agenda for Sustainable Development. Good nutrition is embedded in many of those Sustainable Development Goals, including those related to hunger, health, education, water and sanitation, poverty, women's empowerment, and sustainable management of natural resources. Indeed nutrition security requires efforts of all stakeholders in multiple sectors, and this Regional Nutrition Security Report Volume 2 signifies ASEAN member states' commitment to act broadly to ensure one of the most fundamental rights of children – the right to food and nutrition. We know what works to improve nutrition, and now is the time to invest and act, to enable the full potential of future generations.



Daniel Toole

Director

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Message from the WORLD HEALTH ORGANIZATION

Asian nations have made remarkable progress in economic and social development over the last two to three decades. This is also reflected in the achievement of Millennium Development Goal (MDG) 1 target on reducing hunger and malnutrition by many ASEAN Member States. In the last decade, promotion of good nutrition as central to development has received increased political attention in the ASEAN region. Entering the era of the post-2015 Sustainable Development Goals, and working towards the Global Nutrition and Noncommunicable Disease (NCD) Targets endorsed by the World Health Assembly, greater effort is needed by all to end all forms of malnutrition.

In the ASEAN region, malnutrition encompasses undernutrition as well as overweight and obesity, with the presence of micronutrient malnutrition running through both sides of the spectrum. There are great variations in the nutritional status within and among ASEAN Member States. Some Member States have a higher burden of undernutrition while others face a greater burden of overweight and obesity and diet-related NCDs; all face an increasing double burden of malnutrition.

ASEAN, UNICEF, and WHO Western Pacific and South-East Asia regions have therefore combined their efforts to provide this evidence-based advocacy document to promote further scaling up of interventions to improve nutrition security in ASEAN Member States. This advocacy volume describes the determinants and costs of malnutrition in the ASEAN region, identifies areas of special importance that Member States should focus on and provides recommendations to Member States on reaching an end to all forms of malnutrition. The document describes some key commonalities that Member States could consider in addressing malnutrition. For example, adequate and suitable provision of nutrients beginning in the early stages of life is crucial and vital to prevent malnutrition through the life-course. Promoting healthy diets and preventing the influences of an obesogenic environment are also important, in view of the increasing burden of overweight, obesity and noncommunicable diseases that are affecting populations. A multisectoral approach is needed to address nutrition issues, with greater attention paid to education, social protection, water and sanitation, simultaneously, along with evidence-based nutrition specific interventions. Finally, improving resource allocation and capacity of health systems to implement and scale up nutrition actions is endorsed, keeping in mind the goals of Universal Health Coverage.

At the dawn of the Sustainable Development Goals, development of this nutrition security volume, which is a product of successful collaborative partnerships among agencies, is timely. This joint effort by ASEAN, UNICEF and WHO also contributes significantly to a marked decrease in the fragmentation of efforts often found in public health nutrition policy and development, and paves the way for further success in the future. The contributions of Member States in the preparation of this volume are significant and indicate support for ASEAN's commitments to improving nutrition security in the Region.



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ACRONYMS

AHMM	ASEAN Health Ministers Meeting
ANC	antenatal care
ASEAN	Association of Southeast Asian Nations
BMI	body mass index
BMS	breast-milk substitutes
CMAM	Community-based Management of Acute Malnutrition
DES	Dietary Energy Supply
DHS	Demographic and Health Survey
DP	development partners
EAPRO	East Asia and Pacific Regional Office
ECD	early childhood development
eLENA	Electronic Library of Evidence for Nutrition Actions
FAO	Food and Agriculture Organization
FDA	Food and Drug Administration
GDP	Gross Domestic Product
GNP	Gross National Product
HRH	Royal Highness
IASC	Interagency Standing Committee
ICN2	Second International Conference on Nutrition
IDD	Iodine Deficiency Disorder
IFA	Iron Folic Acid
IFAD	International Fund for Agricultural Development
IMAM	Integrated Management of Acute Malnutrition
IYCF	infant and young child feeding
LBW	low birth weight
MAM	Moderate Acute Malnutrition
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MNP	Multiple Micronutrient Powder
MUAC	mid upper arm circumference
NCD	noncommunicable disease
NESDP	National Economic and Social Development Plan, Thailand

NNC	National Nutrition Committee
PDR	People's Democratic Republic (Lao)
PHC	primary health care
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
SD	standard deviation
SDG	Sustainable Development Goal
SFFM	Strategic Framework for Food Management, Thailand
SLP	National School Lunch Programme, Thailand
SMART	Specific, Measurable, Assignable, Realistic and Time Bound
SMP	School Milk Programme, Thailand
SOMHD	Senior Officials Meeting on Health Development
SUN	Scaling Up Nutrition
UNGNA	United Nations Global Nutrition Agenda
UNICEF	United Nations Children's Fund
USI	Universal Salt Iodization
VAD	Vitamin A deficiency
VAS	Vitamin A supplementation
WASH	Water, Sanitation and Hygiene
WHA	World Health Assembly
WHO	World Health Organization

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GLOSSARY

Definitions of malnutrition, undernutrition (in all its forms) and overnutrition (in all its forms):

Malnutrition: inadequate, excessive or unbalanced nutrition.

Undernutrition: inadequate and/or unbalanced intake and/or absorption of micro- or macronutrients that in turn leads to nutritional deficiency. It covers a range of disorders, including growth failure and micronutrient deficiencies. Growth failure is further classified into acute malnutrition (wasting, nutritional oedema), chronic undernutrition (stunting) and underweight.

Stunting: also referred to as chronic malnutrition, stunting is the most common form of undernutrition and is reflected in low height for age (below two standard deviations from the median of the WHO Child Growth Standards).¹ It is largely irreversible after the second year of the child's life, with minimal catch-up growth, and represents a significant impediment to human development.² Stunting is a result of long-term nutritional deprivation and/or repeated bouts of infection during the first 1000 days of a child's life. It is caused, on the one hand, by poor maternal health and nutrition, poor feeding practices and lack of a nutrient-rich and diverse diet, and on the other hand, by frequent episodes of infectious illnesses (e.g. diarrhoea) and poor access to safe water and sanitation facilities. Stunting results in impaired mental development, physical development, and a greater risk of illness and death. A person who was stunted as a child is likely to achieve fewer years of schooling, earn less and suffer from overweight or obesity and NCDs as an adult (see chapter 7). In addition, a stunted girl who becomes a stunted mother is more likely to give birth to a stunted infant, perpetuating the intergenerational transmission of stunting. This cycle can be compounded further in young mothers, especially adolescent girls who begin childbearing before attaining adequate growth and development.

Acute malnutrition: acute malnutrition in children is defined as a weight-for-height below minus two standard deviations from the median of the WHO child growth standards (wasting), mid-upper arm circumference (MUAC) lower than 125 mm and/or presence of bilateral pitting oedema. MUAC can only be used as an independent criterion for identification of children 6–59 months old with acute malnutrition and should not be used alone in anthropometric surveys to establish nutrition status, although it may be used for initial rapid assessments in emergencies. It can be used as sole admission criteria for programmes to manage acute malnutrition. WHO classifies acute malnutrition in children as Moderate Acute Malnutrition (MAM) or Severe Acute Malnutrition (SAM).³

Moderate Acute Malnutrition (MAM): MAM in infants and children 6–59 months of age is defined as a weight-for-height between minus two and minus three standard deviations of the median of the WHO child growth standards without bilateral pitting oedema and/or MUAC between 125 and 115 mm without oedema.

¹ WHO (2006). WHO Child Growth Standards. Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age. Methods and development. Geneva: World Health Organization (http://www.who.int/childgrowth/standards/technical_report/en/index.html, accessed November 25, 2015).

² WHO (2014). Global nutrition targets 2025: stunting policy brief (WHO/NMH/NHD/14.3). Geneva: World Health Organization. (http://www.who.int/nutrition/topics/globaltargets_stunting_policybrief.pdf, accessed November 25, 2015).

³ WHO/UNICEF/WFP (2014). Global nutrition targets 2025: wasting policy brief (WHO/NMH/NHD/14.8). Geneva: World Health Organization. (http://apps.who.int/iris/bitstream/10665/149023/1/WHO_NMH_NHD_14.8_eng.pdf?ua=1, accessed December 11, 2015).

Severe Acute Malnutrition (SAM): SAM in infants and children 6–59 months of age is defined as a weight-for-height below three standard deviations from the median of the WHO child growth standards, MUAC lower than 115 mm and/or presence of bilateral pitting oedema. The clinical forms of SAM are also known as marasmus (wasting), kwashiorkor (bilateral pitting oedema) and marasmic-kwashiorkor (combination of both wasting and bilateral pitting oedema). SAM is classified as a disease in the International Classification of Disease (ICD-10).⁴

Wasting: wasting can be classified into moderate wasting (weight-for-height between minus two and minus three standard deviations from the median of the WHO child growth standards and/or MUAC between 125 and 115 mm) and severe wasting (weight-for-height below minus three standard deviations from the median of the WHO child growth standards and/or MUAC lower than 115 mm). It is the most common form of acute malnutrition in nutritional emergencies. It is characterized by wasting of fat and muscle, which are broken down by the body to make energy. It is reflected in low weight for height (below two standard deviations from the median of the WHO Child Growth Standards) or MUAC less than 125 mm.⁵ Children with a low MUAC have an increased risk of death. Wasting can impair the functioning of the immune system and increase the risk of disease and death; a child who is severely wasted has a 12-fold increased risk of death.⁶ Each episode of untreated wasting also contributes to stunting.

Bilateral pitting oedema: bilateral pitting oedema constitutes another form of SAM, also known as kwashiorkor, which carries a significantly elevated risk of death. It consists of bloated appearance due to water retention and may be accompanied with depigmentation of skin and hair.

Prevalence of SAM: the total percentage of children with SAM existing in a population at a point in time, based on a cross-sectional survey. The number of prevalent cases of SAM at any given point in time is extrapolated by multiplying the percentage of SAM by the number of children under five years old in the population.

Annual incidence or caseload of SAM: the occurrence of new cases of SAM in a population over a specific time period (usually a year). Incidence cannot be estimated in cross-sectional surveys of prevalence at a given point in time. Therefore, an incidence correction factor is needed; UNICEF has indicated a correction factor of “prevalence x 2.6” in its SAM management programme guidance,⁷ but this is expected to be reviewed and updated on the course of 2016.

Underweight: underweight is measured by weight for age and reflects inadequate weight for the age of the child (below two standard deviations from the median of the WHO Child Growth Standards);¹ it is a composite indicator that includes elements of stunting and wasting. An underweight child may be of normal height for their age or may be stunted; the indicator does not distinguish this, and indeed a lower rate of underweight may mask much higher levels of stunting. This is one of the reasons why stunting and wasting, and not underweight, are reflected in the nutrition target of the Sustainable Development Goals and the World Health Assembly nutrition goals.

⁴ WHO (2016). International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD10). Geneva, World Health Organization. (<http://apps.who.int/classifications/icd10/browse/2016/en>, accessed November 2, 2015).

⁵ WHO/UNICEF (2009). WHO child growth standards and the identification of severe acute malnutrition in infants and children. A joint statement by the World Health Organization and the United Nations Children's Fund. Geneva: World Health Organization. (http://www.who.int/childgrowth/standards/Technical_report.pdf?ua=1, accessed November 25, 2015).

⁶ Olofin I, McDonald CM, Ezzati M, Flaxman S, Black RE et al (2013). Associations of suboptimal growth with all-cause and cause-specific mortality in children under five years: a pooled analysis of ten prospective studies. *Plos One* 8(5): e64636.

⁷ UNICEF (2015). Management of Severe Acute Malnutrition in Children: working towards results at scale. New York; UNICEF. (http://www.unicef.org/eapro/UNICEF_program_guidance_on_manangement_of_SAM_2015.pdf, accessed January 15, 2016).

Low birth weight (LBW): LBW refers to a birth weight of less than 2500 grams. This may be due to prematurity, growth restriction, or a combination of the two. It is still a significant public health concern, with low-birth-weight infants 20 times more likely to die than heavier infants. It is associated with a greater likelihood of developing stunting and chronic diseases later in life. It includes preterm neonates (born before 37 weeks of gestation), small for gestational age neonates at term and the overlap between these two situations (preterm, small for gestational age neonates).⁸ Each of these groups is linked to different causes and long-term effects. For example, preterm small for gestational age birth is associated with medical conditions related to chronic hypertension and pre-eclampsia/eclampsia.⁹ Poor nutritional status of the mother is also associated with increased risk of pre-eclampsia.

Low body mass index (BMI): adults are considered to be underweight when their BMI measured in kg/m² is less than 18.5. A BMI of less than 16 identifies SAM in adults (note that BMI is not used to classify acute malnutrition in pregnant women – MUAC can be used). Women with low BMI are at higher risk of having LBW infants.

Micronutrient deficiencies: micronutrient deficiencies occur when there is insufficient dietary intake, insufficient absorption, and/or suboptimal utilization or excessive loss of vitamins or minerals. Globally, the most critical deficiencies for which data is available are vitamin A, iron, iodine, zinc, and folic acid, due to their importance in immune function, organ development, and growth. Micronutrient deficiencies can lead to many health problems. For example, vitamin A deficiency increases the risk of morbidity and mortality and childhood blindness.¹⁰ Zinc deficiency in children is associated with susceptibility to infection, in particular diarrhoea and pneumonia, impaired growth and neuro-behavioural development. Iodine and folic acid deficiencies in the periconceptual period are associated with a higher prevalence of birth defects and mental retardation in the young child. Maternal zinc deficiency has been linked with preterm and prolonged labour, postpartum haemorrhage and fetal growth restriction.¹¹

Anaemia: a condition in which the blood is deficient in red blood cells, in haemoglobin, or in total volume. Anaemia is characterized by reductions in haemoglobin levels or red blood cells, which impairs the ability to supply oxygen to the body's tissues. Anaemia is caused by inadequate intake, poor absorption and/or excessive loss of iron, folate, vitamin B12, and other nutrients. It is also caused by genetic blood disorders¹² and infectious diseases (e.g. malaria, hookworm infestation). However, the most common cause of anaemia is usually iron deficiency, caused by inadequate dietary iron intake or absorption, increased needs for iron during pregnancy or growth periods and increased iron losses as a result of menstruation and worm infestation.¹³ Women and young children are vulnerable populations. Pregnant adolescents are particularly at risk because they require iron both for their own growth and for the growth of the fetus.

Overnutrition: excessive and/or unbalanced nutrition to the point at which nutritional intake greatly exceeds nutritional needs and health is adversely affected. It can be classified as growth excess/unbalance (overweight, obesity) and micronutrient excess, for example excess sodium intake. All forms of overnutrition can lead to NCDs.

⁸ WHO (2014). Global nutrition targets 2025: low birth weight policy brief (WHO/NMH/NHD/14.5). Geneva: World Health Organization (http://apps.who.int/iris/bitstream/10665/149020/2/WHO_NMH_NHD_14.5_eng.pdf?ua=1, accessed November 5, 2015).

⁹ Ota E, Ganchimeg T, Morisaki N, Vogel JP, Pileggi C et al (2014). Risk factors and adverse perinatal outcomes among term and preterm infants born small-for-gestational-age: secondary analyses of the WHO Multi-Country Survey on Maternal and Newborn Health. *PLoS One*; 9(8): e105155.

¹⁰ Imdad A, Herzer K, Mayo-Wilson E, Yakoob MY, Bhutta ZA (2010). Vitamin A supplementation for preventing morbidity and mortality in children from 6 months to 5 years of age. *Cochrane Library*, Issue 12 (<http://www.update-software.com/BCP/WileyPDF/EN/CD008524.pdf>, accessed December 11, 2015).

¹¹ Mori R, Ota E, Middleton P, Tobe-Gai R, Mahomed K, Bhutta ZA (2012). Zinc supplementation for improving pregnancy and infant outcome. *Cochrane Database Syst Rev*.

¹² Some genetic blood disorders are common in certain ASEAN Member States, such as thalassemia.

¹³ WHO (2014). Global nutrition targets 2025: anaemia policy brief (WHO/NMH/NHD/14.4). Geneva: World Health Organization. (http://apps.who.int/iris/bitstream/10665/148556/1/WHO_NMH_NHD_14.4_eng.pdf, accessed November 5, 2015).

Childhood overweight and obesity: child overweight is defined as the percentage of children aged under five whose weight for height is above two standard deviations (SD) (overweight and obese) or above three standard deviations (obese) from the median of the WHO Child Growth Standards. For children aged 5–9 years, BMI for age is used as an indicator. A BMI for age greater than or equal to 1 SD (equivalent to BMI 25 kg/m² at 19 years) is considered overweight, and a BMI for age greater than or equal to 2 SD (equivalent to BMI 30 kg/m² at 19 years) as obese. Children who are overweight or obese are at a higher risk of developing serious health problems, including type 2 diabetes, high blood pressure, liver disease, sleep disorders, and asthma and other respiratory problems leading to premature death and disability in adulthood.¹⁴ In addition, overweight children can suffer psychological problems such as low self-esteem, depression and social isolation. One of the key causes of the increase in the prevalence of overweight worldwide in both children and adults is the change in eating habits, due to altered availability of foods and beverages and increasingly sedentary lifestyles. Many diets now include “ultra-processed foods” and foods and beverages high in saturated fats and free sugars.

Adult overweight and obesity: globally, for adults aged 18 years and above, a BMI over 25 kg/m² is considered overweight and a BMI over 30 kg/m² is classified as obese. While all ASEAN Member States use the standard cut-off for reporting overweight and obesity, some countries also use a lower cut-off for obesity (25 kg/m²) to identify at-risk populations for targeted interventions, because health risks associated with obesity may occur at a lower BMI in certain Asian populations.¹⁵ Obesity is a complex and serious condition. Obesity increases the risk of developing diet-related NCDs, such as type 2 diabetes, cardiovascular disease, hypertension and stroke, and some forms of cancer. NCDs are a major contributor to premature mortality and they significantly reduce the overall quality of life and add an enormous burden to health care in countries. Key causes of adult overweight and obesity are similar to those mentioned under childhood obesity.

High sodium intake: excess sodium intake is linked to adverse health outcomes. Salt is the primary source of sodium and increased consumption is associated with hypertension and increased risk of heart disease and stroke. Salt in the diet can come from processed foods, as they are typically high in salt (e.g. ready-to-eat meals, processed meats like bacon, ham and salami, cheese, salty snack foods, and instant noodles, breads, among others) or because it is added to food during cooking (e.g. bouillon, stock cubes, monosodium glutamate [MSG]) or at the table (e.g. soy sauce, fish sauce and table salt). The WHO cut-off for recommended sodium intake is two grams per day or less.

Other definitions (in alphabetical order):

Anthropometry: use of body measurements such as weight, height, and MUAC, in combination with age and sex, to gauge growth or failure to grow.

Breast-milk substitutes (BMS): any food marketed or otherwise represented as a partial or total replacement of breast milk, whether or not suitable for that purpose.

Complementary feeding (CF): the process of introducing age-appropriate, adequate, and safe solid or semi-solid food to the diet of the child with continued breastfeeding when she/he becomes six months, as breast milk or BMS alone is no longer sufficient to meet the full nutritional requirements of an infant.

Free sugars: all sugars added to foods or drinks by the manufacturer, cook or consumer, as well as sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates.

Home fortification: the process of adding micronutrients, usually in the form of a powder or also a paste if lipids and other ingredients are added, to the food of a young child at home.

¹⁴ WHO (2014). Global nutrition targets 2025: childhood overweight policy brief (WHO/NMH/NHD/14.6). Geneva; World Health Organization (http://apps.who.int/iris/bitstream/10665/149021/2/WHO_NMH_NHD_14.6_eng.pdf?ua=1, accessed November 5, 2015).

¹⁵ WHO WPRO/IASO/International Obesity Task Force (2000). The Asia-Pacific perspective: redefining obesity and its treatment. World Health Organization, International Association for the Study of Obesity and International Obesity TaskForce (<http://www.wpro.who.int/nutrition/documents/docs/Redefiningobesity.pdf>, accessed November 25, 2015).

Infant and young child feeding (IYCF): feeding of infants (less than 12 months old) and young children (12–23 months old). The key interventions of IYCF include protection, promotion and support of optimal breastfeeding practices (exclusive breastfeeding for the first six months and continued breastfeeding for two years or beyond) and support for and promotion of optimal CF practices (e.g. timely introduction of CF). Issues of policy and legislation around the regulation of the marketing of infant formula and other breast-milk substitutes are also addressed by these interventions.

Macronutrients: fat, protein and carbohydrates that are needed for a wide range of body functions and processes.

Micronutrients: essential vitamins and minerals required by the body in miniscule amounts throughout the life cycle.

Mid-upper arm circumference (MUAC): the circumference of the mid-upper arm is measured on a straight left arm (in right-handed people) midway between the tip of the shoulder and the tip of the elbow. It measures acute malnutrition in children 6–59 months. The MUAC tape is a plastic strip, marked with measurements in millimetres and usually coloured to easily indicate cutoffs.

Nutrition-specific interventions: are those that address the immediate determinants of malnutrition, including fetal and child nutrition and development, and/or the nutritional status of older children and adults (adequate food and nutrient intake, feeding, caregiving and parenting practices, and burden of infectious disease) (see Box 1).

Nutrition-sensitive interventions: are those that address the underlying determinants of malnutrition and development (food security; adequate resources) at the individual (especially maternal and caregiver), household and community levels; access to health services and a safe and hygienic environment; access to information about healthy food choices) and that incorporate specific nutrition goals and actions (see Box 2). Nutrition-sensitive programmes can be used as delivery platforms for nutrition-specific interventions, which can increase their scale, coverage and effectiveness.

Ready to Use Supplementary Food (RUSF): specialised nutrient-dense ready-to-eat, portable, shelf-stable foods that are used for the prevention and management of moderate acute malnutrition in infants and children 6–59 months of age.

Ready to Use Therapeutic Food (RUTF): specialized ready-to-eat, portable, shelf-stable products, available as pastes or spreads that are used in a prescribed manner to treat children with SAM. The provision of RUTFs facilitates home-based therapy of children with SAM.

Supplementary feeding programme (SFP): a programme where specially formulated supplementary foods are provided to treat children with MAM or prevent a deterioration of nutrition among at-risk populations. They are implemented in emergency interventions, as well as in development interventions in contexts where rates of MAM and SAM are very high. There are two types of supplementary feeding programmes: 1) blanket supplementary feeding programmes involving the distribution of supplementary foods to all target vulnerable families in food insecure or emergency situations, and 2) targeted supplementary feeding programmes involving the distribution of supplementary foods to children 6–59 months of age, pregnant and lactating women and other individuals with MAM in order to treat MAM and to prevent children with MAM from falling into SAM.¹⁶

Therapeutic feeding programme: a programme where specially formulated therapeutic nutritional products are provided to treat children with SAM. Outpatient management of SAM involves provision of Ready to Use Therapeutic Foods (RUTF). Patients with complicated SAM or with no appetite should be admitted to an inpatient facility where they should be provided with F75 and F100 therapeutic milk in the initial phase of treatment.¹⁷

¹⁶ Moderate Acute Malnutrition: a decision tool for emergencies (2014). CMAM Forum (<http://www.cmamforum.org/Pool/Resources/MAM-Decision-Tool-2014.pdf>, accessed November 2, 2015).

¹⁷ WHO (2013). Guideline: Updates on the management of severe acute malnutrition in infants and children. Geneva; World Health Organization (http://apps.who.int/iris/bitstream/10665/95584/1/9789241506328_eng.pdf, accessed January 11, 2016).

Boy from a hill tribe family in Mu Ban No Lae, at the Thai-Myanmar border, Thailand.

Photo credit: ©UNICEF Thailand/2016/Schmit Michele



EXECUTIVE SUMMARY

In 2014, the Association of Southeast Asian Nations (ASEAN) and United Nations Children's Fund (UNICEF) published the "Regional Report on Nutrition Security in ASEAN, Volume 1"; a compilation of the latest data on food and nutrition security and related factors, including a description of the policy and enabling environment for nutrition security in each of the ASEAN Member States. This, Volume 2 of the regional report, synthesizes the data from Volume 1, highlighting the causes and consequences of all forms of malnutrition in ASEAN Member States. The document also identifies key issues and challenges that need to be overcome for Member States to achieve the global World Health Assembly (WHA) nutrition targets in the context of the Sustainable Development Goals (SDGs). This evidence-based advocacy effort supports ASEAN's commitments and actions to improve nutrition security as a national and regional development priority.

- Despite significant economic growth in Asia, **malnutrition constitutes a severe public health, economic and ethical concern**. In ASEAN Member States, not only the most vulnerable groups (e.g. children, pregnant and lactating women), but also the general population are currently affected by the double burden of malnutrition, which often implies the coexistence of several forms of undernutrition (i.e. stunting, underweight, wasting, micronutrient deficiencies) and/or overnutrition (i.e. overweight/obesity, micronutrient excess) in individuals, households, communities or societies. While undernutrition is a major contributing factor to child illness, disability, and death, overnutrition can lead to diet-related noncommunicable diseases (NCDs) such as diabetes and cardiovascular disease.
- Evidence shows that malnutrition is a problem with **multiple causes and consequences**, as represented in the updated conceptual framework on all causes of all forms of malnutrition. Immediate causes of malnutrition are poor dietary intake (in terms of quantity and quality), disease and physical inactivity. Underlying causes at household level include insufficient access to affordable, diverse, nutrient-rich food; inappropriate maternal and child care, feeding practices and behaviours; inadequate health services and a poor environment including lack of safe water, sanitation and good hygiene practices, and sedentary lifestyles and behaviours. These in turn are affected by social, economic and political factors.
- The **situation assessment** of malnutrition in the region shows that prevalence of stunting and wasting in children under five remains unacceptably high in many ASEAN Member States. Stunting constitutes a severe public health problem in half of ASEAN Member States, and wasting is above the threshold of public health significance (5%) in eight out of 10 ASEAN Member States. An estimated 5.4 million children suffer wasting and 17.9 million are stunted. Anaemia is a moderate or severe public health problem in all Member States, and is especially high in children 6–59 months, women of reproductive age and pregnant and lactating women. On the other hand, some ASEAN Member States have rates of overweight/obesity in children under five of over 10%, and the trend is up. The daily consumption of sodium in ASEAN Member States is about twice as high as the WHO recommendations, which is associated with higher prevalence of hypertension. Despite efforts to protect, promote and support breastfeeding through communication and counselling, legislation based on the International Code of Marketing of Breast-milk Substitutes and the implementation of maternity protection policies, the percentage of infants 0–5 months who are exclusively breastfed remains low in too many countries.
- **Nutrition goals and targets** have been defined in various global development frameworks to guide actions to reduce malnutrition and to facilitate the measurement of progress. Nutrition is specifically included in the SDG 2, and also spans across all the other SDGs (see Annex 1). Six global nutrition targets were endorsed in 2012 by WHO Member States, including all 10 ASEAN Member States. The six global nutrition targets are a 40% reduction in the number of stunted children, 50% reduction of anaemia in women of reproductive age, 30% reduction in low birth weight, no increase in childhood overweight,

at least 50% increase in the rate of exclusive breastfeeding in the first six months and reducing and maintaining childhood wasting to less than 5%. Two of the nine voluntary Global NCD Targets are also directly linked with nutrition, namely 30% reduction of salt/sodium intake and halting the rise in diabetes and obesity. Only a few Member States with trend data are on track to meet the target for stunting (i.e. Cambodia, Philippines, Viet Nam) or wasting (Brunei).

- A number of evidence-based **nutrition-specific and nutrition-sensitive actions** have proven to be effective in reducing malnutrition, by ensuring that all immediate and underlying determinants of malnutrition are addressed in a complementary manner. The nutrition-specific interventions act on the immediate causes and encompass strengthening nutrition literacy and protecting, promoting and supporting optimal infant and young child feeding and nutrition for adolescents, women of reproductive age and pregnant and lactating women; micronutrient supplementation and fortification; food reformulation; managing acute malnutrition; preventing and treating infectious diseases, parasitic infestations and noncommunicable diseases, and promoting adequate physical activity. Nutrition-sensitive actions address the underlying and basic causes and encompass multiple sectors, such as food systems, including agriculture, the private sector, health, WASH, social protection, early childhood development, education, finance, legislation and gender.
- The Asia-Pacific is the most **disaster-prone** region in the world. In the framework of the ASEAN post-2015 Health Development Agenda, ASEAN Member States have committed to “forge a more resilient future by reducing existing disaster and climate-related risks, preventing the generation of new risks and adapting to a changing climate”. Nutrition resilience is not only about prevention of malnutrition and strengthening of systems in the routine context, it also includes the preparation and communication of detailed preparedness plans before disaster strikes. Effective implementation of emergency response actions for nutrition involves the delivery of specific nutrition interventions to protect nutrition status and save lives, but also timely assessment, coordination and monitoring.
- The large burden of malnutrition represents a significant **cost to the economies** of ASEAN Member States. For example, it is estimated the cost of undernutrition for Cambodia and Lao People’s Democratic Republic is 2.5% and 2.4% of their Gross Domestic Product (GDP), respectively. Moreover, it is estimated that in 2006, the estimated losses because of coronary heart disease, stroke, and diabetes varied from US\$ 12–20 million in Thailand and Viet Nam to almost US\$ 60 million in the Philippines. Investing in addressing malnutrition is a smart and highly cost-effective measure, with every dollar spent on nutrition in the first 1000 days of a child’s life bringing a saving of an average US\$ 45 and in some cases as much as US\$ 166 (as is the case in Indonesia).
- ASEAN Member States face a number of **challenges and gaps** in addressing malnutrition. Some of these are context-specific challenges relating to coordination, policies, programmes and financing for nutrition actions. For example, despite great efforts in recent years to develop multisectoral and multi-stakeholder coordination mechanisms, this still remains a challenge in a number of ASEAN Member States, especially in relation to commitment to results-based accountability. The large financial gap observed in the majority of low- and middle-income countries with regard to nutrition improvement is one of the key barriers that are preventing the successful control and elimination of malnutrition. Many ASEAN Member States still need to further develop capacities and monitoring systems for nutrition at all levels of governance and institutions, and nutrition and food security policies and laws in many instances require significantly strengthened enforcement as well as expansion in scope. General challenges for nutrition include rapid urbanization and migration, dietary changes and aggressive marketing of unhealthy foods and beverages, increasing food prices, climate change and natural disasters, accompanied by inadequate resilience, widening inequities and pervasive social and cultural practices not conducive to optimal nutrition.
- ASEAN Member States, with the support from UNICEF and WHO, have established a number of **recommendations** that will facilitate the creation of an enabling environment for nutrition, in the following six key areas:

i) Strengthen national nutrition policies and legislative frameworks

- a) Strengthen national nutrition policies as well as policies for various settings (including educational institutions and the workplace) so that they comprehensively address the double burden of malnutrition, as well as nutrition in emergencies preparedness and response.
- b) Create an enabling environment for good nutrition and advocate for adequate mechanisms to safeguard against conflict of interest through the establishment or updating of legislative and regulatory frameworks, consistent with internationally available standards (see Annex 3).
- c) Develop guidelines, recommendations or policy measures that engage all stakeholders in the food supply chain to increase availability, affordability and consumption of healthy foods, provide consumers with clear nutrition information and reduce the level of salt/sodium, saturated and trans-fats and sugars added to food.
- d) Consider economic tools, such as taxes and subsidies, to create incentives for behaviours associated with improved health outcomes, encourage consumption and improve the affordability of healthier food products and discourage the consumption of less healthy options.

ii) Promote multisectoral and multi-stakeholder commitment, policy coherence and action

- a) Make nutrition explicit in the countries' overall development policies, including economic and social development plans, poverty reduction strategies and other relevant sectoral strategies. Prioritize the nutrition indicators reflected in the global nutrition targets/SDGs, in consideration of the local setting.
- b) Allocate adequate funds for nutrition action, based on costing exercises for the implementation of nutrition plans in all relevant sectors; establish budget lines and national financial targets for nutrition.
- c) Implement effective and active intersectoral and multi-stakeholder governance mechanisms for the implementation of nutrition policies, as well as common results frameworks at the regional, national and local levels. Depending on the context, leadership for nutrition may be most effective at the highest level of government, or inter-ministerial level, to ensure that nutrition is well-positioned in the development agenda and prioritized across all relevant sectors.

iii) Implement effective nutrition-specific interventions at scale and equitably, within national plans and budgets and as part of emergency response

- a) Identify and target the most vulnerable populations.
- b) Implement with high coverage evidence-based nutrition-specific interventions, particularly during the first 1000 days of life.
- c) Strengthen health systems and promote universal health coverage (facility and community based) and principles of primary health care, including all proven nutrition interventions relevant to the country in maternal, newborn, child and adolescent health services.
- d) In relation to nutrition in emergencies, strengthen nutrition information systems, map the existing risks for disasters, build emergency nutrition capacities at all levels, and ensure that emergency nutrition preparedness plans and communication plans are in place.

iv) Promote social and behaviour change, empowering and engaging the community

- a) Implement comprehensive evidence-based communication strategies for social and behaviour change to improve nutrition.
- b) Engage local governments and communities in the design of plans to expand nutrition actions and ensure their integration in existing community programmes, and provide support for the implementation of community-level nutrition actions that take into account the local context.

v) Strengthen institutional capacity and the workforce

- a) Identify and map capacity needs in multiple relevant sectors.
- b) Implement a comprehensive approach for capacity building, including workforce, leadership and management development, community-based and civil society organizations, and academic institutions.

vi) Ensure a coherent monitoring, evaluation and accountability framework

- a) Strengthen nutrition surveillance, in accordance with international standards, to assess the nutritional status and dietary practices of the population as appropriate, and to inform nutrition policy-making. This includes harmonization of nutrition surveillance across ASEAN Member States with regard to indicators, methodologies, timing of data collection, and nationally representative surveys.
- b) Develop or strengthen nutrition monitoring systems for the regular collection of information on selected process, output, and outcome indicators towards achieving the global nutrition targets/SDGs.
- c) Strengthen the quality and use of evaluation in order to assess the implementation of existing nutrition policies and plans, address bottlenecks and barriers and improve the coverage and quality of programmes.

- **Case studies** from each ASEAN Member State provide invaluable information regarding successful experiences or lessons learnt from the implementation of nutrition-specific and nutrition-sensitive interventions. They do so not only by identifying the main achievements, but also by enhancing the capacity of Member States to find solutions to their own problems and challenges, through the understanding of challenges and lessons learnt from other States. By learning from the experiences of their neighbours, the recommendations provided throughout this document will be more tangible and easier to interpret. And by increasing the awareness of common problems in ASEAN, Member States will have the opportunity to exchange nutrition-related information and collaborate in the framework of ASEAN, facilitating an open and interactive dialogue regarding nutrition-related issues that are common to several or all Member States.



A young woman tends a market stall selling fresh green vegetables in Lao PDR.

Photo credit: ©UNICEF/UNI15352/Holmes



Woman cooking in the old quarter of Hanoi, Viet Nam.

Photo credit: ©UNICEF Viet Nam/2011/Schmit Michele

Chapter 1:

INTRODUCTION

Many ASEAN Member States have experienced significant economic growth in recent decades. Despite this progress, the region remains home to a very large number of undernourished children. Overweight and obesity in children and adults, as well as diet-related noncommunicable diseases (NCDs), are on the rise at an alarming rate. The Association of Southeast Asian Nations (ASEAN) included nutrition as one of the critical areas detailed in the ASEAN Socio-Cultural Community Blue Print 2009-2015, adopted by ASEAN leaders in 2009. Nutrition was then included under the focus area of Maternal and Child Health within the ASEAN Strategic Framework on Health Development (2010–2015) that was developed by the Senior Officials Meeting on Health Development (SOMHD) and endorsed by the ASEAN Health Ministers Meeting (AHMM) in 2010. The framework provided the basis for the development of the ASEAN Work Plan on Maternal and Child Health 2011-2015, developed by the ASEAN Task Force on Maternal and Child Health. It includes nutrition as one of its priority concerns for policy advocacy. The work plan was endorsed by the 7th SOMHD in 2012.

ASEAN, the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) have therefore joined efforts to bring attention to the issue of all forms of malnutrition in ASEAN. In 2014, Volume 1 of the Joint Regional Report on Nutrition Security in ASEAN compiled data on nutrition, food security, water and sanitation, health, and economic and demographic indicators. In addition, it included an inventory of nutrition-related policies for all ten Member States.¹⁸

The purpose of Volume 2 is to synthesize the data in Volume 1, highlight the causes and consequences of malnutrition in ASEAN Member States, identify the key issues of importance for the region, and make recommendations to Member States on how to tackle this most fundamental and pervasive issue, which has consequences not only for public health but for the social and economic development of the region. This evidence-based advocacy effort supports and drives ASEAN's commitments and actions to improve nutrition security as a national and regional development priority.

The case for investing in nutrition is clear. Poor nutrition during the first 1000 days – from pregnancy through to a child's second birthday – can cause life-long and irreversible damage. This has significant consequences at the individual, community, and national levels. To build human capital and fuel economic growth, we must therefore begin by improving nutrition. Meanwhile, overweight and obesity lead to NCDs, which take a tremendous and expensive toll on individuals, families, society, and health systems. To halt this crisis, we must invest in health promotion and disease prevention alongside efforts to cope with the existing disease burden.

Recognizing that the health sector cannot address these challenges by working in isolation, this report suggests approaches to work with different sectors, including Water, Sanitation and Hygiene (WASH), agriculture, education, trade and social protection. It also calls for institutionalization of nutrition services within health systems, benefiting from health-care reforms and the move to universal health coverage in some countries. In addition, the report highlights country case studies to illustrate good practices, and makes recommendations for improving nutrition in the region.

¹⁸ ASEAN Member States: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

This work should not be seen in isolation. Last year (2015) concluded the period of the Millennium Development Goals (MDGs),¹⁹ during which many countries were able to meet their targets for reducing poverty and malnutrition (MDG 1). Yet the work is far from done, and the Sustainable Development Goals (SDGs) have now been set with a number of nutrition-related targets to achieve by 2030.^{20 21 22} The nutrition targets of the SDGs are aligned with the World Health Assembly targets for nutrition, which have been signed onto by all ASEAN Member States. Furthermore, 55 countries globally have joined the global Scaling Up Nutrition (SUN) movement, including six of the ten ASEAN Member States.¹⁸ The SUN movement supports countries in building national commitment to accelerate progress towards reducing undernutrition.

In this context of renewed global and regional attention to nutrition as a priority for development and prosperity, this Report is timely and signifies the high commitment of ASEAN and its Member States to strengthen nutrition security in the region.



Small group discussion on breastfeeding with pregnant mothers at Telisai Maternal & Child Health Clinic, Tutong, Brunei Darussalam.

Photo credit: ©Ministry of Health Brunei Darussalam/Kolinmo Yumni Abdullah

¹⁹ UN (2014). The Millennium Development Goals Report 2014. New York; United Nations (<http://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf>, accessed November 2, 2015).

²⁰ Sustainable Development Goals website (<https://sustainabledevelopment.un.org/>, accessed November 5, 2015)

²¹ United Nations General Assembly (2015). Resolution 70/1. Transforming our world: the 2030 Agenda for Sustainable Development. New York; United Nations (http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E, accessed November 5, 2015).

²² See Annex 1: The Sustainable Development Goals and nutrition.

Mother and child in Posyandu (Integrated Health Post) in Jayawijaya District, Papua, Indonesia.

Photo credit: ©UNICEF Indonesia/2014/Sukotjo



A group of girls stand outside a house in Lason Commune, Ha Nam, Viet Nam.

Photo credit: ©UNICEF/UNI32846/LeMoynes



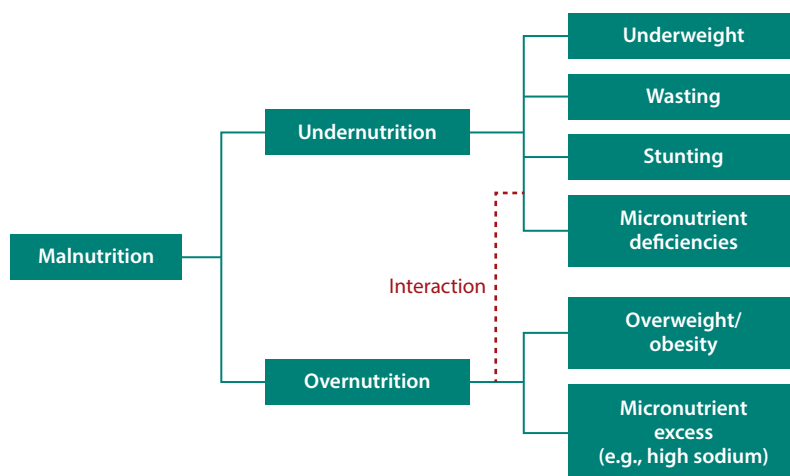
Chapter 2:

UNDERSTANDING MALNUTRITION: CAUSES AND CONSEQUENCES

Forms of malnutrition and its causes

Malnutrition is a term used to refer to inadequate, excessive and/or unbalanced nutrition. The term refers to both undernutrition (wasting, underweight, stunting and micronutrient deficiencies) and overnutrition (overweight, obesity and micronutrient excess) (see Figure 1). Some forms of malnutrition can coexist in one individual (such as a child who is overweight and anaemic at the same time) or can be present over the life cycle of one individual (e.g. stunted during the first years and obese as an adult). Detailed definitions of various forms of malnutrition can be found in the glossary.

Figure 1: Forms of malnutrition

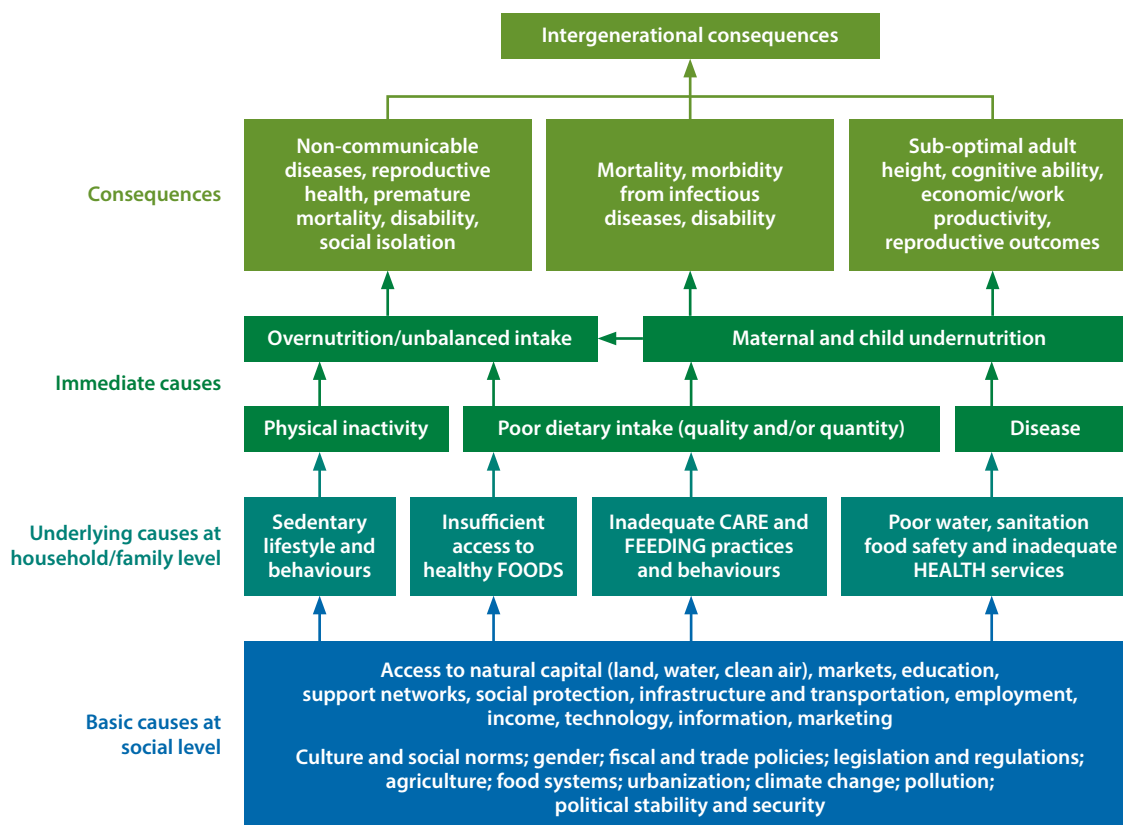


Note: Red dotted line shows the interaction between certain forms of undernutrition and overnutrition. For example, stunting increases the risk of developing overweight and obesity later in life, and a child can be both overweight and stunted, or overweight and micronutrient deficient.

An updated version of the 1997 UNICEF conceptual framework of malnutrition (see Figure 2)^{23 24} illustrates the latest knowledge on the causes and levels of causality of malnutrition, the short- and long-term consequences, and the intergenerational effects.

²³ UNICEF (2014). Approach to Nutrition Programming in the East Asia and Pacific Region 2014–2025. Bangkok (http://www.unicef.org/eapro/12205_22043.html, accessed September 24, 2015).

²⁴ UNICEF (1997). Conceptual framework for analysing the causes of malnutrition. New York.

Figure 2: Conceptual framework of malnutrition

Note: Basic, underlying and immediate causes are included in this figure, as well as outcomes of malnutrition. Figure adapted by ASEAN, UNICEF and WHO for publication in ASEAN/UNICEF/WHO (2016) Regional Report on Nutrition Security in ASEAN, Volume 2, from the 1997 UNICEF Conceptual Framework of Malnutrition. Not to be reproduced without permission.

As reflected in the conceptual framework, poor dietary intake, physical inactivity and disease constitute the immediate causes of malnutrition. At the household or family level, insufficient access to healthy foods, inadequate care and feeding practices and behaviours, poor water, sanitation and food safety, inadequate health services and sedentary lifestyles and behaviours constitute the underlying causes of malnutrition. Finally, basic causes of malnutrition can also be identified at the societal level, such as inadequate access to food supply, low income and poverty, inadequate maternal education, lack of investment in health services, poor infrastructure (roads and water supply) and inadequate social protection schemes. The conceptual framework provides the background for analysing the specific determinants of the different forms of malnutrition in a given context – which may vary significantly – and articulating the theory of change, which needs to underpin strategies for addressing malnutrition.

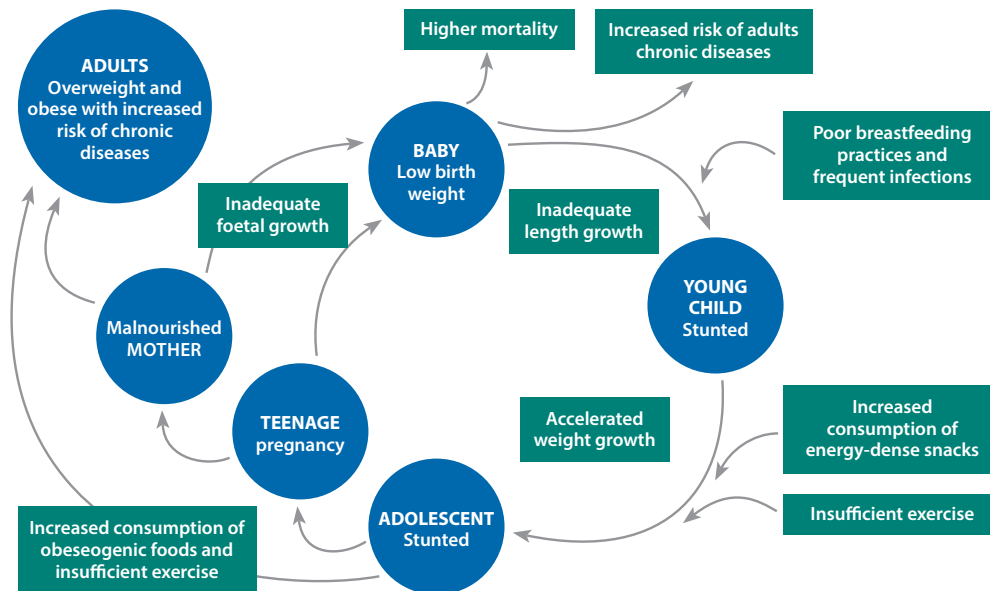
The double burden of malnutrition refers to the co-existence of undernutrition, overnutrition and diet-related NCDs in the same country, community, household or sometimes even the same child (Figure 3).²⁵ A child may be stunted and obese. Indeed, a child who is born with LBW and/or becomes stunted in the first two years of life has an increased risk of becoming overweight later in life, due to metabolic reprogramming, which is believed to occur where nutritional resources are inadequate. However, when that child is exposed to an environment with widespread availability and promotion of sugar- and fat-rich foods and drinks, and limited physical activity, she or he will have a greater propensity to lay down fat in adulthood, quickly leading to overweight/obesity.²⁶

²⁵ Shrimpton R and Roks C (2012). The double burden of malnutrition: a review of global evidence. HNP Discussion paper. World Bank.

²⁶ Barker DJP (1989). Mothers, babies and health in later life. Edinburgh: Churchill Livingstone.

The most crucial time to meet a child's nutritional requirements and reduce the risk of both undernutrition and overnutrition is in the first 1000 days of life.²⁷ This term refers to the “window of opportunity” from conception to when the child is 2 years old, encompassing the period around conception and the periods of pregnancy, breastfeeding, and complementary feeding (CF).

Figure 3: One example of the causes and effects of the double burden of malnutrition across the life-course of an individual



Note: Figure adapted from Shrimpton R and Rokx C. The Double Burden of Malnutrition: a review of global evidence. HNP Discussion Paper. World Bank, June 2012, for the UNICEF EAPRO Approach to Nutrition Programming in the East Asia and Pacific Region 2014-2025.

Summary of main consequences of malnutrition

Undernutrition is clearly a major contributing factor to child death, illness and disability. Child malnutrition, including fetal malnutrition caused by maternal undernutrition, was estimated by the Lancet to be the cause of 45% of global child deaths in 2011.²⁸ Child undernutrition also increases the risk of death from infectious diseases, such as diarrhoea, pneumonia and measles, but not malaria. Fetal growth restriction causes 12% of neonatal deaths, while stunting and wasting cause 14% and 13% of under-five child deaths, respectively.²⁸ Children with severe wasting represented 7.4% of under-five deaths, based on their 11.6 times greater risk of dying compared to non-wasted children, while children with moderate wasting have an approximately three times greater risk of dying.⁶

Suboptimal breastfeeding practices in the first two years also contribute to a significant portion (11.6%) of under-five deaths, which in 2011 was equivalent to 804 000 child deaths.²⁸ Adequate breastfeeding practices consist of early initiation of breastfeeding during the first hour after birth, exclusive breastfeeding during the first six months of life and continued breastfeeding (with appropriate complementary feeding) for up to two years of age or beyond.²⁹ An infant who is not breastfed is more than 14 times more likely to die from all causes than an infant exclusively fed breast milk in the first six months of life.³⁰ Infants who are exclusively

²⁷ The first thousand days (<http://www.thousanddays.org/about/>, accessed November 5, 2015).

²⁸ Black RE, Victora CG, Walker SP, Bhutta ZA, et al (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet*, Volume 382, Issue 9890, 427-451.

²⁹ WHO/UNICEF (2014). Global nutrition targets 2025: breastfeeding policy brief (WHO/NMH/NHD/14.7). Geneva; World Health Organization (http://www.who.int/nutrition/topics/globaltargets_breastfeeding_policybrief.pdf, accessed January 7, 2016).

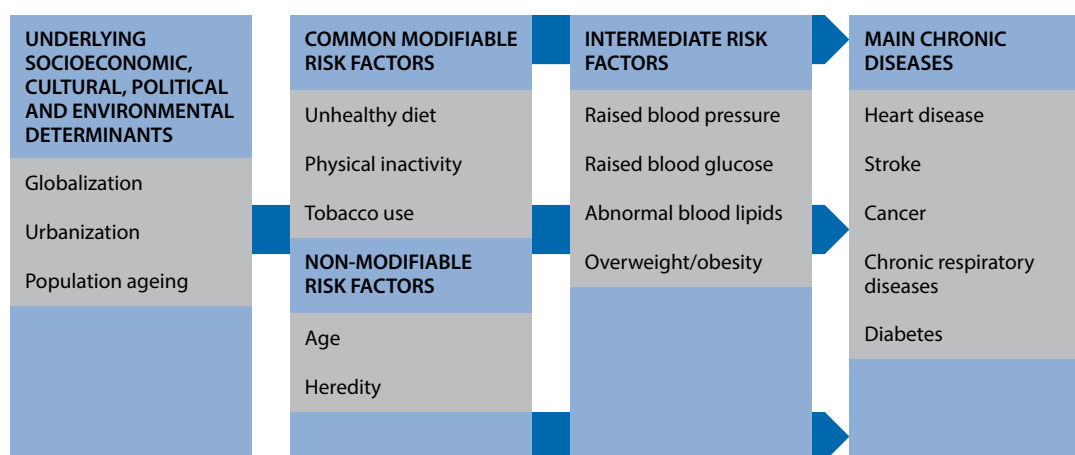
³⁰ Black R, Allen LH, Bhutta ZA, Caulfield LE et al (2008). Maternal and child undernutrition; global and regional exposures and health consequences. *Lancet*, Volume 371, Issue 9608, 243-260.

breastfed are 11 times less likely to die from diarrhoea and 15 times less likely to die from pneumonia, the two leading killers of children under five.³⁰ Initiating breastfeeding within the first hour after birth can reduce newborn mortality by up to 20%, an important consideration in middle-income countries where neonatal factors are the main causes of child deaths.^{31 32} Some of the factors associated with the low rates of exclusive breastfeeding are caregiver beliefs favouring mixed feeding, hospital and health-care practices and policies that are not supportive of breastfeeding, lack of adequate skilled support, aggressive promotion of breast-milk substitutes (BMS) and lack of knowledge on the dangers of not exclusively breastfeeding.²⁹

Undernutrition early in life also has major consequences for future educational, income and productivity outcomes. It is associated with poor school achievement and performance.³³ Reduced school attendance and educational outcomes result in diminished income-earning capacity in adulthood. A 2007 study estimated an average 22% loss of yearly income in adulthood.³⁴ At the level of nations, the economic costs of undernutrition are estimated in the 2015 Global Nutrition Report to be 8–11% of the Gross National Product (GNP).³⁵ Lao People's Democratic Republic and Cambodia conducted analyses of the costs of undernutrition and estimated the impacts to amount to 2.4% of the Gross Domestic Product (GDP)³⁶ and 2.6%, respectively.³⁷ The economic costs of malnutrition and the benefits of investing in nutrition improvement are discussed in detail in Chapter 7.

Some NCDs are a consequence of overweight and obesity. However, not all NCDs are diet-related NCDs. The four main types of NCDs are cardiovascular diseases, cancer, chronic respiratory diseases and diabetes (see Figure 4). NCDs are the leading causes of death and disability, responsible for 80% of all deaths in many Asian and Pacific countries. Of particular concern is the high level of premature mortality from NCDs (deaths before 70 years of age): they account for 50% of such deaths in low- and middle-income countries. The four common modifiable risk factors for NCDs are unhealthy diets (particularly diets that are high in salt, sugar and fat, and low in dietary fibre), physical inactivity, tobacco use, and the harmful use of alcohol. Unhealthy diets increase the intermediate risk factors for NCDs, namely hypertension, high blood glucose and abnormal blood lipids.

Figure 4: Causes of NCDs



Note: Figure adapted from WHO (2005). Preventing chronic diseases: a vital investment.³⁸

³¹ Edmond KM, Zandoh C, Quigley MA, Amenga-Etego S, Owusu-Agyei S, Kirkwood BR (2006). Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics* 117(3):e380-6.

³² Mullany LC, Katz J, Li YM, Khatri SK, LeClerq SC, Darmstadt GL, Tielsch JM (2008). Breastfeeding Patterns, Time to initiation and mortality risk among newborns in southern Nepal. *The Journal of Nutrition* 138: 599-603.

³³ Victora CG, Adair L, Fall C, Hallal PC, et al (2008). Maternal and child undernutrition: consequences for adult health and human capital. *Lancet*, vol. 371, no. 9609.

³⁴ Grantham-McGregor S, Cheung YB, Cueto S, Glewwe P, et al (2007). Developmental potential in the first 5 years for children in developing countries. *Lancet*, vol. 369, no. 9555, p. 67.

³⁵ Global Nutrition Report 2015 (<http://globalnutritionreport.org/the-report/>, accessed on October 1, 2015).

³⁶ NERI /UNICEF (2013). The economic consequences of malnutrition in Lao People's Democratic Republic: a damage assessment report.

³⁷ CARD/UNICEF/WFP (2013). The economic consequences of malnutrition in Cambodia: a damage assessment report.

³⁸ WHO (2005). Preventing chronic diseases: a vital investment. Geneva; World Health Organization (http://www.who.int/chp/chronic_disease_report/contents/en/, accessed January 7, 2016).



A 17-year-old boy plays futsal (a version of football) in Kuala Lumpur, Malaysia.

Photo credit: ©UNICEF/UNI182583/Pirozzi



A mother feeds her young child a nutritious meal in Klaten District, Central Java, Indonesia.

Photo credit: ©UNICEF Indonesia/2012/Estey

Chapter 3:

THE NUTRITION SITUATION AND CURRENT NUTRITION ACTIONS IN ASEAN MEMBER STATES

Over recent decades, the majority of ASEAN Member States have managed to significantly reduce various forms of undernutrition such as stunting, underweight or wasting. In addition, countries have made extensive efforts in tackling micronutrient deficiencies, with special focus on vitamin A, iron, folic acid, iodine and zinc.³⁹ Furthermore, some countries have initiated actions to tackle the problem of overnutrition and its manifestations.

The nutrition situation in ASEAN

Stunting

Based on WHO's cut-off values for public health significance of stunting prevalence,⁴⁰ two ASEAN Member States have a stunting prevalence considered "low" (Thailand⁴¹ and Malaysia⁴²), while the prevalence in other countries is considered medium (Brunei Darussalam,⁴³ Viet Nam⁴⁸), high (Philippines,⁴⁴ Cambodia,⁴⁵ Myanmar,⁴⁶ and Indonesia⁴⁷) or very high (Lao People's Democratic Republic⁴⁹) (Figure 5). Data from Singapore are not available.

While all ASEAN Member States have reduced stunting prevalence since the early 1990s, a few ASEAN Member States have achieved very significant reductions (Figure 6). Noteworthy is the reduction of stunting in Viet Nam, at 24.9% in 2014⁵⁰ compared to 61% in 1990. Viet Nam is the only country that had a baseline above 30% and has managed to definitively decrease the prevalence to below 30%.

³⁹ ASEAN/UNICEF (2016). Joint Regional Report on Nutrition Security in ASEAN. Volume 1. ASEAN, UNICEF and European Union. This report provides information regarding different indicators that measure nutritional imbalance, such as stunting, underweight, acute malnutrition, anemia, overweight, obesity or low birth weight. It also includes indicators regarding immediate causes (inadequate dietary intake and frequent disease exposure) and underlying causes of malnutrition, as well as contextual factors. In addition, it includes information about current policies in each ASEAN Member State. This chapter summarizes the findings from Volume 1. However, please note that for those countries where new data has been released and validated since the publication of Volume 1 (Cambodia, Indonesia, Viet Nam), the latest data have been used in this summary, therefore substituting the data published in Volume 1. Absence of data for a country in any particular graph indicates data is not available for that country.

⁴⁰ WHO (2010). Nutrition Landscape Information System (NLIS) Country Profile Indicators: Interpretation Guide. Geneva; World Health Organization (<http://www.who.int/nutrition/nlis/en/>, accessed November 15, 2015).

⁴¹ Thailand Multiple Indicator Cluster Survey (MICS) 2012.

⁴² Malaysia National Health & Morbidity Survey (NHMS) 2015.

⁴³ Brunei Darussalam National Health and Nutrition Survey (NHANNS) 2012.

⁴⁴ Food and Nutrition Research Institute - Department of Science and Technology (FNRI-DOST). 8th National nutrition survey Philippines 2013.

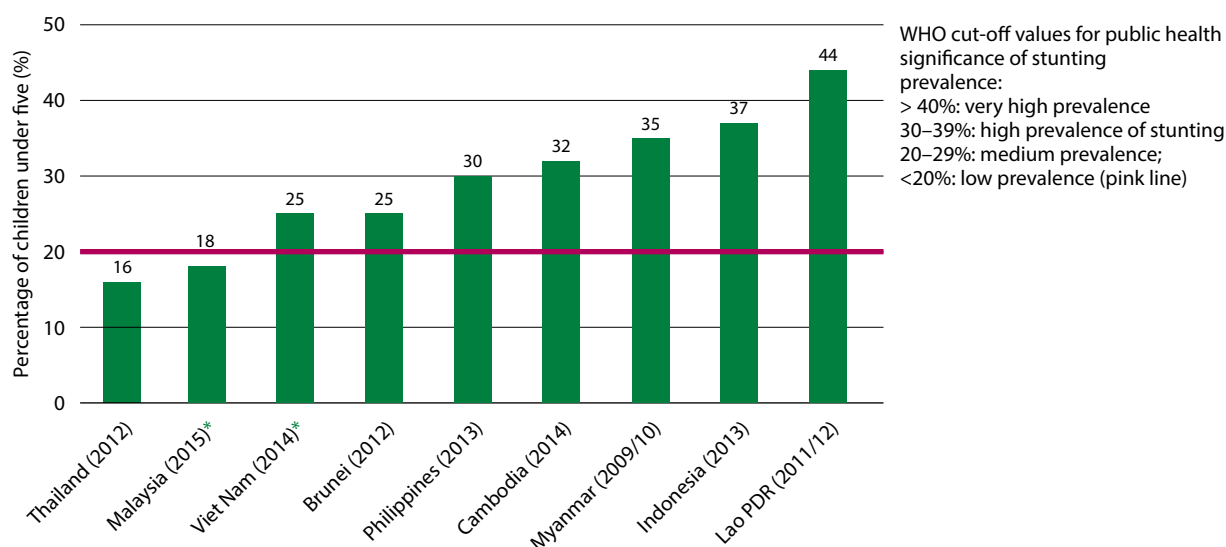
⁴⁵ Cambodia Demographic and Health Survey (CDHS) 2014.

⁴⁶ Myanmar Multiple Indicator Cluster Survey (MICS) 2009/2010.

⁴⁷ Indonesia Basic Health Survey, RISKESDAS, 2013.

⁴⁸ Viet Nam Nutrition surveillance profiles 2014.

⁴⁹ Lao People's Democratic Republic Multiple Indicator Cluster Survey (MICS) / Demographic and Health Survey (DHS) 2011–2012.

Figure 5: Percentage of children under five who are stunted in ASEAN Member States

Note: Data updated on November 2015. The specific year of the survey is given in parenthesis. Sources used for this figure: Brunei Darussalam (NHANNS 2012), Cambodia (2014 CDHS), Indonesia (Indonesia Basic Health Survey, RISKESDAS, 2013), Lao People's Democratic Republic (Lao social indicator survey LSIS (MICS/DHS) 2012), Malaysia (National Health & Morbidity Survey (NHMS) 2015), Myanmar (MICS 2009–2010), Philippines (8th National nutrition survey Philippines 2013), Thailand (MICS 2012), Viet Nam (Nutrition surveillance profiles 2014). National data mainly originate from various household surveys included in the WHO/UNICEF/World Bank joint monitoring estimates 2015 (except Malaysia and Viet Nam). Data for Singapore not available.

* Newest data from Malaysia and Viet Nam not yet included in the global WHO/UNICEF/World Bank joint monitoring estimates (JME) 2015.

Cambodia, the Philippines and Viet Nam are rated in the 2015 Global Nutrition Report³⁵ as “on course” towards achievement of the World Health Assembly (WHA) stunting target⁵¹ (see Table 1). Malaysia and Thailand also have stunting prevalence below 20%, but despite the fact that these two countries are middle-income countries with high economic growth, in the last few years progress has stagnated and both countries are now rated as “off course”. Several other ASEAN Member States are also rated as “off course” towards achievement of this target, although making some progress (Table 1).

Table 1: Progress on global stunting reduction target, based on the Global Nutrition Report 2015^{35 52}

Country	Status of stunting target	Country	Status of stunting target
Brunei Darussalam	Insufficient data	Myanmar	Off course, some progress
Cambodia	On course, good progress	Philippines	On course, good progress
Indonesia	Off course, some progress	Singapore	Insufficient data
Lao People's Democratic Republic	Off course, some progress	Thailand*	Off course
Malaysia	Off course	Viet Nam	On course, good progress

Note: The Global Nutrition Report's assessment of trends is based on data from WHO's global targets tracking tool (available at <http://www.who.int/nutrition/trackingtool/en/>).

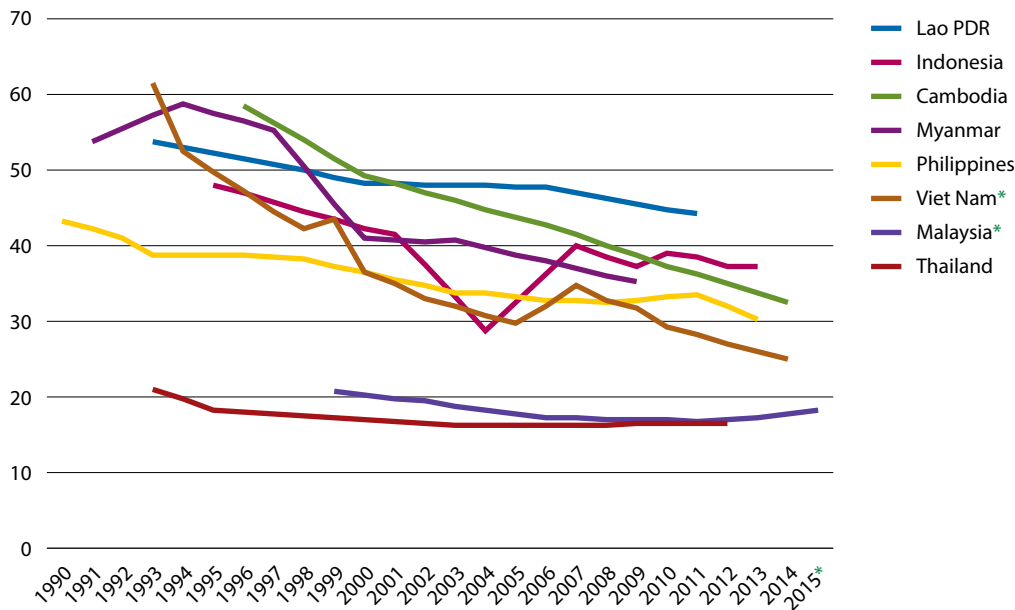
* Thailand noted that the prevalence of stunting is low (see Fig. 6 in chapter 3). The most recent data derived from the 5th National Health Examination Survey (2014) indicates that the stunting prevalence is 7.6% in children 1-5 years old. The Thailand National Food Consumption Survey (2014-2015) indicates that the prevalence of stunting is 9.7% for children 0-5 years old.

⁵⁰ Viet Nam National Institute of Nutrition, UNICEF, Alive & Thrive (2014). Nutrition surveillance profiles 2013. Hanoi, Viet Nam.

⁵¹ World Health Assembly (WHA) Resolution 65.6 (2012). Comprehensive implementation plan on maternal, infant and young child nutrition (http://www.who.int/nutrition/topics/wha_65_6/en/, accessed November 13, 2015).

⁵² The “on/off track” rules applied by the Global Nutrition Report are useful for a global comparison and are based on the assumption that each country has adopted the global targets as national targets. In order to carry out this comparison, all countries were placed on a common denominator. While this makes sense at the global and regional levels, it will be important in the future to monitor the countries' own targets, as these are the ones linked to their commitments. This will ensure national accountability.

Figure 6: Stunting prevalence among children under five with trend data from 1990 to 2014

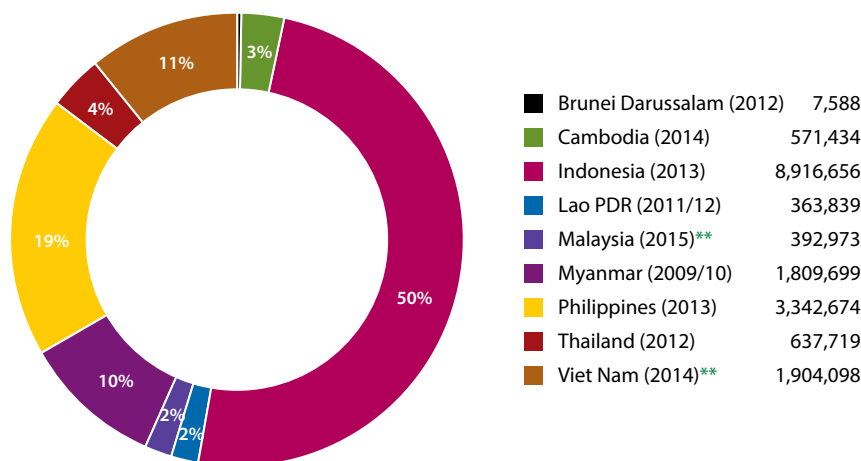


Note: Data updated to November 2015. National data is mainly (with a few exceptions) originated from various household surveys included in the WHO/UNICEF/World Bank joint monitoring estimates 2015. Data for Singapore not available.

* Newest data from Malaysia and Viet Nam not yet included in the global WHO/UNICEF/World Bank joint monitoring estimates 2015. Source of data for Viet Nam for 2000-2014 is the National Nutrition Surveillance.

With regard to the burden of stunting, the latest available data reveals that an average of 30% or 17.9 million children under five years of age are still affected in the ASEAN Member States (Figure 7).

Figure 7: Number of children under five who are stunted in ASEAN Member States*



Note: Data updated to November 2015. The specific date of the survey is given in parenthesis. Sources used for this figure: Brunei Darussalam (NHANNS 2012), Cambodia (2014 CDHS), Indonesia (Indonesia Basic Health Survey, RISKESDAS, 2013), Lao People's Democratic Republic (Lao social indicator survey LSIS (MICS/DHS) 2012), Malaysia (National Health & Morbidity Survey (NHMS) 2015), Myanmar (MICS 2009–2010), Philippines (8th National nutrition survey Philippines 2013), Thailand (MICS 2012), Viet Nam (Nutrition surveillance profiles 2014). National data mainly (with a few exceptions) originates from various household surveys included in the WHO/UNICEF/World Bank joint monitoring estimates 2015. Data for Singapore not available.

* Due to rounding, percentages add up to more than 100%. Brunei Darussalam makes up 0.04% of total.

** Newest data from Malaysia and Viet Nam not yet included in the global WHO/UNICEF/World Bank joint monitoring estimates 2015.

The disaggregated data by socioeconomic and geographical indicators show alarming disparities within many countries. The prevalence of stunting is consistently higher in low socioeconomic populations (lowest household wealth quintiles) as it is often for populations that live in rural regions or in less accessible areas. For example, while 44% of children in Preah Vihear, Cambodia, are stunted, only 18% of children are stunted in Phnom Penh.⁴² In Viet Nam, the stunting prevalence is above 40% in Kon Tum province, compared to less than 7% in Ho Chi Minh City.⁵³

Disparities can also be linked to cultural and historic factors affecting diverse groups, such as specific ethnic minority populations. In Lao People's Democratic Republic, 61% of Chinese-Tibetan and Hmong-Mien children under five are stunted compared to 33% of Lao-Tai children.⁴⁹ In Viet Nam, the H'mong people have the highest prevalence among the ethnic groups with a staggering 65% of their children stunted.⁵³ These disparities need to be addressed if all ASEAN Member States are to end stunting and overall malnutrition for every child.

A number of factors have been linked to the high rates of stunting in the region. First, undernourished women are more likely to have LBW babies, and children with LBW are more likely to become stunted during childhood. The prevalence of infants being born with LBW is exceptionally high and constitutes a serious public health concern in most ASEAN Member States. The countries of particular concern include the Philippines (21%), Lao People's Democratic Republic (15%), Brunei Darussalam (11%) and Malaysia (11%).³⁹ In addition, infant and young child feeding (IYCF) practices are suboptimal in many countries, including low rates of exclusive breastfeeding and very poor CF practices.³⁹ Poor water and sanitation facilities and often limited access to health services is leading to a high prevalence of childhood diseases, which in turn also lead to undernutrition.^{23 39} Lastly, the poorest and most marginalized populations face challenges of food insecurity, particularly with regard to the nutrient-rich foods required for optimal nutrition of those groups with the greatest needs, such as children under two and pregnant women.

Underweight: the MDG target

With regard to achievement of the underweight target of the MDGs, the table below shows the current status of underweight among children under five in ASEAN Member States and highlights which countries achieved the MDG target and which did not, based on the latest available data.

Table 2: Prevalence of underweight in children under five in ASEAN Member States

Country	Prevalence Underweight	MDG target 1c	Country	Prevalence Underweight	MDG target 1c
Brunei Darussalam	11%	Data not available	Myanmar	23%	After 2025
Cambodia	24%	By 2018	Philippines	20%	After 2025
Indonesia	20%	By 2020	Singapore	Data not available	Data not available
Lao People's Democratic Republic	27%	After 2025	Thailand	9%	Achieved
Malaysia*	12%	Achieved	Viet Nam*	15%	Achieved

Note: Countries have been colour-coded, based on the status for achieving the MDG target for underweight (Red: target not achieved, Yellow: on track to halve underweight before 2025, Green: target achieved). Assessments in column "MDG target 1c" originate from the Global Nutrition Report's assessment of trends and status, which is based on data from WHO's global targets tracking tool (available at <http://www.who.int/nutrition/trackingtool/en/>).³⁵

Data updated to November 2015. Sources used for this figure: Brunei Darussalam (NHANNS 2012), Cambodia (2014 CDHS), Indonesia (Indonesia Basic Health Survey, RISKESDAS, 2013), Lao People's Democratic Republic (Lao social indicator survey LSIS (MICS/DHS) 2012), Malaysia (NHMS 2015), Myanmar (MICS 2009–2010), Philippines (8th National nutrition survey Philippines 2013), Thailand (MICS 2012), Viet Nam (Nutrition surveillance profiles 2014). National data (with a few exceptions) originate from various household surveys included in the WHO/UNICEF/World Bank joint monitoring estimates 2015. Data for Singapore not available.

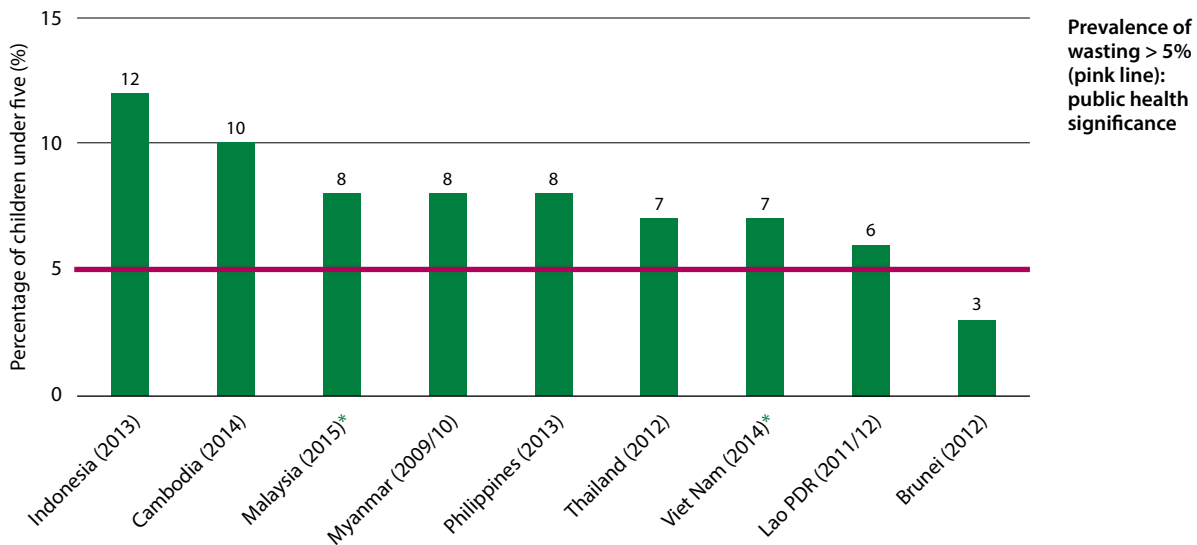
* Data from Malaysia and Viet Nam not yet included in the global WHO/UNICEF/World Bank joint monitoring estimates 2015.

⁵³ Viet Nam Multiple Indicator Cluster Survey (MICS) 2011.

Wasting

In the ASEAN Member States, acute malnutrition remains an enormous challenge, with 5.4 million children estimated to be wasted (prevalence). Wasting is above the threshold of public health significance (5%) in 8 out of 10 ASEAN Member States (Figure 8). In many countries, prevalence figures for wasting have been stagnant during the last years, as in the case of Cambodia (decrease from 11% to 10% between 2010⁵⁴ and 2014⁴⁵), Indonesia (decrease from 15% to 12% between 1995⁵⁵ and 2013⁴⁷), Philippines (from 9% to 8% between 1992⁵⁶ and 2013–14⁴⁴), Thailand (increase from 5% to 6.7% between 2006⁵⁷ and 2012⁴¹) and Viet Nam (increase from 6% to 7% between 1987⁵⁸ and 2014⁴⁸).

Figure 8: Prevalence of wasting in children under five in ASEAN Member States



Note: Data updated to November 2015. The specific year of the survey is given in parenthesis. Sources used for this figure: Brunei Darussalam (NHANNS 2012), Cambodia (2014 CDHS), Indonesia (Indonesia Basic Health Survey, RISKESDAS, 2013), Lao People's Democratic Republic (Lao social indicator survey LSIS (MICS/DHS) 2012), Malaysia (NHMS 2015), Myanmar (MICS 2009–2010), Philippines (8th National nutrition survey Philippines 2013), Thailand (MICS 2012), Viet Nam (Nutrition surveillance profiles 2014). National data (with a few exceptions) originate from various household surveys included in the WHO/UNICEF/World Bank joint monitoring estimates 2015. Data for Singapore not available.

* Newest data from Malaysia and Viet Nam not yet included in the global WHO/UNICEF/World Bank joint monitoring estimates 2015.

⁵⁴ Cambodia Demographic and Health Survey (CDHS) 2010. Demographic and Health Surveys. Phnom Penh, Cambodia and Calverton, Maryland, USA: National Institute of Statistics, Directorate General for Health, and ICF Macro, 2011 (and additional analysis). Source: JME database.

⁵⁵ Indonesia multiple indicator cluster survey (MICS) 1995. Jakarta: UNICEF, 1997 (preliminary results provided by the Centres for Disease Control and Prevention; and additional analysis). Source: JME database.

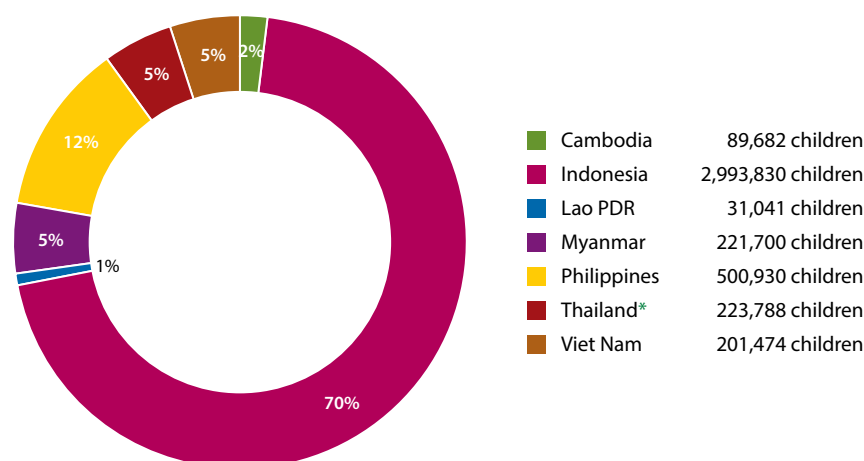
⁵⁶ The 1992 regional nutrition survey (1994). Food and Nutrition Research Institute. Manila, Philippines; (and additional analysis). Source: JME database.

⁵⁷ National Statistical Office, Government of Thailand (2006). Thailand multiple indicator cluster survey (MICS) 2005–2006, Final report. Bangkok, Thailand.

⁵⁸ Department of Planning, Government of Viet Nam (1987). General Nutrition Survey 1987–89. Hanoi, Viet Nam.

It is important to analyse both prevalence and burden of disease (number of cases⁵⁹) by geographic area when analysing wasting. In many instances, the areas with the highest prevalence might not overlap with the areas with the largest number of cases. This should be taken into consideration when prioritizing and planning interventions. In ASEAN Member States, the annual caseload of children suffering from severe wasting each year is approximately 4.3 million (annual expected caseload obtained through applying an incidence correction factor – see Figure 9). Globally, severely wasted children are nearly 12 times more at risk of dying than non-wasted children. Wasted children are also more likely to become stunted, and may face an increased likelihood of suffering from overweight and NCDs later in life.⁶⁰

Figure 9: Annual caseload (number) of severely wasted children under five in ASEAN Member States by 2015



Note: The number of severely wasted children for each Member State is given in parenthesis. Data updated to October 2015. Source: NUTRIDASH 2014. Data for Brunei Darussalam, Malaysia** and Singapore not available in NUTRIDASH 2014.

* Source of data for Thailand is MICS 2012

**Malaysia's current status on severe wasting among under-five children is not listed in Nutridash 2014. However, Malaysia's NHMS 2015 estimated that the number of severely wasted children under five in Malaysia was 61,964.

Anaemia

Maternal and child anaemia constitutes a moderate public health and nutritional concern for the majority of countries in ASEAN, based on WHO's standard classification.⁶¹ In the region, approximately 36% of pregnant women are anaemic.³⁹ Furthermore, 38% of children 6–59 months, which is equivalent to 21.4 million children, are also anaemic (Figure 10). Anaemia constitutes a severe public health problem for Cambodia (prevalence of anaemia in children 6–59 months is 55%, while prevalence of anaemia in pregnant women is

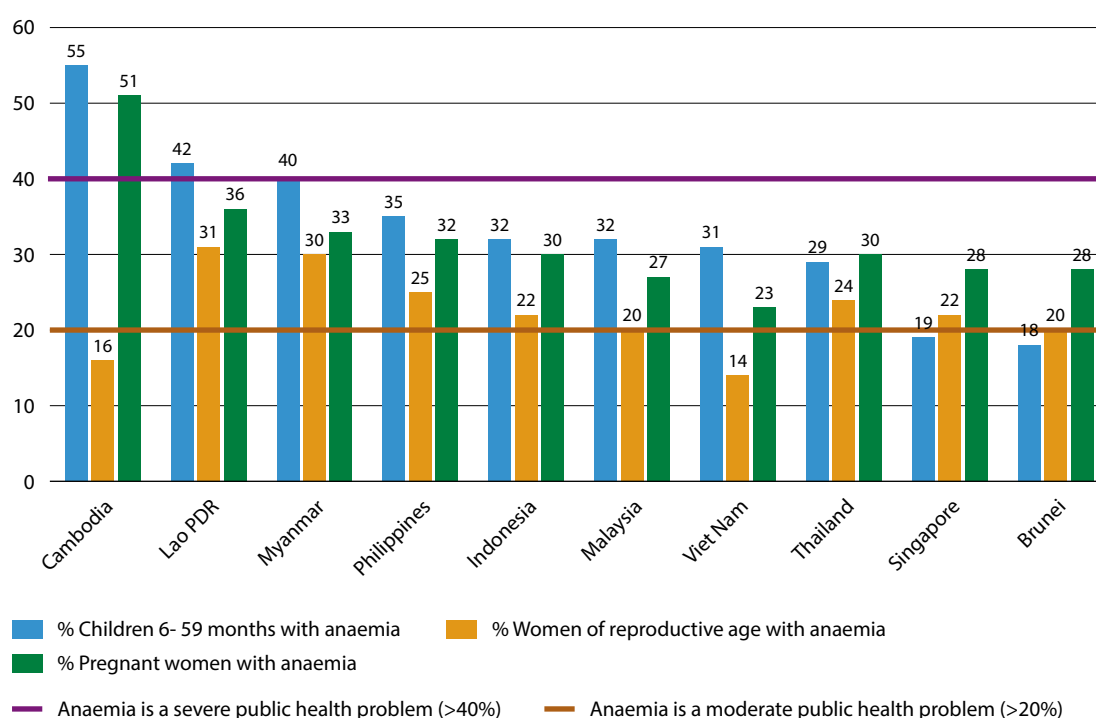
⁵⁹ UNICEF (2015). Management of Severe Acute Malnutrition in Children: working towards results at scale. New York; UNICEF. **Definition of wasting (acute malnutrition):** Low weight in relation to height. **Definition of Severe Acute Malnutrition (SAM):** Weight-for-height < -3 SD of the median WHO growth standards and/or Bilateral Odema and/or MUAC <115 mm. **Definition of Moderate Acute Malnutrition (MAM):** Weight-for-height < -2 SD of the median WHO growth standards or MUAC 115-125 mm. **Definition of prevalence of wasting:** the total number of cases of wasting existing in a population at a point in time, based on a cross-sectional survey. **Definition of the annual incidence or caseload of severe wasting:** the occurrence of new cases of severe wasting in a population over a specific time period (usually a year). Incidence cannot be estimated in cross-sectional surveys of prevalence at a given point in time, therefore an incidence correction factor needed (prevalence x 2.6).

⁶⁰ Khara T and Dolan C (2014). Technical Briefing Paper: The relationship between wasting and stunting: policy, programming and research implications. ENN (<http://www.ennonline.net/waststuntreview2014>, accessed November 13, 2015).

⁶¹ WHO (2001). Iron Deficiency Anaemia: Assessment, Prevention, and Control. A guide for programme managers. Geneva; World Health Organization (http://www.who.int/nutrition/publications/en/ida_assessment_prevention_control.pdf, accessed October 24, 2015). WHO Standard classification for anaemia: the prevalence of anaemia as a public health problem is categorized as follows: <5%, no public health problem; 5–19.9%, mild public health problem; 20–39.9%, moderate public health problem; ≥40%, severe public health problem.

at 51%). In the majority of countries, anaemia among children 6–24 months of age is a severe public health problem, with high prevalence rates. Even if some progress has been achieved since 1990 in many ASEAN Member States, anaemia is yet a moderate or severe public health problem in all countries and greater efforts are needed to reduce and eliminate anaemia. For example, Cambodia experienced a reduction of anaemia prevalence in children of 6–59 months of age between 2005⁶² and 2010⁵⁴ (62% and 55%, respectively), but figures have remained stagnant since then (prevalence of anaemia in 2014⁴⁵ was 56%). More contextual research is needed in all countries in order to identify successful strategies that have led to the reduction of anaemia rates, such as the scale-up of anaemia prevention and reduction interventions, as well as barriers that might explain the stagnation of prevalence rates.

Figure 10: Prevalence of anaemia in children 6–59 months, women of reproductive age (15–49 years of age) and pregnant women in ASEAN Member States⁶³



Note: Data is based on WHO's modelled estimates (from 1995 to 2011).⁶³ Therefore, in order to ensure comparability, the most recent data for certain countries are not presented in this graph. Data is ordered by child prevalence rates. Notes from Member States: i) Singapore was unable to verify the estimates; ii) current prevalence of anaemia in pregnant women in Malaysia, based on government clinic attendance at 36 weeks of pregnancy: anaemia prevalence among pregnant mothers in Malaysia reduced dramatically from 32.6% in 2005 to 9.3% in 2014;⁶⁴ iii) current prevalence of anaemia in the Philippines is 39.4% in children 6–59 months, 25.2% in pregnant women and 16.6% in lactating women;⁶⁵ iv) current prevalence of anaemia in Thailand is 23.8% in children 6–59 months,⁶⁶ 24% in women of reproductive age⁶⁷ and 18.3% in pregnant women.⁶⁸

⁶² Cambodia Demographic and Health Survey 2005 (2006). Demographic and Health Surveys. Phnom Penh, Cambodia and Calverton, Maryland, USA: National Institute of Public Health, National Institute of Statistics and ORC Macro (and additional analysis).

⁶³ WHO (2015). The Global Prevalence of Anaemia in 2011. Geneva, World Health Organization. Note: This report is based on analyses previously published to estimate trends (from 1995 to 2011) in the distribution of blood haemoglobin concentrations and the prevalence of anaemia in the same population groups. Due to the complex methodology used to calculate the estimates of this figure, new statistics from the most recent surveys have not been taken into consideration in order to ensure consistency and allow appropriate comparisons between ASEAN Member States.

⁶⁴ Malaysia Annual Report 2014. Family Health. Health Information Management System.

⁶⁵ Philippines. 8th National nutrition survey Philippines 2013.

⁶⁶ Thailand SEANUTS: The nutrition status and dietary intake of 0.5–12 years old Thai children.

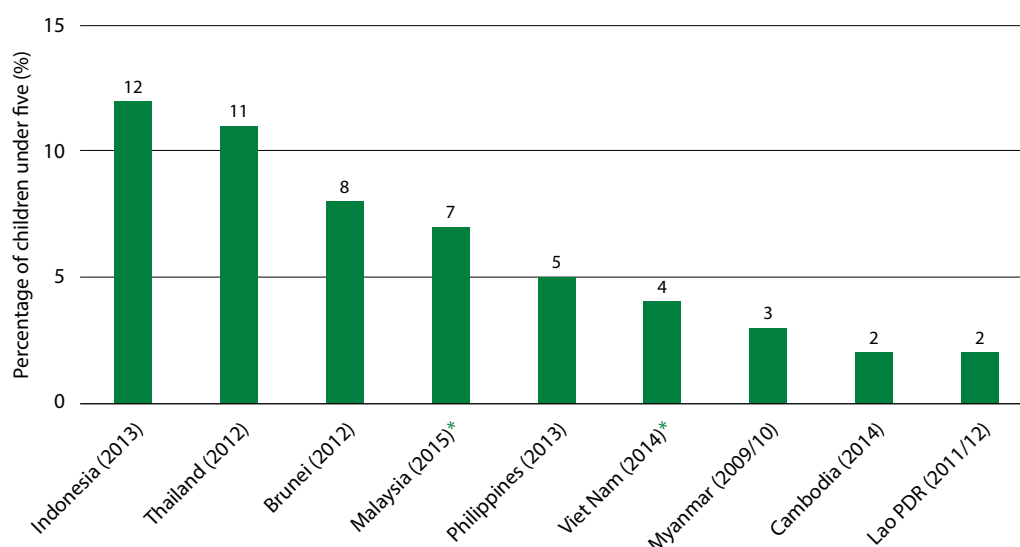
⁶⁷ Thailand 4th National Health Exam Survey.

⁶⁸ Thailand (2010). Administrative data. Bureau of Health Promotion.

Overweight and obesity

While the ASEAN region is still experiencing a high burden of child undernutrition, at the same time overweight, obesity and diet-related NCDs constitute an increasing public health problem in the region. All countries reflect the “double burden” of malnutrition. It is estimated that 4.5 million children under five are currently overweight or obese in ASEAN Member States. While some countries have low prevalence rates of overweight/obesity in children under five – Cambodia (2%), Lao People’s Democratic Republic (2%) or Myanmar (3%) – other countries have exceptionally high rates such as Indonesia (12%) and Thailand (11%) (Figure 11).

Figure 11: Prevalence of overweight in children under five in ASEAN Member States



Note: Data updated to November 2015. The specific year of the survey is given in parenthesis. Sources used for this figure: Brunei Darussalam (NHANNS 2012), Cambodia (2014 CDHS), Indonesia (Indonesia Basic Health Survey, RISKESDAS, 2013), Lao People’s Democratic Republic (Lao social indicator survey LSIS (MICS/DHS) 2012), Malaysia (NHMS 2015), Myanmar (MICS 2009–2010), Philippines (8th National nutrition survey Philippines 2013), Thailand (MICS 2012), Viet Nam (Nutrition surveillance profiles 2014). National data (with a few exceptions) originate from various household surveys included in the WHO/UNICEF/World Bank joint monitoring estimates 2015. Data for Singapore not available.

* Newest data from Malaysia and Viet Nam not yet included in the global WHO/UNICEF/World Bank joint monitoring estimates 2015.

Moreover, when the adult population is analysed for overweight, significant differences are found among ASEAN Member States. Moreover, significant differences are found among ASEAN Member States with regard to adult overweight, with prevalences ranging from 3% to over 30%.^{69 70}

A number of factors have been found to be associated with the rise in overweight and obesity. First, evidence indicates that children who experience faltering growth in the first 1000 days of life are more likely to become overweight or obese later in life. Second, the majority of countries are going through a nutrition transition, characterized by the increased consumption of large amounts of energy-dense and nutrient-poor processed foods, high in sugar and fat.^{71 72} Third, the population is increasingly adopting a more sedentary lifestyle and is reducing the time dedicated to physical activity. Overweight and obesity are risk factors for diet-related NCDs, which result in high social and economic costs for individuals, families and countries.

⁶⁹ National Health and Morbidity Survey (NHMS) 2011 (based on WHO classification, 1998).

⁷⁰ Viet Nam Nutrition surveillance profiles 2015 (not validated by jme database yet).

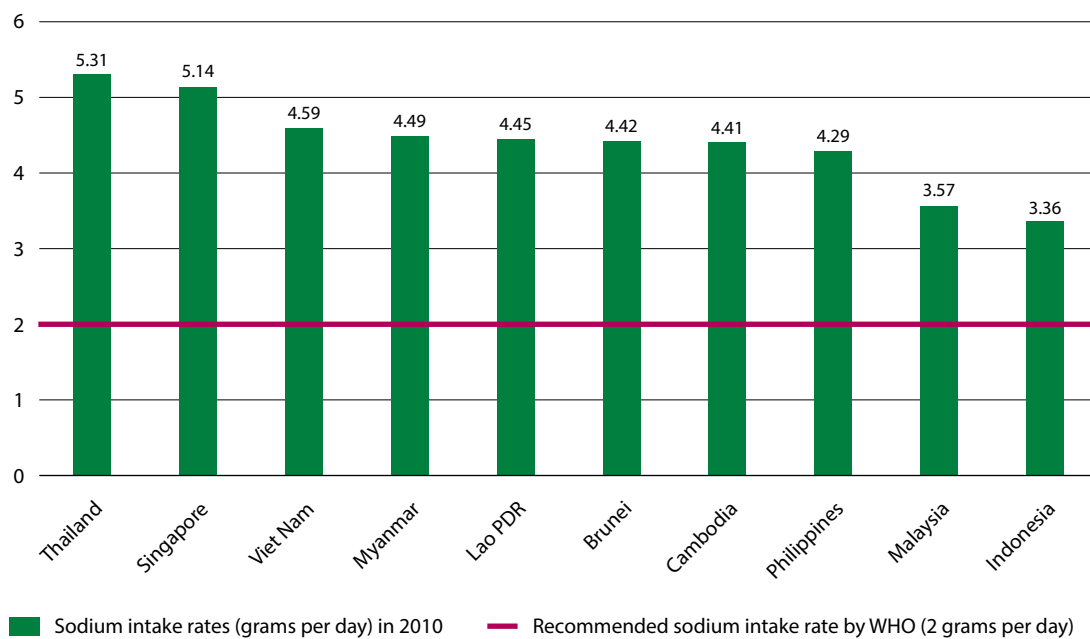
⁷¹ WHO (2012). World Health Organization guidelines: Sodium intake for adults and children. Geneva; World Health Organization (http://www.who.int/nutrition/publications/guidelines/sodium_intake/en/, accessed November 2, 2015). WHO recommends a reduction in sodium intake in adults to <2g sodium/day to control blood pressure and to reduce the risk of cardiovascular disease, stroke and coronary heart disease.

⁷² WHO (2004). Global strategy on diet, physical activity and health. Geneva, World Health Organization (http://apps.who.int/gb/ebwha/pdf_files/WHA57/A57_9-en.pdf?ua=1, accessed October, 21 2015).

Salt intake and hypertension

Increased consumption of salt increases blood pressure. High blood pressure (hypertension) is a key contributor to heart disease and stroke. The daily consumption of sodium (which is the harmful component of salt) in ASEAN Member States is about twice as high as the WHO recommendations⁷³ (Figure 12). The prevalence of raised blood pressure in ASEAN Member States is very high, with over 20% of the adult population affected in nine of the Member States.⁷⁴ The growing use of processed foods, the higher frequency of meals and snacks eaten away from home and the addition of salt to homemade foods increases sodium intake. Strategies to reduce salt can complement programmes to control iodine deficiency (see chapter 5).

Figure 12: Sodium intake rates in ASEAN Member States⁷³



Note: All data have been obtained from Powles et al.⁷³ For comparability, data from the most recent surveys for each country have not been included.

⁷³ Powles J, Fahimi S, Micha R, et al (2013). Global, regional and national sodium intakes in 1990 and 2010: a systematic analysis of 24 h urinary sodium excretion and dietary surveys worldwide. *BMJ Open*; 3:e003733. doi:10.1136/bmjopen-2013-003733 (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3884590/pdf/bmjopen-2013-003733.pdf>, accessed October 2015).

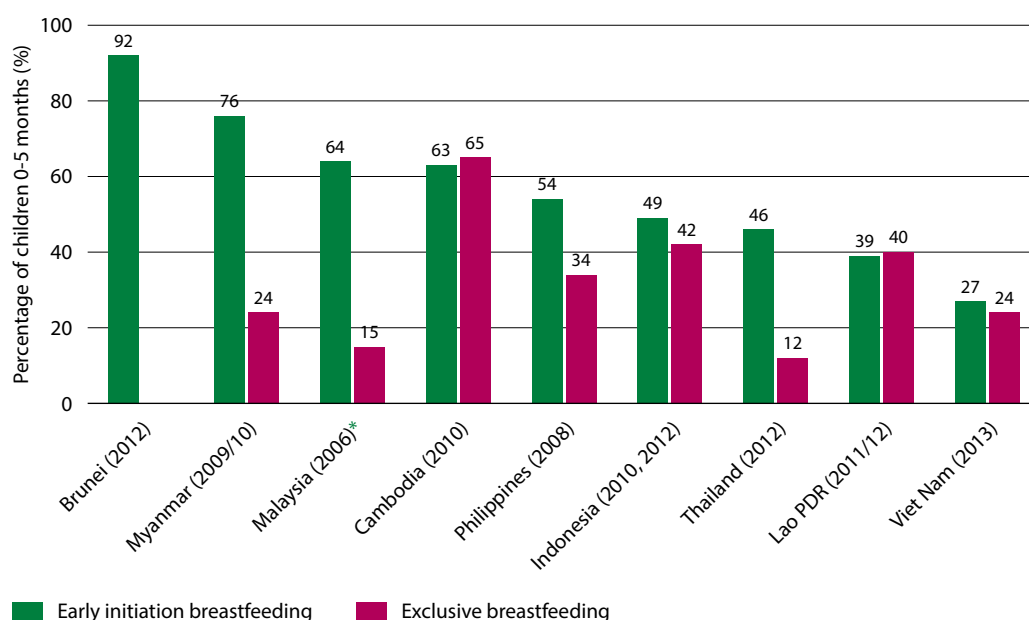
⁷⁴ Global status report on noncommunicable diseases (2014). Geneva; World Health Organization (http://apps.who.int/iris/bitstream/10665/148114/1/9789241564854_eng.pdf?ua=1, accessed January 11, 2016). Includes 2010 comparable estimates of prevalence of hypertension. Definition of hypertension: systolic blood pressure ≥ 140 or diastolic blood pressure ≥ 90 or medication.

Status of nutrition-specific interventions

Infant and young child feeding practices

Among the key nutrition-specific interventions that effectively improve nutrition status is the promotion and support for optimal IYCF practices.⁵¹⁻⁷⁵ These practices include early initiation of breastfeeding within the first hour after delivery and exclusive breastfeeding up to six months of age, as well as continued breastfeeding, together with adequate, appropriate and safe complementary food, up to two years of age (see Annex 2). Breastfeeding practices have been shown to improve through a comprehensive approach, with actions at the health system, community and policy levels.²⁹ Regrettably, exclusive breastfeeding is not widespread in the ASEAN Member States, although some exceptions can be found, such as Cambodia, where 65% of mothers exclusively breastfeed their children⁴⁵ (Figure 13). Exclusive breastfeeding in other countries is much lower – as low as 12% in Thailand.⁴¹ On the other hand, early initiation of breastfeeding has increased significantly in many countries, such as Brunei Darussalam, Myanmar and Cambodia (Figure 13).

Figure 13: Early Initiation of breastfeeding and exclusive breastfeeding in ASEAN Member States



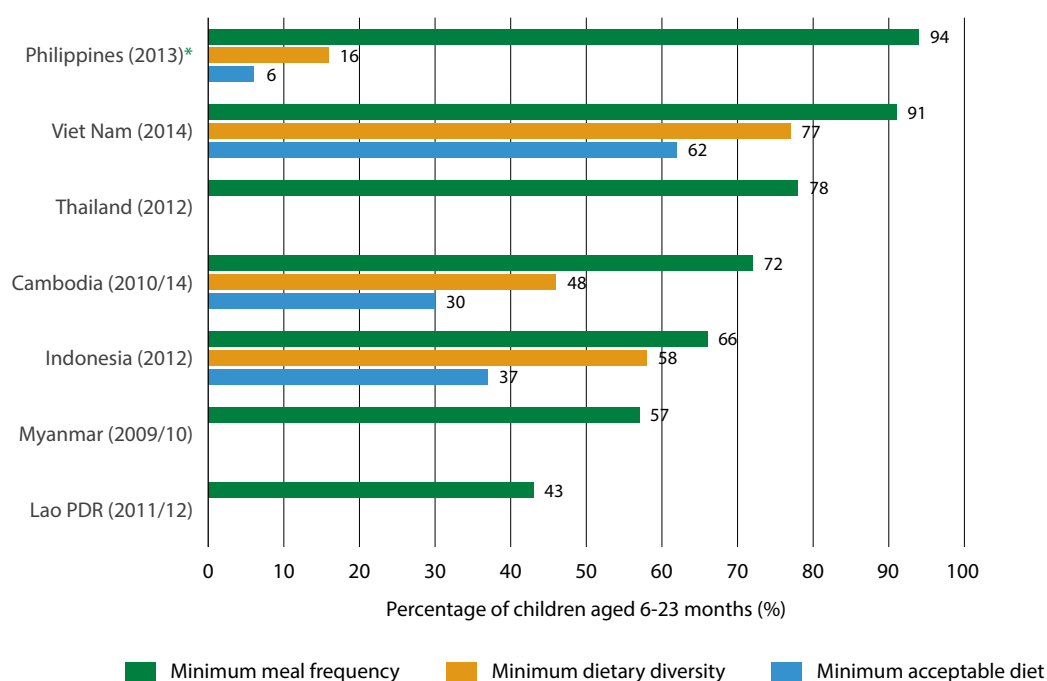
Note: The specific year of the survey is given in parenthesis. All of the data in this graph is based on the standard global definitions of early initiation breastfeeding and exclusive breastfeeding among infants 0-5 months collected using international methodologies, as outlined in Annex 2 (with one exception, as detailed below*). Sources used for this figure: Brunei (2nd NHANNS Phase 1, 2012), Cambodia (2010 CDHS), Indonesia (Indonesia Demographic and Health Survey 2012 and RISKESDAS re-analysed by UNICEF 2010), Lao People's Democratic Republic (Lao social indicator survey LSIS 2011/2012), Malaysia (NHMS 2006), Myanmar (MICS 2009/2010), Philippines (NDHS 2008), Thailand (MICS 2012), Viet Nam (Nutrition surveillance profiles 2013 and MICS 2010-2011). Data for Singapore not available.

* Data for exclusive breastfeeding Malaysia was gathered with a definition different from the standardized one found in Annex 2 (its definition only includes children under 12 months of age).

⁷⁵ WHO (2003). The Global Strategy on Infant and Young Child Feeding. Geneva; World Health Organization (<http://apps.who.int/iris/bitstream/10665/42590/1/9241562218.pdf?ua=1&ua=1>, accessed November 4, 2015).

Optimal complementary feeding is critical for the prevention of undernutrition. Growth faltering and stunting in particular occur during this highly sensitive period of the child's life, 6–23 months, due to poor complementary feeding practices. Effective strategies to improve these involve communication for social and behaviour change and counselling, as well as tailored measures in various sectors depending on the context, which may include agriculture and food security, social protection, social marketing and the private sector. In ASEAN, while introduction of complementary feeding with solid, semi-solid or soft foods is timely in several countries of the region, such as Indonesia (91% of children 6–8 months), Viet Nam (91%), the Philippines (84%), Cambodia (82%) or Myanmar (81%), other countries display lower rates, such as Malaysia (42%) or Lao Democratic People's Republic (50%).³⁹ The rates of Minimum Dietary Diversity, Minimum Meal Frequency and Minimum Acceptable Diet vary greatly among countries, and is not available in many cases (Figure 14). Given the importance of these indicators, their collection in subsequent surveys in the coming years should be considered a priority for all ASEAN Member States. Most importantly, there is an urgent need to improve complementary feeding practices in a significant manner in the majority of the Member States.

Figure 14: Minimum Dietary Diversity, Minimum Meal Frequency and Minimum Acceptable Diet in children aged 6-23 months in ASEAN countries



Note: The specific year of the survey is given in parentheses for each country. All of the data in this graph are based on the standard global definitions of Minimum Dietary Diversity, Minimum Meal Frequency and Minimum Acceptable Diet in children 6–23 months collected using international methodologies, as outlined in Annex 2. Sources used for this figure: Cambodia (2014 CDHS), Indonesia (Indonesia Demographic and Health Survey 2012), Lao People's Democratic Republic (Lao social indicator survey LSIS 2011/2012), Malaysia (NHMS 2006), Myanmar (MICS 2009/2010), Philippines (Maternal Health and Nutrition and IYCF Survey 2013),⁷⁶ Thailand (MICS 2012), Viet Nam (Nutrition surveillance profiles 2013). Data for Brunei, Malaysia and Singapore not available.

* Preliminary data for the Philippines⁷⁷ (pending validation)

⁷⁶ Food and Nutrition Research Institute-Department of Science and Technology (FNRI-DOST). 2015. Philippine Nutrition Facts and Figures 2013; Maternal Health and Nutrition and Infant and Young Child Feeding Survey. DOST Complex, FNRI Bldg., Bicutan, Taguig City, Metro Manila, Philippines.

⁷⁷ Philippines Maternal Health and Nutrition and IYCF Survey 2013.

The key interventions of IYCF include protection, promotion and support of optimal breastfeeding practices and support for and promotion of optimal complementary feeding practices (they are described in more detail in chapter 5). Data on the geographic and population coverage of IYCF interventions are not available in any ASEAN Member States. This represents a key gap that needs to be addressed.

Management of Severe Acute Malnutrition

If left untreated, SAM in early childhood can lead to dire short-term consequences, such as a 12-fold increased risk of dying⁶ or higher likelihood of contracting infectious diseases. Consequently, more efforts need to go into the prevention of SAM. If not prevented, it needs to be treated as any other disease. Acute malnutrition is included as a disease in the WHO International Classification of Disease. In addition, in 2013, WHO updated the guidelines for treatment of SAM.¹⁷ The updates emphasise that Integrated Management of Acute Malnutrition (IMAM) should involve community screening and the inpatient and/or outpatient treatment of SAM depending on the medical condition of the child. IMAM involves the use of specially formulated therapeutic nutritional products, including ready to use therapeutic food (RUTF).^{78 79} In 2014, only around 1% of children with SAM were reported to be treated, out of the four million annual cases of SAM expected in the six ASEAN Member States that have treatment programmes (see Table 3).

Table 3: SAM treatment in ASEAN Member States by 2014

Country	Total annual caseload	Reported admissions	% of annual burden
Cambodia	89,682	2,334	2.6
Indonesia*	2,993,830	23,627	0.8
Lao PDR	31,041	181	0.6
Myanmar	221,700	8,687	3.9
Philippines	500,930	2,239	0.4
Viet Nam	201,474	8,022	4.0
Total	4,038,657	45,090	1.1

* Note: Preliminary data from Indonesia. Source: UNICEF, NutriDash 2014.

Some of the reasons are that a) policies, protocols, programmes and systems are not in place; b) there is limited investment from both governments and development partners, and in some cases c) there is low awareness and commitment to the issue. National IMAM protocols and guidelines are mostly incomplete, in draft or outdated (not aligned with the 2013 WHO guidelines), with only one country having an approved, complete, updated protocol (the Philippines). Many of the countries are at initial stages of IMAM programmes.

Prevention of micronutrient deficiencies

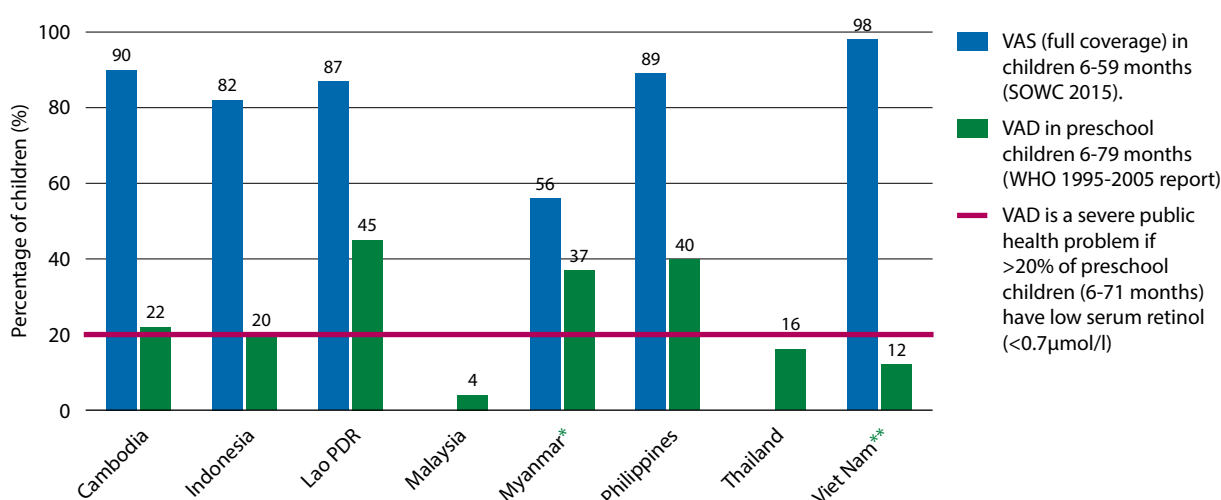
The prevention and control of micronutrient deficiencies can be carried out through the integration of a number of strategies that should be complementary, such as promotion of dietary diversity and consumption of micronutrient-rich foods through nutrition education and communication, improved health and hygiene, micronutrient supplementation, home fortification, biofortification and food fortification. Priority should be given to food-based strategies that are long-lasting and sustainable. Increasing dietary diversification provides a wide range of micronutrients.

⁷⁸ UNICEF (2013). Ready-to-use Therapeutic Food for children with severe acute malnutrition. UNICEF Current Issues. (http://www.unicef.org/media/files/Current_Issues_Paper_-_Ready_To_Use_Therapeutic_Food.pdf, accessed January 11, 2016).

⁷⁹ Valid International/ Concern Worldwide (2006). Community-based therapeutic care (CTC). (<http://www.fantaproject.org/sites/default/files/resources/CTC-Field-Manual-Oct2006-508.pdf>, accessed January 11, 2016).

Micronutrient supplementation is a commonly used intervention to prevent micronutrient deficiencies. Some examples are vitamin A supplementation for children under five or pre-schoolers, iron and folic acid (IFA) supplementation for pregnant women and supplementation of Multiple Micronutrient Powders (MNPs) for infants and young children. Successful vitamin A supplementation coverage (Figure 15) is a likely contributor to the observed reductions in child mortality in some countries such as Viet Nam or Cambodia. However, coverage rates in other countries of the region are still not satisfactory, such as in Myanmar (56%). Vitamin A deficiency (VAD) is considered a public health problem by WHO if more than 20% of preschool children (6–71 months) have low serum retinol (less than 0.7 $\mu\text{mol/l}$). High or severely high rates of VAD in some countries indicate that vitamin A is lacking in the daily diet of pre-schoolers, such as in Lao People's Democratic Republic (45%), Myanmar (37%), Cambodia (22%) or Indonesia (20%) (Figure 15).

Figure 15: Vitamin A supplementation (VAS) in children 6–59 months and Vitamin A deficiency (VAD) in children 6-79 months in ASEAN Member States



Note: Percentage of children 6–59 months of age who received Vitamin A supplementation (full coverage: children were reached with 2 doses of vitamin A supplements) and percentage of preschool children (6–79 months) with VAD. Prevalence of low serum retinol (0.7 $\mu\text{mol/l}$ or below) or VAD of 10–19% denotes a moderate public health problem and at 20% or more denotes a severe public health problem (pink line).⁸⁰

The source of the data for Vitamin A supplementation for children 6–59 months is UNICEF, State of the World's Children, February 2015. In order to ensure comparability, the latest data from certain countries have not been considered. The source of data for Vitamin A Deficiency originated from WHO Global prevalence of vitamin A deficiency in population at risk 1995–2005 report, 2009.⁸¹ Therefore, for comparability reasons, the most recent available data for VAD from certain countries have not been included in this graph. Data from Brunei Darussalam and Singapore not available.

* Data for Myanmar were not available from the State of the World's Children report and therefore data from MICS 2009/2010 were included.

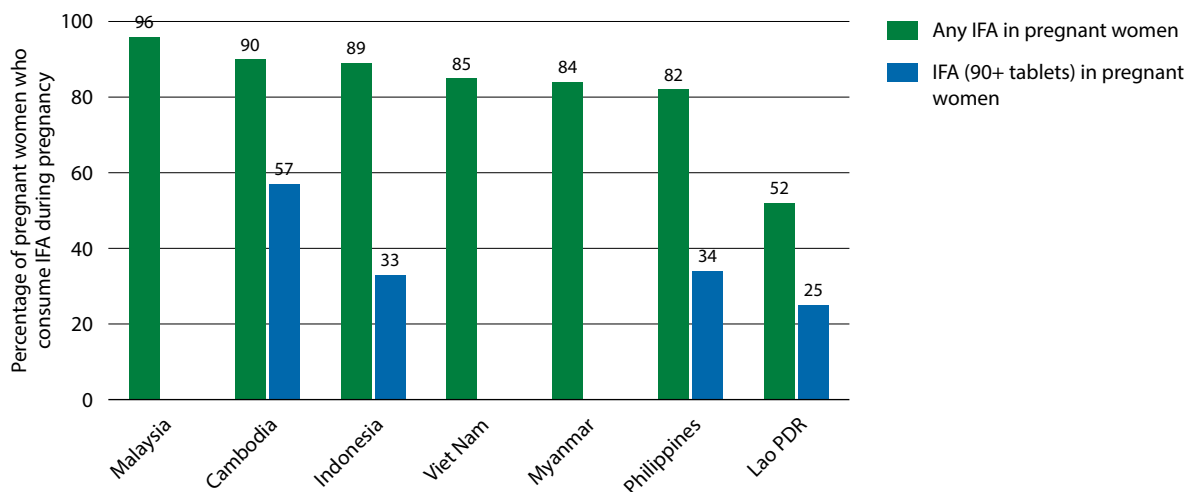
** Viet Nam provides vitamin A supplementation for a reduced age group (6-36 months). Coverage figure is reported for the targeted age group only.

⁸⁰ WHO (2011). Serum retinol concentrations for determining the prevalence of vitamin A deficiency in populations. Vitamin and Mineral Nutrition Information System. Geneva; World Health Organization (WHO/NMH/NHD/MNM/11.3) (<http://www.who.int/vmnis/indicators/retinol.pdf>, accessed December 8, 2015).

⁸¹ WHO (2009). Global prevalence of vitamin A deficiency in populations at risk 1995–2005. WHO Global Database on Vitamin A Deficiency. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/44110/1/9789241598019_eng.pdf, accessed January 11, 2016).

With regard to IFA supplementation, the percentage of pregnant women that consume IFA (at least once) is more than 80% in all countries where data is available except in Lao People's Democratic Republic (52%). However, the proportion of women consuming at least 90 tablets during pregnancy is much lower, and for many countries IFA coverage data are not available (Figure 16).

Figure 16: Iron and folic acid supplementation



Note: Percentage of pregnant women taking any iron and folic acid (IFA) supplements and percentage of pregnant women taking 90 or more tablets of IFA.²³ Source is usually national survey such as DHS, MICS or nutrition survey. Data for Brunei, Singapore and Thailand not available.

The majority of MNP programmes have been recently initiated in the region and coverage is minimal, thus little data is available. Urgent action is needed from ASEAN Member States to provide information from ongoing efforts through adequate monitoring and evaluation systems and to plan to scale up the programme once pilot projects have been properly established.

The percentage of children under five who are treated with zinc for diarrhoea is under 2% in all countries of the region, despite existing policy frameworks (zinc supplementation and reformulated oral rehydration salts in the management of diarrhoea).³⁹

Additionally, food fortification is one of the most cost-effective strategies to prevent micronutrient deficiencies. Regulation of food fortification in ASEAN Member States is either voluntary or mandatory. Consumption of fortified food by the relevant population group will be more likely achieved through mandatory fortification.⁸² Salt iodization is mandatory in most ASEAN Member States with existing legislation except for Brunei Darussalam and Singapore, which have voluntary food fortification regulations. Viet Nam has a legislation that encourages iodization but does not currently mandate it, although the country is in the process of drafting new mandatory legislation.⁸³ Malaysia is the only ASEAN Member State with no national legislation for salt iodization (it only exists at the subnational level).

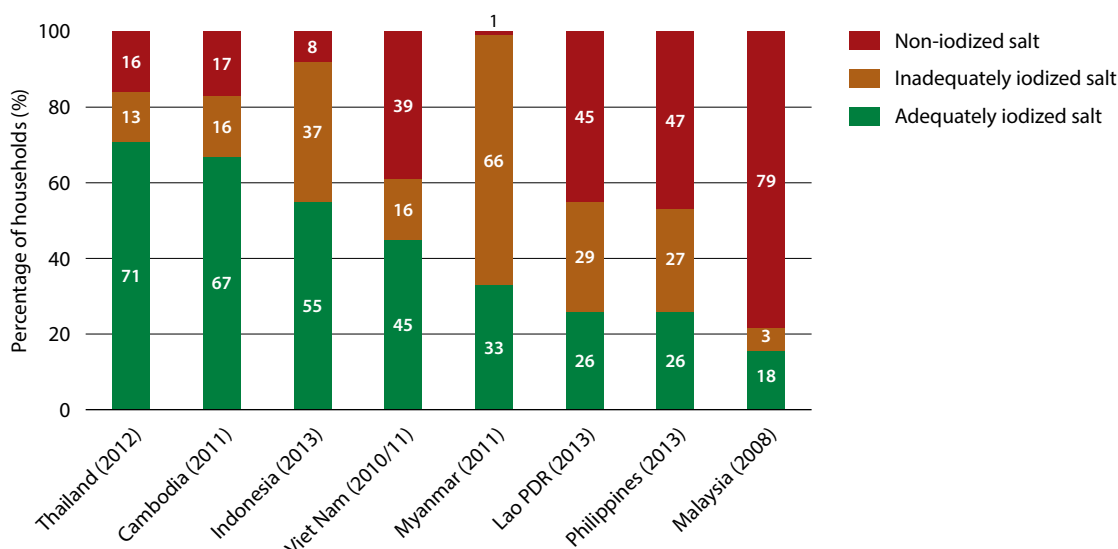
With regard to the consumption of adequately iodized salt through fortification of salt with iodine, higher rates of consumption are only found in a few countries (Thailand, Cambodia and Indonesia), while rates in all the other countries are below 50%, especially Lao People's Democratic Republic, the Philippines and Malaysia (Figure 17).

⁸² WHO/FAO (2006). Guidelines on food fortification with micronutrients.

(http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf, accessed November 17, 2015).

⁸³ Iodine Global Network (IGN) (2014). Status by region (<http://ign.org/p142001046.html>, accessed November 17, 2015) (Quoted in GAIN. Fortifying our Future: A snapshot report on food fortification).

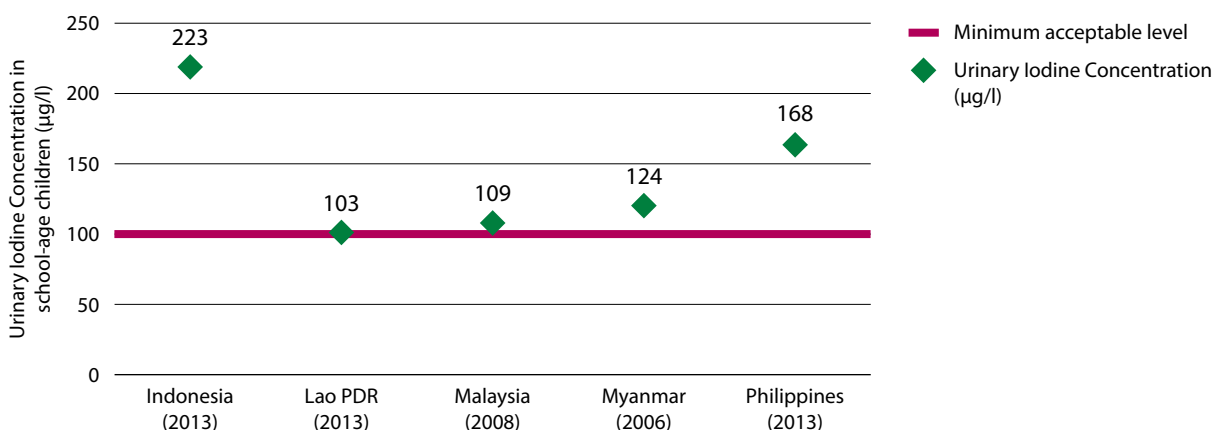
Figure 17: Coverage of iodized salt in ASEAN Member States



Note: Percentage of households where salt is adequately iodized (green), inadequately iodized (orange) or not iodized (red). The specific year of the survey is given in parentheses for each country. Sources of the data are: Cambodia (Cambodia Survey on Iodine Nutrition 2011), Indonesia (IDN Basic Health Research, RISKESDAS, 2013, updated by October 2015, (>15ppm)), Lao People’s Democratic Republic (School-based survey of iodised salt use and status of iodine nutrition, 2013), Malaysia (National IDD Survey: Selamat et al. Iodine deficiency status and iodised salt consumption in Malaysia: findings from a national iodine deficiency disorders survey⁸⁴), Myanmar (Availability of Iodised Salt at HH Level in Myanmar 2011: Report of a School Based Survey), Philippines (FNRI National Nutrition Survey 2013), Thailand (MICS 2012 (>15ppm)) and Viet Nam (MICS 2010/2011). Data for Brunei Darussalam and Singapore not available.

Iodine status in ASEAN Member States is generally within the normal range (Figure 18).

Figure 18: Median urinary iodine concentration (UIC) in school-age children in ASEAN Member States, measured in µg/l



Note: For definition of iodine deficiency,⁸⁵ see Annex 2. Sources of the data are: Indonesia (RISKESDAS 2013⁴⁷, IGN Partnership final figures Oct 2015), Lao People’s Democratic Republic (School based survey of iodised salt use and status of iodine nutrition, 2013), Malaysia,⁸⁴ Myanmar (National IDD Survey 2006) and Philippines (FNRI National Nutrition Survey 2013). Recent data for Brunei Darussalam, Cambodia, Singapore and Viet Nam not available.

⁸⁴ Selamat R, Nazaimoon W, Zainuddin AA, Rahim NSCAR, et al. (2010). Iodine deficiency status and iodised salt consumption in Malaysia: findings from a national iodine deficiency disorders survey. APJCN; 19 (4): 578 – 585 (<http://apjcn.nhri.org.tw/server/APJCN/19/4/578.pdf>, accessed January 11, 2016).

⁸⁵ WHO (2013). Urinary iodine concentrations for determining iodine status deficiency in populations. Vitamin and Mineral Nutrition Information System. Geneva: World Health Organization (<http://www.who.int/nutrition/vmnis/indicators/urinaryiodine>, accessed December 8, 2015).

Despite the apparent success of some countries, successful iodization coverage is often not maintained. While Thailand is a successful experience where high coverage has been achieved and sustained (see the case study in this report), the coverage of adequately iodized salt has become stagnant in Indonesia and the Philippines, with deterioration in Cambodia, Myanmar and Viet Nam. In order to avoid this type of regression or stagnation, it is crucial that countries sustain their achievements with regard to the coverage of adequately iodized salt, improve their strategies so that all salt is iodized to adequate levels and finally, that they expand programmes to ensure there is universal, 100% coverage of adequately iodized salt, achieving the goal of Universal Salt Iodization (USI). Integration of USI into national nutrition plans and strategies has been recognized as one of the keys to success. It is also important to ensure that policy options regarding food fortification are in line with policies that promote healthy diets. For example, promoting the consumption of iodized salt through mandatory regulations is key to ensure adequate levels of iodine and can be harmonized with a salt reduction strategy.⁸⁶ Salt consumption and urine iodine excretion levels need to be carefully monitored and the results used to inform policies and standards.

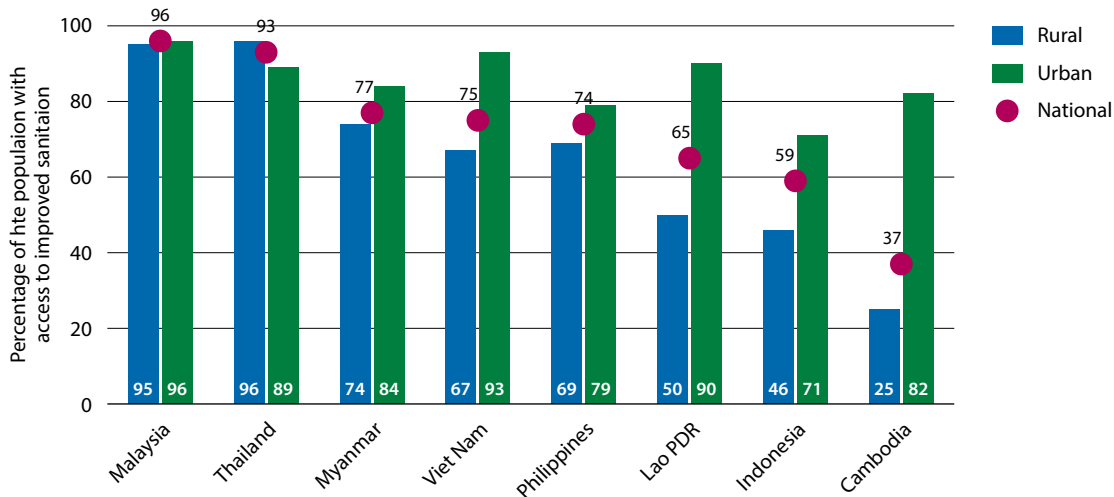
Status of nutrition-sensitive outcomes

Nutrition-sensitive actions are essential to address the underlying determinants of malnutrition and to improve the nutritional status of the population. This section describes the status of a few nutrition-sensitive interventions that were included in volume 1 of the Regional Report on Nutrition Security in ASEAN.³⁹ The analysis of data on the status of these nutrition-sensitive areas will determine the selection of priority interventions.

Water, sanitation and hygiene (WASH)

Nutrient absorption is strongly influenced by hygienic environmental conditions and health status. Drinking-water quality, sanitation and hygiene practices determine nutrition, health and infection. Poor WASH status is linked in particular to a large burden of subclinical environmental enteropathy, a key factor in poor nutrient absorption. Sanitation has improved in many ASEAN Member States over the last two decades. Interestingly, while in some countries disparities between rural and urban areas are still large, such as in Viet Nam, other countries do not show any differences between urban and rural areas and one country – Thailand – has managed to reverse these differences, making access to sanitation facilities more common in rural than in urban areas (Figure 19). Even if access to improved water sources significantly increased in all countries during the last two decades, regional disparities still exist within countries, such as in the case of Cambodia, where 34% of the rural population does not have access, or Lao People's Democratic Republic, where 35% of the rural population does not have access. Diarrhoea in young children is most common among the poorest wealth quintiles in several countries, such as Cambodia, with 18.4% in the lowest quintile and 10.7% in the highest quintile, or in Lao People's Democratic Republic, with 15% in the lowest quintile and 4.7% in the highest wealth quintile.

⁸⁶ WHO (2013). Salt reduction and iodine fortification strategies in public health. Report of a joint technical meeting. Geneva; World Health Organization (http://apps.who.int/iris/bitstream/10665/101509/1/9789241506694_eng.pdf?ua=1, accessed 21 October 2015).

Figure 19: Access to sanitation facilities in ASEAN Member States, as of 2012^{87 39}

Note: Percentage of population (in general), rural population, and urban population, with access to sanitation facilities in ASEAN Member States, as of 2012. Source of data are the WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation 2014.⁸⁷

Agriculture

The conceptual framework for malnutrition recognizes food security and agricultural practices as some of the main determinants of nutrition security. Given this inexorable link, the terminology “food and nutrition security” is now commonly used. In order to achieve food and nutrition security for all, food availability (sufficient quantities of food available on a consistent basis), food access (sufficient resources to obtain appropriate foods for a nutritious diet), stability of supply and access, and food use (appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation) need to be addressed and secured.^{88 89 90} For that reason, nutrition-sensitive agriculture needs to be reinforced through policies and infrastructure.

Even if this report is not generally focused on food availability or food access, it is important to note that there are differences among countries with regard to these two pillars of food security (see Joint Regional Report on Nutrition Security Volume 1).³⁹ For example, while the total Dietary Energy Supply (DES) is 2949 kcal per person per day in Brunei Darussalam, it is much lower (2356 kcal per person) in Lao People’s Democratic Republic (Figure 20). In addition, some countries, such as Brunei Darussalam (601 kcal/person/day) and Viet Nam (574 kcal/person/day), consume approximately three times the amount of energy supply from foods of animal origin than countries such as Indonesia (177 kcal/person/day), Lao People’s Democratic Republic (202 kcal/person/day) and Cambodia (216 kcal/person/day).^{89 91}

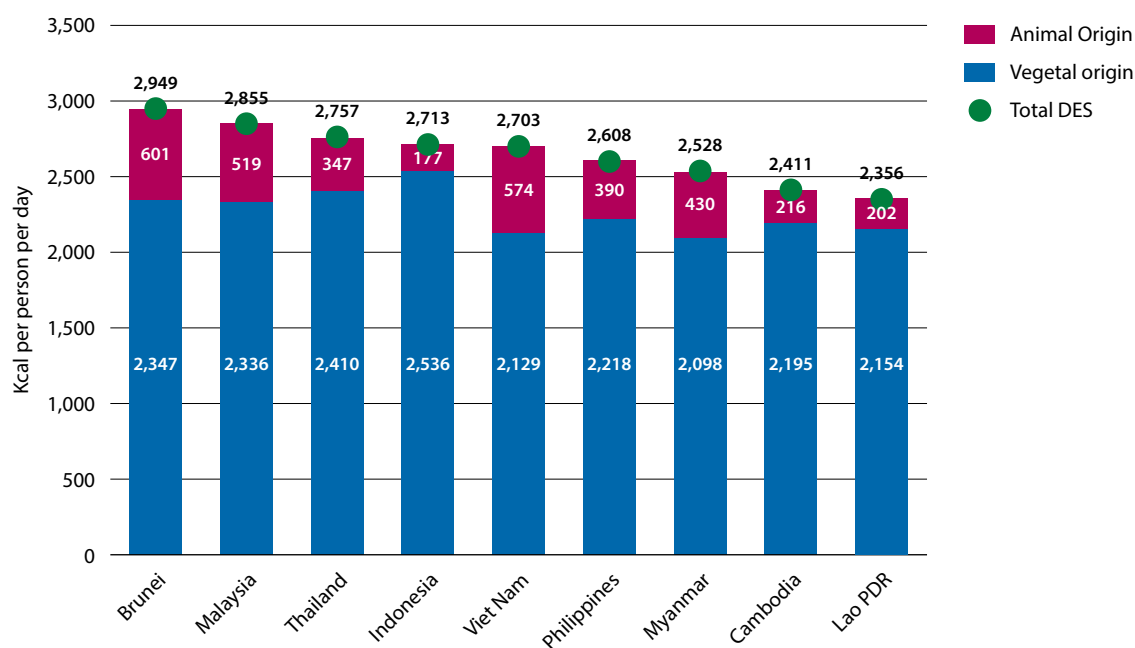
⁸⁷ WHO/UNICEF (2014). WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation (<http://www.wssinfo.org/>, accessed November 19, 2015). The definition of an “improved” sanitation facility by the JMP is one that hygienically separates human excreta from human contact. The definitions used by the JMP are often different from those used by national governments. Estimates in JMP reports may therefore differ from national estimates. Sanitation trend analyses at country level are made for improved sanitation facilities and open defecation. The estimates for improved sanitation facilities presented are discounted by the proportion of the population that shared an improved type of sanitation facility with other households. The ratio (proportion of the population that shares an improved sanitation facility between two or more households, including those using a public toilet) derived from the average of all available ratios from household surveys and censuses is subsequently subtracted from the trend estimates of improved sanitation facilities, and this gives the estimates for shared sanitation facilities.

⁸⁸ FAO (1996). Rome Declaration on World Food Security and World Food Summit Plan of Action (<http://www.fao.org/docrep/003/W3613E/W3613E00.HTM>, accessed October 29, 2015).

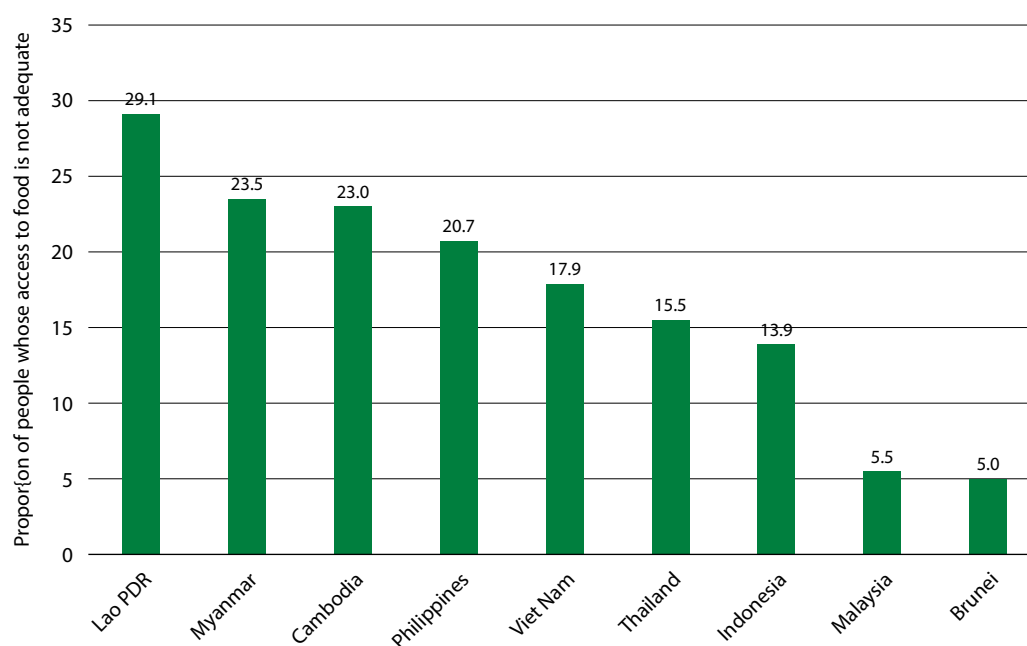
⁸⁹ Declaration of the World Summit on Food Security (2009). WSFS 2009/2. Rome.

⁹⁰ Ecker O, Breisinger C. (2012). IFPRI. The Food Security System. A New Conceptual Framework (<http://www10.iadb.org/intal/intalcdi/PE/2012/11073.pdf>, accessed October 29, 2015).

⁹¹ FAOSTAT FBS: 2014 update (<http://faostat.fao.org/site/291/default.aspx>, accessed November 17, 2015).

Figure 20: Total DES, DES from animal origin and DES from vegetal origin, as of 2011⁹¹

Note: FAOSTAT FBS 2014 update.^{39, 91} In order to ensure comparability, the most recent data for certain countries are not presented in this graph. Data for Singapore not available. The indicator utilized in this figure is further explained in Annex 2.

Figure 21: Food inadequacy in ASEAN Member States, 2014-2016

Note: Proportion of people in a given population whose food access is inadequate (2014–2016).⁹¹ Food inadequacy measures the percentage of the population that is at risk of not covering the food requirements associated with normal physical activity. See Annex 2 for the definition of the indicator. Source: FAOSTAT FBS 2014 update (V_2.9). Data for Singapore not available.

With regard to food access, the prevalence of food inadequacy (Figure 21) shows the proportion of people in a given population whose food access is inadequate as of 2014.⁹¹ Differences among countries are staggering, especially between the countries with the highest prevalence (Lao People's Democratic Republic, Myanmar, Cambodia and the Philippines) and the countries with the lowest prevalence (Malaysia and Brunei Darussalam).⁹¹ This indicates there are a number of ASEAN Member States with rather large populations that are vulnerable, precarious and food-insecure.

Nutrition-related policies

With regard to the enabling environment for food and nutrition security, a number of policy documents have been created in all countries of the region and are summarized in Volume 1 of this joint nutrition security report.³⁹ The majority of countries cover, within their policies, topics such as maternal and child undernutrition, obesity and diet-related NCDs, school-based nutrition policies, IYCF practices, supplementation with vitamins and minerals and other underlying and contextual factors that affect nutrition security, such as food aid, food security, nutrition and infection, gender and maternal leave.³⁹ With the exception of Brunei Darussalam, all Member States have developed policies on food fortification, although some have only developed voluntary guidelines for fortification.

Policies regarding maternity leave have been implemented to varying degrees in all ASEAN Member States.³⁹ Viet Nam is the country with the longest maternity leave (six months), while the Philippines enshrines just eight weeks of leave (see Table 3). On average, maternity leave is 12–16 weeks long. Moreover, in many instances, wages are reduced to 50% during maternity leave, such as in Cambodia. There are also countries that provide maternity leave at full pay, such as Lao People's Democratic Republic, Indonesia and Singapore. The provision of nursing breaks or childcare after return to work is often not included in the policy. An exception is Viet Nam, which passed a decree in October 2015 mandating 60 minutes of breaks after six months of paid maternity leave, mandatory establishment of daycare centres, kindergartens and lactation rooms in enterprises with many female workers and partial support of childcare cost and job security for female employees on maternity leave. In Singapore, eligible working fathers, including those self-employed, are entitled to one week of paid paternity leave funded by the Government. It is also noted that mothers employed in small enterprises or in the informal sector do not generally benefit from these provisions, and alternative strategies of support are needed to ensure these mothers are also enabled and supported to continue to breastfeed while working.

With regard to the adoption of the International Code of Marketing of Breast-milk substitutes,⁹² it should be noted that legislation has been enacted or regulations provided in almost all ASEAN Member States. However, enforcement of these laws varies among countries (see Table 4), with some of the countries having voluntary regulations. Urgent action from ASEAN Member States is needed to ensure that enforceable measures are developed and implemented with regard to the Code.

To conclude, there have been great efforts to improve nutrition in the region, primarily through the health sector. However, the rate of progress needs to be accelerated. Despite strong economic growth and achievements in health and nutrition indicators, the summary above indicates that maternal and child undernutrition rates and burden remain high and the prevalence of overweight, obesity and other diet-related NCD risk factors is increasing. A number of improvements need to be carried out by governments of the region to accelerate reduction of malnutrition, such as increasing the coverage of nutrition-specific and nutrition-sensitive interventions, increasing the quality of programmes and the availability of data on their progress, and increasing engagement with other sectors to address the underlying determinants of malnutrition. In this context, Six ASEAN Member States (Cambodia, Indonesia, Lao Democratic People's Republic, Myanmar, the Philippines and Viet Nam) have joined the SUN movement, which promotes greater multisectoral coherence to tackle undernutrition.

⁹² WHO (1981). International Code of Marketing of Breast-Milk Substitutes (BMS). Geneva; World Health Organization (http://www.who.int/nutrition/publications/code_english.pdf, accessed October 29, 2015).

Table 4: Status of maternity leave regulations and the International Code of Marketing of Breast-milk Substitutes

Member State	Maternity leave	Comments to Maternity Leave	International Code of Marketing BMS	Comments to International Code Marketing BMS
Brunei Darussalam	15 weeks	Full pay for government servants. 13 weeks' paid leave for citizens and permanent residents. Government also bears the costs of salaries for private sector employees for five weeks of their 13-week paid leave. Non-citizens in the private sector are entitled to 8 weeks paid leave.	Voluntary	The Health Workers' Code has been drafted.
Cambodia	12 weeks	Payment is 50% of wages. Provision of nursing breaks after return to work.	Yes	Many provisions adopted. Ban on marketing for children up to 24 months.
Indonesia	13 weeks	Full pay. Provision of nursing breaks after return to work.	Yes	Laws and decrees address part of the provisions. Ban on marketing for children up to 12 months.
Lao People's Democratic Republic	13 weeks	Full pay. Provision of nursing breaks after return to work.	Yes	Provisions partially adopted (1995) and revised in 2007.
Malaysia	Government sector: 60 to 90 days Private sector: Not less than 60 consecutive days	Government sector: ⁹³ Women government servants are entitled to get full pay for 300 days maternity leave throughout the tenure of service with flexibility to choose within 60 to 90 days maternity leave per delivery. Private sector: Every female shall be entitled to full paid maternity leave for an eligible period in respect of each confinement.	Voluntary	Malaysia is implementing the Code of Ethics for the Marketing of Infant Foods and related products as a voluntary but strictly monitored measure.
Myanmar	6 months	In March 2014, the paid maternity leave for government employees was expanded to six months. If both parents are government employees, paternity leave for 2 weeks also applies.	Yes	The order of marketing formulated food for infant and child was released on 24 July 2014.
Philippines	60 days	Full payment. A Senate Bill extending maternity leave to 100 days was approved and awaiting parallel endorsement by the House of Representatives	Yes	
Singapore	16 weeks	Working mothers are entitled to either 16 weeks of Government-paid maternity leave or 12 weeks of maternity leave, depending on whether the child is a Singaporean and other criteria. Full payment during the leave period. First 8 weeks will be paid by employer and last 8 weeks by the Government, for the first and second births. For third and subsequent births, salary will be reimbursed by the Government. Eligible working fathers, including those who are self-employed, are entitled to one week of paid paternity leave funded by the Government. The employer can voluntarily agree to provide one additional week of paternity leave.	Voluntary	
Thailand	90 days/ 3 months	Full payment for 90 days.	Voluntary	Draft Act is ready and in process to become a Law.
Viet Nam	6 months	Full payment	Yes	Decree 100

⁹³ Malaysia Pekeliling Perkhidmatan Bil 14 Tahun 2010: Kemudahan Cuti Bersalin Pegawai Perkhidmatan Awam.

Key messages chapter 3:

1. The prevalence of stunting is still high (Philippines, Cambodia, Myanmar and Indonesia) or very high (Lao People's Democratic Republic) in many ASEAN Member States.
2. Malaysia and Thailand are off course to achieve the WHA stunting reduction target.
3. Lao People's Democratic Republic (27%), Myanmar (23%) and Philippines (20%) are off course to achieve MDG target 1c by 2025 with regard to underweight reduction.
4. Acute Malnutrition is a huge unfinished agenda for the majority of ASEAN Member States, with 5.4 million children estimated to be wasted. Wasting is above the threshold of public health significance (5%) in 8 out of 10 ASEAN Member States (not Brunei Darussalam and Singapore).
5. Approximately 36% of pregnant women are anaemic in ASEAN. Furthermore, 38% of children 6–59 months, which is equivalent to 21.4 million children, are also anaemic. Anaemia is still a moderate or severe public health problem in all Member States and greater efforts are needed to reduce and eliminate the issue.
6. Some ASEAN Member States have exceptionally high rates of overweight/obesity in children under five, such as Indonesia (12%) and Thailand (11%). Overweight and obesity for children and adults are increasing in all ASEAN Member States.
7. The daily consumption of sodium in ASEAN Member States is about twice as high as the WHO recommendations. At least one in five adults are hypertensive in nine Member States. The growing use of processed foods, the higher frequency of meals and snacks eaten away from home and the addition of salt to homemade foods increase sodium intake.
8. Consumption of iodized salt is relatively low in ASEAN except in a couple of Member States (i.e. Thailand, Cambodia and Indonesia).
9. Exclusive breastfeeding is not very widespread in the ASEAN Member States (e.g. 12% in Thailand). On the other hand, early initiation of breastfeeding has increased significantly in many countries, such as Brunei Darussalam, Myanmar and Cambodia.
10. Successful vitamin A supplementation coverage is a likely contributor to the observed reductions in child mortality in some countries such as Viet Nam or Cambodia. However, coverage rates in other countries of the region are still not satisfactory, such as in Myanmar (56%).
11. High or severely high rates of vitamin A deficiency in some countries indicate that vitamin A is lacking in the daily diet of pre-schoolers, such as in Lao People's Democratic Republic (45%), Myanmar (37%), Cambodia (22%) and Indonesia (20%).
12. The percentage of pregnant women that consume Iron and Folic Acid (at least once) is more than 80% in all countries where data is available except in Lao People's Democratic Republic (52%).
13. Even if access to improved water sources significantly increased in all countries during the last two decades, regional disparities still exist within countries (e.g. Cambodia or Lao People's Democratic Republic).
14. With regard to the development and implementation of policies, maternity leave has been implemented in the majority of ASEAN Member States to varying degrees. As a good example, Viet Nam has established six months of maternity leave with full payment. In addition, the International Code of Marketing of Breast-milk Substitutes have been translated into national legislation or regulations in almost all ASEAN Member States. However, there is a need for more enforceable measures to be developed and implemented.

Girl eating lunch in a school in Phnom Penh, Cambodia.

Photo credit: ©WHO/2015/Engelhardt



Chapter 4:

THE GLOBAL CONTEXT: GOALS, TARGETS, INITIATIVES AND COMMITMENTS IN NUTRITION

Ending hunger and malnutrition is an essential prerequisite for sustainable development. Global attention to nutrition has never been greater than at present. The international nutrition community is more unified than ever before and has been successful in advocating for improved nutrition at the global, regional, national and local levels. Recognition that malnutrition takes different forms, including undernutrition, overweight and obesity, and that it requires concerted and multisectoral actions to solve current problems, has promoted a global resurgence in nutrition actions.

Nutrition goals are articulated in various global development frameworks, including the Millennium Development Goals¹⁹ and the Sustainable Development Goals,^{94 95} and a number of global initiatives, such as the SUN movement, aim to contribute to accelerating progress on undernutrition. This chapter provides an overview of the global context of goals, targets and initiatives in nutrition.

In terms of MDG 1 to halve hunger by 2015, only two of the ASEAN Member States with available data (i.e. Thailand and Viet Nam) had achieved the goal by mid-2015 and Malaysia was on track to achieve it by the end of 2015.^{19 96}

From 2016 to 2030, SDG 2 (End hunger, achieve food security and improved nutrition and promote sustainable agriculture), emphasizes the importance of considering nutrition goals and objectives together with food system functions.^{94 95}



Subgoal 2.1: “by 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round”.

Subgoal 2.2: “by 2030, end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons”.

⁹⁴ Sustainable Development Goals website (<https://sustainabledevelopment.un.org/>, accessed November 5, 2015).







⁹⁵ United Nations General Assembly (UNGA) Resolution 70/1 (2015). “Transforming our world: the 2030 Agenda for Sustainable Development” (http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E, accessed November 5, 2015).

⁹⁶ ESCAP/ADB/UNDP (2015). Make it Happen: technology, finance and statistics for sustainable development in Asia and the Pacific, Asia-Pacific Regional MDGs Report 2014/2015. Bangkok; Asian Development Bank, United Nations Economic and Social Commission for Asia and the Pacific and the United Nations Development Programme (<http://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/mdg/RBAP-RMDG-Report-2014-2015.pdf>, accessed November 2, 2015).

The SDGs reference the global nutrition targets endorsed by the World Health Assembly in 2012. As the world has moved from the MDGs to the SDGs and the post-2015 development agenda, accelerated actions by all ASEAN Member States to further improve and sustain nutrition security are essential.



Since nutrition requires a multisectoral response, we highlight in Annex 1 all linkages between the SDGs and nutrition (table adapted from UNSCN).

Countries have committed to achieving the six global nutrition targets by 2025.⁵¹ These targets were endorsed by WHO Member States at the World Health Assembly in 2012 and were articulated in the Comprehensive Implementation Plan for Maternal, Infant and Young Child Nutrition. The targets are vital for identifying priority areas for action and for aligning initiatives towards reduction of malnutrition by 2025.⁵¹ The global nutrition targets are as follows:

- 
Stunting
 TARGET: 40% reduction in the number of children under-5 who are stunted.
- 
Anaemia
 TARGET: 50% reduction of anaemia in women of reproductive age.
- 
Low birth weight
 TARGET: 30% reduction in low birth weight.
- 
Childhood overweight
 TARGET: No increase in childhood overweight.
- 
Breastfeeding
 TARGET: Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%.
- 
Wasting
 TARGET: Reduce and maintain childhood wasting to less than 5%.

As noted in Chapter 3, three of the ASEAN Member States with trend data (Cambodia, Philippines, Viet Nam) are on track for the stunting goal and only one Member State (Brunei Darussalam) is on track to meet the wasting target (Table 5).³⁵ Therefore, great efforts are still needed to achieve the goals and targets.

The WHO Global Action Plan for the Prevention and Control of Non-Communicable Diseases⁹⁷ includes two further nutrition-related goals that are extremely significant for the ASEAN region, based on its fast-rising prevalence of NCDs and obesity.

- 
 A **30%** relative reduction in mean population intake of salt/sodium.
- 
Halt the rise in diabetes and obesity.

The nutrition community has been united around these common objectives (i.e. the global nutrition targets and the Global Action Plan for NCDs), endorsed by the WHA in 2012 and 2011 through resolutions WHA65/6 and WHA64.11, respectively. The targets are voluntary and have been adopted globally as a benchmark for achieving better nutrition by 2025.⁵¹ ⁹⁷ Seven ASEAN Member States (also part of the WHO Western Pacific Region) endorsed resolution RC63.R2 “Scaling up Nutrition in the Western Pacific Region” at the WHO Regional Committee Meeting in 2012. This resolution urges countries to invest more in nutrition.⁹⁸

⁹⁷ WHO (2013). Global action plan for the prevention and control of noncommunicable diseases 2013–2020. Geneva, World Health Organization (<http://www.who.int/global-coordination-mechanism/publications/global-action-plan-ncds-eng.pdf>, accessed September 24, 2015).

⁹⁸ WHO Regional Committee for the Western Pacific resolution RC63.R2, “Scaling up Nutrition in the Western Pacific Region”, 2012 (http://www.wpro.who.int/about/regional_committee/63/resolutions/WPR_RC63_R2_Nutrition.pdf, accessed November 19, 2015).

Table 5: Status on five WHA indicators³⁵

Country	Stunting target progress	Overweight target progress	Wasting target progress	Exclusive breastfeeding target progress	Anaemia target progress
Brunei Darussalam	Data not available	Data not available	On course	Data not available	Off course
Cambodia	On course: good progress	On course: at risk	Off course	Off course: no progress	Off course
Indonesia	Off course: some progress	Off course: some progress	Off course	On course	Off course
Lao People's Democratic Republic	Off course: some progress	Off course: good progress	Off course	On course	Off course
Malaysia*	Off course: some progress	See footnote for detailed explanation*	See footnote for detailed explanation*	See footnote for detailed explanation*	Off course
Myanmar	Off course: some progress	On course: at risk	Off course	Data not available	Off course
Philippines	On course: good progress	On course: at risk	Off course	Data not available	Off course
Singapore*	Data not available	Data not available	Data not available	Data not available	Off course*
Thailand	Off course: no progress	Off course: no progress	Off course	Off course: some progress	Off course
Viet Nam	On course: good progress	On course: good progress	Off course	On course	On course

Note: Data based on modelled estimates (WHO's global targets tracking tool, available at <http://www.who.int/nutrition/trackingtool/en/>). "Off course" status is indicated in red, "off course with some progress" is indicated in orange and "on course" is indicated in green. Data not available is indicated in white. The year when data was gathered can be obtained in the 2015 Global Nutrition Report or WHO's global targets tracking tool.³⁵

* Notes from Member States: Singapore was unable to verify the estimates. Malaysia's latest national survey estimates for stunting, wasting, overweight and exclusive breastfeeding are being made available to the global tracking tool and will be included in the next update. Malaysia noted that, based on NHMS 2015 (data not yet included in the global WHO/UNICEF/World Bank joint monitoring estimates 2015 database), the prevalence of overweight among under-five children was 7.1%, the prevalence of anaemia in women of reproductive age was 21.7%, and the prevalence of wasting among under-five children was 8%. Moreover, in Malaysia, government clinic surveillance data on EBF (collected using an indicator and methodology which are different from the standard WHO ones) indicate a positive trend since 2010; nationally representative survey data (NHMS 2006) estimated 14.5% exclusive breastfeeding.

In order to achieve these targets, action in multiple sectors is required. The multisectoral nature of determinants of nutrition status has been clearly articulated through the 1990 conceptual framework for malnutrition²⁴ and subsequent iterations developed by ASEAN/UNICEF/WHO, which describe the immediate, underlying and basic causes of malnutrition (see chapter 2). However, it is only in recent years that greater attention has been given to the importance of concurrent policy coherence and multisectoral and multi-stakeholder coordination for nutrition-specific and nutrition-sensitive actions, as highlighted in the 2008 and 2013 Lancet Series on Maternal and Child Nutrition.^{99, 100}

Based on this information, the UNICEF Strategic approach and implementation guidance to nutrition programming in the UNICEF East Asia and Pacific Region articulates a set of packages of nutrition interventions for different contexts, taking into account the changing nutrition policy environment and emerging challenges.²³ The recommended essential packages include a core package for maternal and child malnutrition, a package for nutrition in emergencies and a water and sanitation package. The optional packages for context-specific implementation cover child wasting, child and/or maternal overweight and obesity, teenage pregnancy and food insecurity.

⁹⁹ The Lancet (2008). Series on maternal and child undernutrition (<http://www.thelancet.com/series/maternal-and-child-undernutrition>, accessed September 24, 2015).

¹⁰⁰ The Lancet (2013). Series on maternal and child nutrition (<http://www.thelancet.com/series/maternal-and-child-nutrition>, accessed September 24, 2015).



The Action Plan to Reduce the Double Burden of Malnutrition (2015–2020) has been drafted and approved at the Regional Committee Meeting in 2014, in consultation with WHO Member States in the Western Pacific Region. Twenty proposed actions, aligned with global and regional commitments, are summarized into five objectives, namely: 1) elevating nutrition in the national development agenda; 2) protecting, promoting and supporting optimal breastfeeding and complementary feeding practices; 3) strengthening and enforcing legal frameworks that protect, promote and support healthy diets; 4) improving accessibility, quality and implementation of nutrition services across public health programmes and settings; and 5) using financing mechanisms to reinforce healthy diets.¹⁰¹

Multi-stakeholder platforms, movements and initiatives led by the United Nations System and the countries themselves have re-energized the global approach to tackling malnutrition. A major contributor is the SUN movement, which was founded in 2010 on the principle that all people have a right to food and good nutrition.¹⁰²



The SUN movement has provided a framework for countries to focus on the critical first 1000 days after conception, which constitutes a “window of opportunity” to improve the nutrition status of children.¹⁰² The SUN movement allows countries to establish their own goals in order to address immediate and underlying causes of malnutrition and to meet the global nutrition targets established by WHO. It has been endorsed by more than a hundred entities, including 55 national governments (as of October 2015), the United

Nations system, civil society organizations, development agencies, academia, philanthropic bodies and the private sector. It provides structured frameworks for countries to take stock of their situation, develop common results and monitoring frameworks, establish multisectoral and multi-stakeholder governance systems (including high-level multisectoral government committees and fora, as well as the United Nations system, civil society and business networks) and mobilize resources. Six ASEAN Member States (Cambodia, Indonesia, Lao People’s Democratic Republic, Myanmar, the Philippines and Viet Nam) signalled their political commitment to nutrition by joining SUN between 2011 and 2014.



Another initiative is the Zero Hunger Challenge, launched by the United Nations Secretary General, which is a global call to action to end hunger, including achieving zero stunted

children less than 2 years of age by 2030, which is one of the five pillars that otherwise mainly relate to food and agriculture.¹⁰³ Within this framework, a variety of stakeholders (governments, the United Nations system, civil society, private sector, consumer groups and the scientific community) have committed to work together to succeed in achieving those goals. Four ASEAN Member States (Cambodia, Lao People’s Democratic Republic, Myanmar and Viet Nam) launched the Zero Hunger Challenge in 2014–2015.

¹⁰¹ WHO (2014). Action plan to reduce the double burden of malnutrition in the Western Pacific Region (2015-2020). WHO Regional Office for the Western Pacific (<http://iris.wpro.who.int/handle/10665.1/10892>, accessed November 18, 2015).

¹⁰² Scaling Up Nutrition: A Framework For Action (http://scalingupnutrition.org/wp-content/uploads/pdf/SUN_Framework.pdf, accessed November 2, 2015).

¹⁰³ The Zero Hunger Challenge (<http://www.un.org/en/zerohunger/challenge.shtml>, accessed November 2, 2015).

In addition, Member States endorsed, through WHA resolution WHA68.19, the Rome Declaration on Nutrition and the Framework for Action, which are the outcomes of the Second International Conference on Nutrition (ICN2)¹⁰⁴ in 2014. During this conference, world leaders committed to establishing and strengthening national policies aimed at eradicating malnutrition in all its forms by making diversified and healthy diets available to all through the transformation of food systems. The Framework of Action focuses on achieving synergies between food systems and health across the entire lifecycle, as well as political and policy coherence and coordination across all sectors to achieve the global nutrition targets.

NUTRITION FOR GROWTH

Beating hunger through business and science

Lastly, the Global Nutrition for Growth Compact of 2013¹⁰⁵ is a set of individual commitments that was endorsed by 90 stakeholders to beat hunger and improve nutrition with the following targets to be achieved by 2020:

- Improving the nutrition of 500 million pregnant women and young children
- Reducing the number of children under 5 who are stunted by an additional 20 million
- Saving the lives of at least 1.7 million children by preventing stunting, increasing breastfeeding, and improving treatment of severe and acute malnutrition

A 2014–2015 country progress review of the Nutrition for Growth commitments was carried out for some countries (including Indonesia) through the 2015 Global Nutrition Report.¹⁰⁶



With regard to the United Nations system, an interagency partnership called “REACH” was established in 2008 between the Food and Agriculture Organisation (FAO), the International Fund For Agricultural Development (IFAD), UNICEF, the World Food Programme (WFP) and WHO.¹⁰⁷ It aims to provide better joint and coherent support to the government. Its goal is to deliver a coordinated approach to good governance and institutional capacity-building that ensures more effective and coherent food and nutrition action. REACH is currently operating in one ASEAN Member State, Myanmar, and previously operated in Lao People’s Democratic Republic from 2008 to 2011. The REACH secretariat has recently been tasked with strengthening the United Nations Network for Nutrition, one of the SUN networks, in all SUN countries.



In addition, the United Nations Global Nutrition Agenda (UNGNA)¹⁰⁸ has recently been developed and endorsed by the United Nations agencies that have a key mandate in nutrition, namely FAO, IFAD, UNICEF, WFP and WHO. UNGNA provides a broad framework for aligning the work of United Nations agencies in support of global and national nutrition goals.

These are just some examples of platforms and initiatives with substantial convening power among the institutions that are aiming to improve nutrition for all. These platforms focus on multisectoral coherence at all levels (system, organisational, workforce and community levels) to formulate nutrition strategies and achieve the global nutrition targets. The different platforms have been key in achieving this unprecedented momentum for nutrition in global, regional and national fora. At this juncture, it is critical that these platforms and initiatives align more strongly to drive the nutrition agenda forwards in a coherent and harmonized manner. These multisectoral platforms, frameworks and actions should provide effective coordination mechanisms to achieve SDG 2 and other nutrition-relevant SDGs.

¹⁰⁴ Second International Conference on Nutrition Rome, 19-21 November 2014. Conference Outcome Document: Framework for Action. From commitments to action (<http://www.fao.org/3/a-mm215e.pdf>, accessed November 2, 2015).

¹⁰⁵ Global Nutrition for Growth Compact (2013) (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/248760/Endorserscompact_update7_10_2013.pdf, accessed November 2, 2015).

¹⁰⁶ Country progress: Nutrition for Growth tracking table. Global Nutrition Report 2015 (<http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/129605/filename/129816.pdf>, accessed November 2, 2015).

¹⁰⁷ REACH partnership (<http://www.reachpartnership.org/>, accessed November 2, 2015).

¹⁰⁸ United Nations Global Nutrition Agenda (<http://scalingupnutrition.org/wp-content/uploads/2015/06/UN-Global-Nutrition-Agenda-2015.pdf>, accessed November 2, 2015).

Even as countries focus on priority areas to achieve nutrition security, new challenges have emerged across the globe, including the ASEAN region. Climate change and natural disasters, rapid population growth, urbanization and migration, inadequate agricultural productivity, trade issues, the double burden of malnutrition and food safety constitute current challenges that need to be taken into account to ensure acceleration, and not regression, of progress on nutrition (see chapter 7). In order to mitigate the potential negative effects of some of these global changes, many ASEAN Member States, often supported by development partners, are putting their efforts into building resilience among vulnerable communities and systems. One such approach to strengthening food security is the Strategic Plan of Action on Food Security in the ASEAN Region 2015–2020, which addresses topics such as food markets, sustainable food production and food security information systems.¹⁰⁹

Building on the achievements, but also on the unfinished agenda of the MDGs, governments and other stakeholders are attempting to identify and agree on the best manner in which ASEAN Member States could build stronger momentum toward achieving the SDGs and global nutrition targets. For that, greater attention should be paid to coordination of multisectoral approaches, incorporation of nutrition-specific and nutrition-sensitive strategies, strong nutrition governance, more equitable coverage of nutrition interventions that encompasses vulnerable regions and populations, enhanced capacity and timely monitoring, analysis and use of data. Some of the Member State case studies included at the end of this document are innovative examples of such efforts. All Member States have committed to continue their efforts to end all forms of malnutrition, by accelerating their progress towards achieving the SDGs and the global targets for nutrition.

Key messages chapter 4:

1. Nutrition goals are articulated in various global development frameworks, including the Millennium Development Goals and the Sustainable Development Goals.
2. A number of global initiatives, such as the SUN movement, the Zero Hunger Challenge, the Rome Declaration on Nutrition and the Framework for Action, the 2013 Global Nutrition for Growth Compact and REACH aim to contribute to accelerating progress on nutrition.
3. Six global nutrition targets (stunting, anaemia, low-birth-weight, childhood overweight and breastfeeding) to be achieved by 2025 were endorsed by WHO Member States at the World Health Assembly in 2012.
4. The WHO Global Action Plan for the Prevention and Control of Non-Communicable Diseases includes two further nutrition-related goals that are extremely significant for the ASEAN region: 30% reduction of salt/sodium intake and halting the rise in diabetes and obesity.
5. Multisectoral approaches (further described in chapter 4) that incorporate nutrition-specific and nutrition-sensitive strategies, strong nutrition governance, more equitable coverage of nutrition interventions for vulnerable regions and populations, enhanced capacity and timely monitoring, analysis and use of data, are increasingly important to address the double burden of malnutrition.

¹⁰⁹ ASEAN Integrated food security (AIFS) framework and Strategic plan of action on food security in the ASEAN region (SPA-FS) 2015-2020 ([http://www.asean.org/images/Community/AEC/AMAF/OtherDocuments/AIFS%20FRAMEWORK%20SPA%20\(2015-2020-Endorsed\).pdf](http://www.asean.org/images/Community/AEC/AMAF/OtherDocuments/AIFS%20FRAMEWORK%20SPA%20(2015-2020-Endorsed).pdf), accessed November 1, 2015).



Children from Ban Nai Rai School enjoy safe drinking water, Ban Nai Rai Village, Phang Nga, Thailand.

Photo credit: ©UNICEF/UNI105765/Mohan



Man selling pineapple in the streets of Hanoi, Viet Nam.

Photo credit: ©UNICEF Viet Nam/2011/Schmit Michele

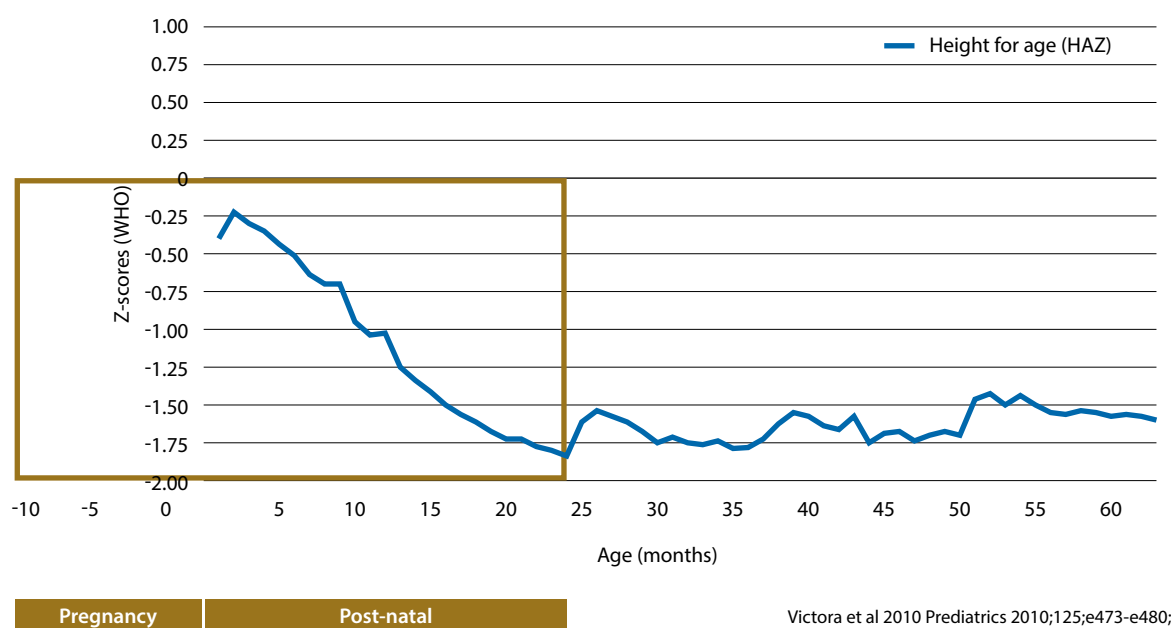
Chapter 5: EVIDENCE-BASED NUTRITION ACTIONS TO TACKLE MALNUTRITION AND BUILD A HEALTHY FOOD ENVIRONMENT

A large body of evidence for nutrition improvement and impact has been provided by the 2008 Lancet Series on Maternal and Child Undernutrition⁹⁹ and the 2013 Lancet Series on Maternal and Child Nutrition,¹⁰⁰ building momentum for nutrition. Improving nutrition throughout the life-course requires effective interventions to address the immediate causes of malnutrition, such as inadequate and/or inappropriate dietary intake and infectious diseases, as well as the underlying causes. It should be noted, however, that the first 1000 days of a child's life from conception through the first two years are the most crucial period for preventing the lifelong effects of undernutrition, particularly stunting (see Figure 22). This period of time is also known as the “window of opportunity”.



Nanai, a 'cadre' (volunteer community health worker), chats with Sujilah, who is breastfeeding her 5-day-old infant in a room of the family's home, in Dukuh Village in Central Java Province, Indonesia.

Photo credit: ©UNICEF/UNI152364/Ferguson

Figure 22: The window of opportunity: pregnancy to 2 years of age

Note: Figure adapted from Victora et al.¹¹⁰ for the UNICEF EAPRO Approach to Nutrition Programming in the East Asia and Pacific Region.¹⁹ Blue line displays height for age, and it represents the mean anthropometric z scores for all 54 studies reviewed in this publication, relative to the WHO standard (1–59 months). This figure shows that height for age starts close to the standard and falters dramatically until 24 months. Therefore, it is important that nutrition interventions are focused on the first 1000 days of life, from pregnancy (9 months) until the second year of life (24 months).

A number of evidence-based effective nutrition actions have been recommended^{111 112} to address the persistent challenge of undernutrition, as well as the increasing challenge of overweight, obesity and diet-related NCDs. Protection, promotion and support of optimal breastfeeding and complementary feeding practices are critical early interventions to address all forms of malnutrition, protecting children from the harms of undernutrition as well as from overweight, obesity and NCDs later in life.^{75 113} This is followed by ensuring nutritious and healthy diets of optimum quantity and quality. In addition, interventions that promote physical activity are important to support the prevention and control of overweight, obesity and NCDs.

Interventions to improve nutrition can be classified into nutrition-specific actions and nutrition-sensitive actions. Evidence on the effectiveness of nutrition-specific and nutrition-sensitive interventions is compiled by WHO in its electronic Library of Evidence for Nutrition Actions (eLENA).¹¹⁴

¹¹⁰ Victora CG, de Onis M, Hallal PC, Blossner M, Shrimpton R (2010). Worldwide timing of growth faltering: revisiting implications for interventions. *Pediatrics*, vol.125 no. 3.

¹¹¹ Bhutta ZA, Das JK, Rizvi A, Gaffey MF et al. (2013). Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? *Lancet*; 382: 452–77. The Lancet (2013) Series on Maternal and Child Nutrition.

¹¹² Ruel MR, Alderman H, and the Maternal and Child Nutrition Study Group (2013). Nutrition-sensitive interventions and programmes: how can they help to accelerate progress in improving maternal and child nutrition? *Lancet*; 382: 536–51. The Lancet (2013) Series on Maternal and Child Nutrition.

¹¹³ WHO (2014). Exclusive breastfeeding to reduce the risk of childhood overweight and obesity: Biological, behavioural and contextual rationale. Geneva; World Health Organization (http://www.who.int/elena/bbc/breastfeeding_childhood_obesity/en/, accessed January 12, 2016).

¹¹⁴ eLENA (<http://www.who.int/elena/about/en/>)

Nutrition-specific actions (Box 1) address the immediate determinants of malnutrition, including fetal and child nutrition and development, and/or the nutritional status of older children and adults (adequate food and nutrient intake, feeding, caregiving and parenting practices, and burden of infectious disease).

Nutrition-sensitive actions (Box 2) address the underlying determinants of malnutrition and development, and/or the nutritional status of older children and adults (food security; adequate resources at the individual- (especially maternal and caregiver), household- and community levels; access to health services and a safe and hygienic environment; access to information about healthy food choices) and incorporate specific nutrition goals and actions. Nutrition-sensitive programmes can be used as delivery platforms for nutrition-specific interventions, which can increase their scale, coverage and effectiveness.¹¹²

Box 1: Nutrition-specific actions¹¹²

Nutrition-specific actions

1. Strengthening of nutrition literacy through social marketing, counselling, education (knowledge and skills to diversify diets and being empowered to make informed healthy decisions, including complementary foods)
2. Counselling, education and screening specifically to women of reproductive age, pregnant and lactating women (to improve adolescent, preconception and maternal health)
3. Promotion and support of optimal IYCF (breastfeeding and complementary feeding practices)
4. Dietary supplementation for eligible children, pregnant women and lactating women
5. Prevention and management of micronutrient deficiencies through supplementation, home fortification interventions and/or delayed cord clamping
6. Food fortification (with vitamins and minerals, as necessary), and food reformulation [salt, sugar and fat reduction in processed foods]
7. Deworming or control of parasitic infections in children and pregnant women
8. Prevention and management of moderate and SAM
9. Disease prevention and management (including infectious diseases, obesity and diet-related NCDs)
10. Promotion and facilitation of physical activity

Box 2: Nutrition-sensitive actions

Nutrition-sensitive actions

1. Promotion of nutrition-sensitive agriculture to ensure food security and the availability and access to diversified food
2. Implementation of the International Code of Marketing of Breast-milk Substitutes and Maternity Protection
3. Improvement of access and retention of girls in primary and secondary education
4. Ensuring early child development interventions (including stimulation and early learning, parenting education, protection)
5. Empowerment of women and promotion of gender equality
6. Implementation of multisectoral interventions to end early marriage and reduce teenage pregnancy (legal protection, education, communication, health)
7. Provision of services to protect and promote maternal mental health
8. Provision of social protection
9. Strengthening health systems (including universal health coverage)
10. Improvement of access to safe drinking-water and sanitation and strengthened hygiene practices
11. Implementation of measures to protect and empower consumers (including nutrition labelling, front of pack labelling, and the restriction of marketing of unhealthy foods and non-alcoholic beverages to children)
12. Implementation of fiscal measures (including taxation of unhealthy foods and non-alcoholic beverages and subsidies for healthier options)
13. Tobacco control and air pollution reduction
14. Poverty reduction

Based on existing evidence, it is undeniable that an essential package of nutrition-specific and nutrition-sensitive interventions needs to be implemented and scaled up “as a package” in order to address all forms of malnutrition. The complementarity between nutrition-specific and nutrition-sensitive interventions needs to be taken into account. For example, interventions to promote the consumption of healthy diets can consist of both nutrition-specific and nutrition sensitive interventions. Nutrition-sensitive interventions to improve the diet of the population most importantly consist of agricultural interventions to increase and incentivize the production and sale of diversified and nutrient-rich foods, including fruits and vegetables, animal source foods and legumes. Furthermore, nutrition-sensitive interventions include consumer protection and empowerment (through the provision of adequate food and nutrition labelling and the restriction of marketing of food and non-alcoholic beverages to children), implementation of fiscal measures (taxation and subsidies) to reduce for example the purchase of unhealthy foods, and implementation of trade policies to reduce the importation of unhealthy foods, for example. On the other hand, nutrition-specific interventions to improve the diet of the population consist of the promotion of optimum nutrition practices (through strategies such as education, counselling or communication), by promoting the increased consumption of fruit and vegetables and the reduced consumption of free sugars, salt and fats, promoting optimum breastfeeding, promoting optimum complementary feeding or promoting dietary diversification.

In order to promote healthy diets and encourage physical exercise, there is a need for governments to formulate and promote national policies, strategies and action plans. It is recommended that governments set up a national multisectoral coordinating mechanism that addresses all forms of malnutrition to prevent undernutrition, overweight, obesity and diet-related NCDs. Comprehensive and multisectoral action plans are crucial to ensure programme effectiveness. National strategies, policies and action plans to promote healthy diets require effective legislation, appropriate infrastructure, implementation programmes, adequate funding, monitoring and evaluation, and research.

Nutrition-specific actions

1. Strengthening of nutrition literacy through social marketing, counselling, education to promote diversified, balanced and healthy diets

Education is a determinant of health and evidence shows that populations with poor levels of education have a higher chance of being malnourished. Increasing the knowledge and skills to make healthy decisions to grow, purchase and prepare foods for oneself and the family is a key nutrition-specific intervention. Counselling on optimal infant and young child feeding practices has a positive impact on childcare and feeding practices. Evidence-informed public campaigns and social marketing initiatives inform and encourage consumers about healthy dietary practices. One of the “best buys” for the prevention and control of NCDs include mass media campaigns. This includes the provision of information to the general public through many channels, such as settings-based education, public relations events, social and mass media. WHO has developed several tools that can serve as guides to promote healthy diets.^{71 101 115} The WHO Global Strategy on Diet, Physical Activity and Health identifies social marketing, education, counselling, communication and public awareness campaigns as important.^{72 63} Messages for social marketing, nutrition education and counselling should promote a diversified, balanced and healthy diet.

A diversified, balanced and healthy diet throughout the life-course helps prevent malnutrition, including a range of NCDs, as stated over a decade ago in the joint WHO/FAO expert report on Diet, Nutrition and the Prevention of Chronic Diseases Diet, Nutrition and the Prevention of Chronic Diseases.¹¹⁶ The increased production of processed foods, rapid urbanization, and changing lifestyles have led to a shift in dietary patterns. People of all ages are now consuming more foods high in energy, fats, free sugars or salt/sodium, and are often not consuming enough fruit, vegetables and dietary fibre, such as whole grains. A diversified, balanced and healthy diet is important from the moment complementary feeding starts at six months of age. This can be measured through indicators such as Minimum Acceptable Diet, Minimum Meal Frequency and Minimum Dietary Diversity (see indicators in Annex 2). Evidence shows that consumption of a minimum acceptable diet with dietary diversity reduces the risk of the child of becoming stunted and underweight.¹¹⁷

¹¹⁵ Dietary guidelines on schools meals. WHO/WPRO (e.g. Brunei Darussalam, Philippines)

¹¹⁶ Nishida C, Uauy R, Kumanyika S and Shetty P (2004). The Joint WHO/FAO Expert Consultation on diet, nutrition and the prevention of chronic diseases: process, product and policy implications. *Public Health Nutrition*: 7(1A), 245–250 (http://www.who.int/nutrition/publications/public_health_nut9.pdf, accessed January 12, 2016).

¹¹⁷ Marriott BP, White A, Hadden L, Davies JC, Wallingford JC (2012). World Health Organization (WHO) infant and young child feeding indicators: associations with growth measures in 14 low-income countries. *Matern Child Nutr* 2012; 8: 354–70.

At the global level, many countries have already developed dietary guidelines¹¹⁸ as well as guidelines to promote healthy eating and physical activity.¹¹⁹ Some ASEAN Member States have also developed food guidelines, such as Indonesia,¹²⁰ Malaysia,¹²¹ Philippines,¹²² Singapore¹²³ and Thailand,¹²⁴ or just dietary pyramids, such as Viet Nam.¹²⁵ Member States are implementing settings-based approaches through which messages are disseminated, such as healthy workplace nutrition, healthy workplace catering (Singapore) or healthy school meals (Singapore, Viet Nam). Health promotion foundations or boards like MySihat in Malaysia, ThaiHealth in Thailand and the Singapore Health Promotion Board often take the lead in developing population-based social marketing activities.

The definition of a diversified, balanced and healthy diet varies between individuals and depends on factors such as age, gender, lifestyle, degree of physical activity, cultural context, locally available foods and dietary beliefs and customs. However, the basic principles of healthy diet remain the same.

Key messages to promote diversified, balanced and healthy diets include messages on the increasing the consumption of fruits and vegetables, and reducing the consumption of sugar, salt and fat.¹²⁶

Increasing fruit and vegetable consumption: Fruits and vegetables are important components of a healthy diet and reduced consumption of these foods is linked to malnutrition and diet-related NCDs, affecting both high-, middle- and low-income countries and population groups. Interventions to increase fruit and vegetable consumption to more than 400 grams per day, including locally available traditional foods, are recognized as important efforts to address the double burden of malnutrition.¹²⁷

Reducing consumption of free sugars, including sugary drinks: Sugar consumption, and in particular sugar-sweetened beverages, is high in many ASEAN Member States and indicates the high prevalence of poor diets. Sugar-sweetened beverages contain added free sugars in large amounts, providing high energy content without the added value of other nutrients or the satiety provided by solid foods of the same energy density. Increasing public awareness of the health benefits of reducing the consumption of free sugars to less than 10% of total energy intake is recognized as an important component of a comprehensive strategy to promote good nutrition throughout the lifecycle and to reduce the risk of overweight, obesity and dental caries. This is equivalent to about 50 grams (12 teaspoons) for a 2000 kcal diet, including not only added sugars, but all intrinsic sugars except lactose. A further reduction in the intake of free sugars to below 5% of total energy intake provides additional health benefits (25 grams/6 teaspoons).¹²⁸

¹¹⁸ FAO. Food-based dietary guidelines (<http://www.fao.org/nutrition/nutrition-education/food-dietary-guidelines/en/>, accessed December 8, 2015).

¹¹⁹ CDC. Promoting Health Eating and Physical Activity for a Healthier Nation. Centers for Disease Control (<http://www.cdc.gov/healthyyouth/publications/pdf/pp-ch7.pdf>, accessed January 12, 2016).

¹²⁰ Direktorat Jenderal Pembinaan Kesehatan Masyarakat (1995). 13 pesan dasar gizi seimbang (13 basic balance diet messages). Departemen Kesehatan Republik Indonesia.

¹²¹ National Coordinating Committee on Food and Nutrition, Ministry of Health, Malaysia (2010). Malaysian dietary guidelines (<http://www.moh.gov.my/index.php/pages/view/370>, accessed December 8, 2015).

¹²² Regional Development Council, Government of the Philippines (2012). Revised Nutritional Guidelines for Filipinos.

¹²³ Government of Singapore (2003). Dietary guidelines for adult Singaporeans (<http://www.hpb.gov.sg/HOPPortal/health-article/2758>, accessed December 8, 2015).

¹²⁴ Ministry of Public Health, Government of Thailand (2007). Food Based Dietary Guideline for Thai. Second edition (<http://www.fao.org/3/a-as887e.pdf>, accessed December 8, 2015).

¹²⁵ Government of Viet Nam (2010). Vietnamese Food Pyramid 2010-2020 (<http://www.fao.org/3/a-as981o.pdf>, accessed December 8, 2015).

¹²⁶ WHO. Healthy Diet factsheet (<http://www.who.int/mediacentre/factsheets/fs394/en/>, accessed January 15, 2016).

¹²⁷ WHO. Increasing fruit and vegetable consumption to reduce the risk of noncommunicable diseases. WHO e-Library of Evidence for Nutrition Actions (eLENA), updated 17 August 2015 (http://www.who.int/elena/titles/fruit_vegetables_ncds/en/, accessed September 2, 2015).

¹²⁸ WHO. Reducing consumption of sugar-sweetened beverages to reduce the risk of childhood overweight and obesity. WHO e-Library of Evidence for Nutrition Actions (eLENA), updated 17 August 2015 (http://www.who.int/elena/titles/ssbs_childhood_obesity/en/, accessed September 2, 2015).

Reducing consumption of sodium: Most people in ASEAN Member States consume too much sodium through salt. High salt consumption (more than 5 g/day) and insufficient potassium intake (less than 3.5 g/day) contribute to high blood pressure, which in turn increases the risk of heart disease and stroke. Salt reduction is considered one of the most cost-effective strategies to reduce the burden of NCDs, especially cardiovascular diseases.^{86 129} The Global NCD target of a 30% reduction of population salt intake aims to achieve five grams of salt or less per day by 2025, which is equivalent to two grams of sodium.⁵¹ Promotion of salt iodization should not be used to justify promotion of salt intake to the public. Consumers need to be made aware of the hidden salt in processed foods, including cheese, bread and instant noodles. Viet Nam, for example, recently initiated a salt reduction strategy with a strong focus on communication and raising public awareness. Furthermore, consumers should also be made aware of the importance of increasing potassium, which can mitigate the negative effects of elevated sodium consumption on blood pressure. Potassium intake can be increased with consumption of more fresh fruits and vegetables.

Reducing consumption of fats: WHO recommends that fat intake should be reduced to 30% of the total energy intake. In addition, while saturated fats should be reduced to less than 10% of total energy intake, trans-fats should not exceed 1% of total energy intake. Both saturated and trans-fats should be substituted by unsaturated fats.^{51 72}

2. Counselling, education and screening specifically to women of reproductive age, pregnant and lactating women (to improve adolescent, preconception and maternal health)

Adolescent and preconception health and nutrition care have been shown to have a positive effect on a range of health and nutrition outcomes, such as the prevention of premature birth and low birth weight, the prevention of stunting and wasting, and reduced risk of developing diabetes and cardiovascular diseases. The areas usually addressed by the preconception care packages are screening of anaemia and diabetes, supplementation with iron and folic acid, information, education and counselling on nutrition issues, monitoring of nutritional status, supplementation with energy- and nutrient-dense foods in case of undernutrition, healthy school meal policies, management of diabetes, including counselling people with diabetes mellitus and obesity, promotion of exercise and iodization of salt.¹³⁰

Increasing access and utilization of quality health services, particularly those provided by skilled health workers, is a priority. Moreover, it has been recommended to space pregnancies at an interval of at least 24 months in order to reduce the risk of adverse maternal, perinatal and infant outcomes, including low birth weight.¹³¹ Early pregnancy among adolescents should be avoided due to the many adverse consequences for both sets of children: the child mother and her infant.

In addition to iron-folate supplementation and deworming during pregnancy (see above), the nutrition status of pregnant women should be regularly checked (MUAC, weight gain) and nutrition counselling should be provided. Pregnant women with MUAC less than 185 mm should receive therapeutic feeding.^{132 133}

¹²⁹ WHO (2010). WHO Western Pacific Regional Office (WPRO) – Regional consultation on strategies to reduce salt intake. Geneva; World Health Organization (http://www.wpro.who.int/noncommunicable_diseases/documents/RCStratReduce_Salt_Intake/en/index.html, accessed November 1, 2015).

¹³⁰ WHO (2013). Policy brief: Preconception care: Maximizing the gains for maternal and child health. Geneva, World Health Organization (http://www.who.int/maternal_child_adolescent/documents/preconception_care_policy_brief.pdf, accessed January 12, 2016).

¹³¹ WHO (2005). Report of a WHO Technical Consultation on Birth Spacing. Geneva, World Health Organization (http://www.who.int/maternal_child_adolescent/documents/birth_spacing.pdf, accessed 21 October 2015).

¹³² UNICEF (2015). Management of severe acute malnutrition in children: working towards results at scale. UNICEF programme guidance document. New York; UNICEF.

¹³³ The Harmonised Training Package (HTP): Resource Material for Training on Nutrition in Emergencies, Version 2 (2011). Nutrition Works, Emergency Nutrition Network, Global Nutrition Cluster. Module 13: Management of Severe Acute Malnutrition (<http://www.enonline.net/htpv2module13>, accessed January 12, 2016).

3. Promotion and support of optimal IYCF (breastfeeding and complementary feeding practices)

3.1 Promotion and support of optimal breastfeeding

Early initiation of breastfeeding is the first protective measure against all forms of malnutrition. Birthing facilities should ensure that newborns are placed in skin-to-skin contact with their mothers immediately after birth, and breastfed within the first hour after birth.^{29 75 134 135} Health-care systems should institutionalize the criteria for baby-friendly hospitals and be free from conflicts of interest. For mothers who deliver their babies at home – still a significant proportion of births in Lao People's Democratic Republic (62%), Myanmar (64%), the Philippines (45%), Cambodia (39%) and Indonesia (37%)¹³⁶ – outreach and skilled community-based breastfeeding support for newborns need to be assured. Mothers should be supported through primary health care and community-based mechanisms so that they can receive adequate information concerning the benefits of exclusively breastfeeding their babies for the first six months, since it protects children from death and diseases, protects mothers from certain types of cancer (breast and ovarian), helps to build a strong bond between the mother and the child and saves money when compared to the consumption of BMS.^{137 138} Exclusive breastfeeding is key during the first six months of life, followed by a period from six months up to two years of age or beyond of breastfeeding accompanied by nutritionally adequate and safe complementary foods.⁷⁵ Ensuring that mothers are empowered and able to breastfeed includes three dimensions for action, as summarized in Box 3. However, protection of breastfeeding (including creating environments which enable and support breastfeeding) is a nutrition-sensitive intervention and is therefore explained later in this chapter.

3.2 Support for and promotion of optimal complementary feeding practices

Complementary feeding is the process of introducing age-appropriate, adequate, and safe solid or semi-solid food to the diet of the child with continued breastfeeding when she/he reaches the age of six months, when breast milk or BMS alone is no longer sufficient to meet the full nutritional requirements of an infant.^{75 134 135} However, breast milk remains an important source of nutrients and continues to provide protection from disease until two years or beyond.



Baby Veronica Bernadesti is breastfed by her mother on the steps of their home, in coastal Vatumilo Village on Flores Island in East Nusa Tenggara Province, Indonesia.

Photo credit: ©UNICEF/UNI45709/Estey

¹³⁴ UNICEF (2011). Programming guide on infant and young child feeding. New York; UNICEF (http://www.unicef.org/nutrition/files/Final_IYCF_programming_guide_2011.pdf, accessed November 15, 2015).

¹³⁵ WHO (2013). Essential Nutrition Actions: Improving maternal, newborn, infant and young child health and nutrition. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/84409/1/9789241505550_eng.pdf, accessed January 12, 2016).

¹³⁶ UNICEF (2015). State of the World's Children (SOWC) Country Statistical Tables. New York; UNICEF (http://www.unicef.org/statistics/index_countrystats.html, accessed November 4, 2015).

¹³⁷ WHO/UNICEF (1989). Protecting, promoting and supporting breastfeeding: the special role of maternity services. Geneva; World Health Organization.

¹³⁸ Binns CW1, Lee MK (2014). Exclusive breastfeeding for six months: the WHO six months recommendation in the Asia Pacific Region. *Asia Pac J Clin Nutr.* 23(3):344-50.

Complementary foods must fully meet the child's nutritional needs not provided by breast milk or BMS (energy, protein and fats as well as vitamins and minerals) and be prepared with attention to good hygiene and proper food handling practices, including use of safe water and handwashing with soap. The complementary feeding period (six months up to two years or beyond) corresponds to the period when children are most vulnerable to developing stunting and wasting. A large percentage of children may not receive safe and appropriate foods at the right age, may not be fed often enough in a day and/or may receive a diet of poor nutritional quality and low diversity. This period is also when taste preferences and healthy eating habits are formed, which creates a unique opportunity to promote healthy dietary habits for life. Special attention is needed for counselling and support for appropriate feeding of low-birth-weight infants. Interventions that have proven to be effective in improving complementary feeding are shown in Box 4.

Box 3: Dimensions for action with regard to breastfeeding protection, promotion and support

1. Promoting breastfeeding entails the implementation of communication strategies for behaviour and social change, by targeting mothers, families and communities, using multiple channels and conducting advocacy and social mobilization that target influential people at the national, provincial and local levels. While contextualized behaviour change is a process for addressing knowledge, attitudes and practices regarding breastfeeding, social change is a process of addressing prevalent social norms and transforming the distribution of power within social and political institutions, leading to increased support for breastfeeding.
2. Supporting breastfeeding involves:
 - Institutionalizing capacity development for health providers on sound breastfeeding practices (including pre-service curriculum reform and in-service training).
 - Providing professional breastfeeding support and counselling services for breastfeeding along the continuum of care (from pregnancy to two years) in all relevant health care services, including strengthening the health sector to enable health-care services to promote early initiation of breastfeeding¹³⁹ and to institutionalize the Baby-friendly Hospital Initiative.
 - Training and supporting community workers to counsel and support mothers and families.
 - Facilitating mother support groups for breastfeeding.
3. Protecting breastfeeding encompasses measures such as:
 - Developing, enacting, enforcing and monitoring national legislation to restrict the marketing of infant feeding products, in accordance with the International Code of Marketing of BMS¹⁴⁰ and subsequent relevant World Health Assembly Resolutions.¹⁴¹
 - Promoting and implementing breastfeeding policies at the workplace and other supportive laws and policies, ensuring that national maternity protection legislation includes, at a minimum, the recommended standards of the International Labour Organization Maternity Protection Convention Number 183 (2000),¹⁴² while aiming for six months of maternity leave to enable exclusive breastfeeding.
4. Creating appropriate and safe infant care and stimulation infrastructures for mothers working in the informal sector and agriculture.

¹³⁹ WHO/UNICEF (2014). Every newborn: an action plan to end preventable deaths. South Africa, World Health Organization (http://apps.who.int/iris/bitstream/10665/127938/1/9789241507448_eng.pdf?ua=1, accessed January 12, 2016).

¹⁴⁰ WHO (1981). International Code of Marketing of Breast-milk Substitutes. Geneva: World Health Organization.

¹⁴¹ World Health Assembly resolutions regarding International Code of Marketing of BMS: WHA45.34, WHA43.30, WHA35.26, WHA34.34, WHA34.22, WHA27.43 (http://www.who.int/nutrition/topics/wha_nutrition_ycn/en/, accessed November 2, 2015).

¹⁴² ILO (2000). Maternity Protection Convention 2000 (No. 183). Convention concerning the revision of the Maternity Protection Convention (Revised), 1952. Geneva: International Labour Organization.

Box 4: Interventions shown to improve complementary feeding¹³⁵

1. Education and counselling support for the promotion of appropriate complementary feeding practices at the household level, health-care facilities and at the community level
2. Promoting dietary diversification and maximizing the utilization of locally produced foods
3. Providing supplements, including foods fortified with minerals and vitamins, MNPs that are added to the child's meals and lipid-based nutrient supplements (LNS), where locally available foods alone will not satisfy nutritional requirements, depending on the context and needs
4. Promoting integration of the health and agriculture sectors to ensure adequacy of diets
5. Child nutrition-sensitive social protection schemes
6. Private sector marketing of healthy, nutritious foods
7. Restrictions on inappropriate marketing of complementary foods, unhealthy foods and beverages

The appropriate mix of complementary feeding interventions must be determined based on a thorough analysis of the local situation, with special attention to the most vulnerable groups. UNICEF's programming guide on IYCF¹³⁴ proposes a decision tree for determining an appropriate mix of interventions for a range of situations based on assessment of food consumption patterns and feeding practices, availability and affordability of nutritious complementary foods. In many settings in ASEAN Member States, availability and access to adequate nutritious foods for young children may not be major issues for most groups, but poor feeding practices and inadequate knowledge represent the major challenges; these can be addressed through counselling and communication efforts. However, some vulnerable groups may face challenges of availability or access to these foods (see chapter 3) and counselling and communication efforts alone may not result in improvements in complementary feeding indicators.

4. Dietary supplementation for children, pregnant women and lactating women, as necessary

Poverty, food insecurity (seasonal or continuous), and emergency often lead to poor access to nutritious foods, resulting in suboptimal diets. Such diets can be poor in high-quality protein, micronutrients, macronutrients and/or essential fatty acids.¹⁴³ Supplementary foods are specialized fortified foods that have been designed to improve the nutrient intake of specific populations, with special emphasis on the first 1000 days of life (i.e. children, pregnant women and lactating women). They are also utilized as a tool to prevent worsening of the specific population's health and nutritional status. There is evidence that feeding programmes for young children in low- and middle-income countries can be effective in preventing malnutrition, although leakage to unintended beneficiaries or leakage due to intra-household sharing are commonly found in many food supplementation programs.¹⁴⁴

Individuals are often selected through anthropometric measurements, especially when the supplementary feeding is targeted and aims to treat small children, or pregnant and lactating women who are already suffering from malnutrition, such as acute malnutrition (see further below in this chapter). However,

¹⁴³ De Pee S and Bloem MW (2009). Current and potential role of specially formulated foods and food supplements for preventing malnutrition among 6- to 23-month-old children and for treating moderate malnutrition among 6- to 59-month-old children. *Food Nutr Bull.* (3 Suppl): S434-63.

¹⁴⁴ Kristjansson E, Francis DK et al. (2015). Food supplementation for improving the physical and psychosocial health of socio-economically disadvantaged children aged three months to five years. *Cochrane Database Syst Rev* 5;3.

supplementary feeding can also be preventive.¹⁴⁵ In this case, nutritious foods can be provided to children under two or to pregnant and lactating women in targeted areas of elevated levels of food insecurity and undernutrition, and where entire groups of individuals are vulnerable and at risk of undernutrition. This type of blanket feeding programme can be implemented at the onset of an emergency or in periods of severe food shortage (e.g. lean season).¹⁴⁶

A number of specialized nutritious foods have been developed, such as fortified blended foods (blends of cereals, soya, beans and pulses that are partially precooked and milled, fortified with micronutrients), commercial infant cereals, and ready-to-use foods (e.g. pastes, compressed bars, high-energy biscuits). Such ready-to-use supplementary, specialized foods should be provided during circumstances of food shortage/insecurity, and only to adequately identified vulnerable families, if locally produced foods are unavailable.

5. Prevention and management of micronutrient deficiencies through supplementation, home fortification and/or delayed cord clamping

Globally, micronutrient deficiencies constitute a serious public health problem, with more than 2 billion people estimated to be affected.¹⁴⁷ The most vulnerable populations are children 6–59 months old and pregnant and lactating women, since they have higher micronutrient needs than other population groups. Micronutrient deficiencies can have a genetic component, but they mostly occur because of the lack of access to foods rich in micronutrients, such as fruit, vegetables, animal products and fortified foods.

Vitamins and minerals play a fundamental role in the immune system, growth and organ development. Micronutrient deficiencies can be due to insufficient dietary intake, insufficient absorption and/or suboptimal utilization of vitamins or minerals.²³ The most common and critical micronutrient deficiencies in ASEAN Member States are folic acid, iron, iodine, zinc and vitamin A.

To allow cognitive development and prevent negative short- and long-term health consequences, it is essential that micronutrient deficiencies are treated and prevented as soon as they are identified. Guidelines to control micronutrient deficiencies according to age, gender and physiological status exist. For example, for iron-deficiency anaemia, which is one of the most common deficiencies, a schedule for using iron supplements is available.¹⁴⁸

Specific guidelines also exist for the treatment of specific diseases. For example, zinc supplementation during a period of 10 to 14 days is currently recommended for diarrhoea treatment.¹⁴⁹ In addition, vitamin A supplementation is recommended to treat childhood illnesses.^{150 151}

Interventions such as micronutrient supplementation, home fortification and delayed cord clamping are further explained as follows:

¹⁴⁵ Ruel M, Menon P, Habicht JP, Loechl C, et al. (2008). Age-based preventive targeting of food assistance and behavior change and communication for reduction of childhood undernutrition in Haiti: a cluster randomized trial. *The Lancet*, 371 (9612): 588-595.

¹⁴⁶ Defourny I, Minetti A, Harczy G, Doyon S, et al. (2009). A large-scale distribution of milk-based fortified spreads: evidence for a new approach in regions with high burden of acute malnutrition. *Plos ONE* 4(5): e5455.

¹⁴⁷ WHO/WFP/UNICEF (2007). Preventing and controlling micronutrient deficiencies in populations affected by an emergency. Joint statement by the World Health Organization, the World Food Programme and the United Nations Children's Fund (http://www.who.int/nutrition/publications/WHO_WFP_UNICEFstatement.pdf, accessed December 8, 2015).

¹⁴⁸ WHO/UNU/UNICEF (2001). Iron deficiency anaemia. Assessment, prevention and control. A guide for programme managers. Geneva; World Health Organization (WHO/NHD/01.3) (http://www.who.int/nutrition/publications/en/ida_assessment_prevention_control.pdf, accessed December 8, 2015).

¹⁴⁹ WHO/UNICEF/USAID/Johns Hopkins Bloomberg School of Public Health (2006). Implementing the new recommendations on the clinical management of diarrhea. Guidelines for policy makers and programme managers. Geneva; World Health Organization (http://apps.who.int/iris/bitstream/10665/43456/1/9241594217_eng.pdf, accessed January 12, 2016).

¹⁵⁰ WHO/UNICEF/IVACG Task Force (1997). Vitamin A supplements: a guide to their use in the treatment and prevention of vitamin A deficiency and xerophthalmia. Second edition. Geneva; World Health Organization (<http://whqlibdoc.who.int/publications/1997/9241545062.pdf>, accessed October 21, 2015).

¹⁵¹ Treating measles in children (2004). Geneva, World Health Organization (WHO/EPI/TRAM/97.02) (http://www.who.int/immunization/programmes_systems/interventions/TreatingMeaslesENG300.pdf, accessed 21 October 2015).

5.1 Micronutrient supplementation

Vitamin A supplementation: vitamin A deficiency (VAD) can lead to xerophthalmia, keratomalacia and different forms of blindness. Pregnant and lactating women and young children are most vulnerable to vitamin A deficiencies, as they have higher nutrient requirements. Where vitamin A deficiency is a public health problem, supplementation is recommended to all preschool-age children, with priority given to infants and children 6–59 months.¹⁵² Regions at greatest risk of VAD, xerophthalmia and blindness should be prioritized.⁴⁰ In absence of VAD data, countries or regions where the prevalence of malnutrition is high and where under-five mortality rate is higher than 50 should be prioritized, since it would imply there is most likely a high prevalence of VAD.¹⁵³

Iron and folic acid supplementation: iron and folic acid deficiencies can lead to anaemia (see Box 5).¹³ After six months of age, the iron content of breast milk is not sufficient to meet an infants' full nutritional requirements and complementary feeding is essential to provide the necessary iron. In settings where the prevalence of anaemia in children approximately one year of age is above 40%,¹⁵⁴ or the diet does not include enough foods fortified with iron, WHO recommends that iron should be supplemented to all children between 6 and 23 months of age.^{13 40 61} This is best provided through MNPs for home fortification of complementary foods (see below).¹⁵⁵ Moreover, folic acid deficiency in pregnant women can lead to neural tube defects. Therefore, daily supplementation with iron and folic acid should be provided for women during pregnancy.¹⁵⁶ Additionally, intermittent iron and folic acid supplementation is recommended for menstruating women living in settings where anaemia is highly prevalent.⁴⁰ It is possible to significantly reduce the prevalence of iron deficiency with iron supplementation or food fortification. However, pregnant women cannot obtain sufficient iron intake from fortified foods alone and need supplementation. Other underlying causes of anaemia, including infection and genetic blood disorders, also need to be taken into account and treated, in addition to iron supplementation.

Box 5: Actions recommended by WHO to further contribute to the reduction of anaemia¹³

1. Improve the identification, measurement and understanding of anaemia among women of reproductive age and scale up coverage of prevention and treatment activities
2. Create partnerships between state and non-state actors for financial commitment, and a supportive environment for the implementation of comprehensive food policies for nutrition-specific and nutrition-sensitive actions that facilitate prevention and control of anaemia in women of reproductive age
3. Ensure development policies and programmes beyond the health sector include nutrition as well as other major causes of anaemia relevant to the country context, specifically the agriculture and education sectors
4. Monitor and evaluate the implementation of anaemia control programmes

¹⁵² WHO (2011). Guideline: Vitamin A supplementation in infants and children 6–59 months of age. Geneva; World Health Organization.

¹⁵³ Schultink W (2002). Use of under-five mortality rate as an indicator for vitamin A deficiency in a population. *J Nutr.* 139 (9 Suppl).

¹⁵⁴ WHO (2015). The global prevalence of anaemia in 2011. Geneva: World Health Organization (http://apps.who.int/iris/bitstream/10665/177094/1/9789241564960_eng.pdf?ua=1&ua=1, accessed November 19, 2015).

¹⁵⁵ WHO (2011). Guideline: Use of multiple micronutrient powders for home fortification of foods consumed by infants and children 6–23 months of age. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/44651/1/9789241502047_eng.pdf, accessed November 19, 2015).

¹⁵⁶ WHO (2012). Guideline: Daily iron and folic acid supplementation in pregnant women. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/77770/1/9789241501996_eng.pdf?ua=1, accessed November 19, 2015).

Iodine supplementation: Iodine deficiency causes a number of disorders such as poor growth, impaired cognitive development, low urinary iodine excretion, poor cognitive function and goitre, and might also lead to permanent severe cognitive disability and death. Iodine deficiency can be prevented by continuous consumption of small quantities of iodine. Salt has been identified as one of the best vehicles to deliver iodine to the population, as everyone consumes salt. Therefore, USI is recommended at the global level to prevent and control Iodine Deficiency Disorders (IDD).¹⁵⁷ For those countries where less than 20% of households have access to iodized salt, iodine supplementation for young children, pregnant and lactating women is recommended until USI programmes are implemented at scale.¹⁵⁸

Zinc supplementation: Zinc deficiency is also associated to impaired growth, diarrhoea, increased risk of gastrointestinal infections, adverse effects on the structure and function of the gastrointestinal tract, and impaired immune function.¹⁵⁹ Zinc is a crucial micronutrient during the period of complementary feeding, and supplements in the form of MNPs may be provided where diets lack diversity and where stunting rates are high.

5.2 Home fortification

Home fortification of foods is an effective intervention to improve the iron status and reduce iron-deficiency anaemia and other micronutrient deficiencies among children. The use of MNPs containing (at least) iron, vitamin A and zinc is recommended for home fortification to reduce anaemia and micronutrient deficiencies among children 6–23 months of age,¹⁵⁵ as part of a broader national IYCF strategy.⁷⁵ Standard formulations of MNP sachets include five or 15 vitamins and minerals, depending on the necessities or the context. All MNP supplementation programmes should include a behaviour change communication strategy to ensure that caregivers use MNPs adequately. In malaria-endemic areas, the provision of iron should be implemented in conjunction with measures to prevent, diagnose and treat malaria.

5.3 Delayed cord clamping

Optimal umbilical cord clamping is an effective intervention for the prevention of iron deficiency anaemia in infants, and of particular relevance in disadvantaged areas that lack access to iron-rich foods. It should be carried out not earlier than one minute after birth, as is recommended for improved maternal and infant health and nutrition outcomes – this allows blood flow between the placenta and neonate to continue after birth until cord pulsation has ceased, which may improve iron status in the infant for up to six months after birth.¹⁶⁰

All of the above interventions should be fully institutionalized within the health systems of the countries and sustainably financed to ensure universal access.

¹⁵⁷ Aburto N, Abudou M, Candeias V, Wu T (2014). Effect and safety of salt iodization to prevent iodine deficiency disorders: a systematic review with meta-analyses. WHO eLibrary of Evidence for Nutrition Actions (eLENA). Geneva: World Health Organization (http://apps.who.int/iris/bitstream/10665/148175/1/9789241508285_eng.pdf?ua=1, accessed January 12, 2016).

¹⁵⁸ WHO/UNICEF. Reaching optimal iodine nutrition in pregnant and lactating women and young children. Joint Statement by the World Health Organization and the United Nations Children's Fund. Geneva: World Health Organization; 2007 (http://www.who.int/nutrition/publications/WHOStatement_IDD_pregnancy.pdf, accessed November 19, 2015).

¹⁵⁹ Castillo-Duran C, Heresi G, Fisberg M, Uauy R (1987). Controlled trial of zinc supplementation during recovery from malnutrition: effects on growth and immune function. *American Journal of Clinical Nutrition* 45(3):602–8.

¹⁶⁰ WHO. Optimal timing of cord clamping for the prevention of iron deficiency anaemia in infants. WHO e-Library of Evidence for Nutrition Actions (eLENA), updated 17 August 2015 (http://www.who.int/elena/titles/cord_clamping/en/, accessed September 2, 2015).

6. Food fortification [with micronutrients] and reformulation [salt, sugar and fat reduction in processed foods]

6.1 Large-scale food fortification

Food fortification is the addition of micronutrients to foods as a preventive measure to improve micronutrient consumption. The foods most commonly fortified are salt, wheat flour, maize flour and rice (which is consumed by approximately half of the population worldwide). Some ASEAN Member States also fortify fish sauce, soy sauce, salt brine, milk or vegetable oil. For a food fortification programme to be effective, the choice of food to be fortified will depend on whether the industrially-produced food is regularly consumed by a large proportion of the population. In addition, the choice of nutrient to add should be based on the nutritional needs of the population. Such programmes are most effective if implemented via national mandatory regulations.^{161 162 163} It should be noted, however, that the most vulnerable groups, such as pregnant women and children under two years, are often unable to receive sufficient micronutrients through fortified foods alone and require supplements or home fortification with micronutrients.

Universal Salt Iodization (USI): As previously mentioned in this chapter, USI refers to the fortification of all food-grade salt with iodine, both for domestic use and/or for use on the food processing industry. USI is a safe and effective strategy for the prevention and control of IDD.^{164 165} As mentioned in chapter 3, more advocacy needs to be carried out to ensure that ASEAN Member States with low coverage of iodized salt or high coverage of inadequately iodized salt improve and expand their programmes to achieve USI and that those countries with good coverage of adequately iodized salt sustain their results.^{166 167} It should be noted, however, that strategies for the reduction of salt are fully compatible with universal salt iodization.⁸⁶ In order to integrate salt reduction and iodine fortification programmes, it is necessary to integrate a number of key areas at the global and national levels: policy development, communication and advocacy, monitoring and surveillance and research.⁸⁶

Rice, wheat flour and maize flour fortification: Fortification of industrially processed wheat and maize flour is an effective, simple and inexpensive strategy that ensures provision of minerals and vitamins to a large portion of the population. Rice fortification is still not widely implemented but constitutes a major opportunity to reach vulnerable populations in regions of the world where rice is harvested and consumed and at the same time where the biggest burden of micronutrient deficiencies is, such as South East Asia.¹⁶⁸ A thorough landscape and feasibility analysis needs to be undertaken to determine the best approach to introducing rice fortification. For many ASEAN Member States where the rice industry remains unconsolidated, fortification of rice provided through social safety nets and school meals may represent the best initial opportunity.²³

¹⁶¹ WHO (2009). Recommendations on wheat and maize flour fortification: meeting report - interim consensus statement. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/111837/1/WHO_NMH_NHD_MNM_09.1_eng.pdf?ua=1&ua=1, accessed November 19, 2015).

¹⁶² WHO (2015). Fortification of wheat and maize flours (http://www.who.int/elena/titles/flour_fortification/en/, accessed September 2, 2015).

¹⁶³ WHO (2015). Fortification of rice (http://www.who.int/elena/titles/rice_fortification/en/, accessed September 2, 2015).

¹⁶⁴ WHO (2015). Iodization of salt for the prevention and control of iodine deficiency disorders (http://www.who.int/elena/titles/salt_iodization/en/, accessed September 2, 2015).

¹⁶⁵ WHO (2014). Guideline: Fortification of food-grade salt with iodine for the prevention and control of iodine deficiency disorders (http://apps.who.int/iris/bitstream/10665/136908/1/9789241507929_eng.pdf, accessed November 19, 2015).

¹⁶⁶ UNICEF (2008). Sustainable elimination of iodine deficiency: progress since the 1990 World Summit for Children. New York; UNICEF ([http://www.unicef.org/iran/Sustainable_Elimination_of_Iodine_Deficiency_053008\(1\).pdf](http://www.unicef.org/iran/Sustainable_Elimination_of_Iodine_Deficiency_053008(1).pdf), accessed November 19, 2015).

¹⁶⁷ Iodine Global Network (<http://ign.org/index.cfm>, accessed November 2, 2015).

¹⁶⁸ WFP (2015). Scaling up rice fortification in Asia. World Food Programme. Sight and Life.

6.2 Reformulation of processed foods

Food product reformulation is an approach to providing a healthier food supply and preventing and controlling NCDs. Reformulation of processed foods to decrease their sodium and sugar, eliminate trans-fats and reduce saturated fats, has significant potential to improve population health. Experience to date suggests that government regulation plays an important role in making clear the policy objectives of product reformulation, and in setting standards and targets.¹⁶⁹ Guidance for the food industry is also increasingly available.¹⁷⁰

7. Prevention and management of Moderate and Severe Acute Malnutrition

As explained in chapter 2, acute malnutrition is a major public health problem and is classified into SAM and MAM.

7.1 Management of SAM

A child with SAM faces a 12-fold increased risk of death, and SAM causes around 12% of all child deaths.⁶ In infants 0–6 months old, SAM is defined by a very low weight for height (below -3 z scores of the median WHO growth standards, referred to as “WHZ”) or by the presence of bilateral pitting oedema. In children aged 6–59 months, in addition to WHZ and oedema, a very low mid-upper arm circumference (less than 115 mm) is also indicative of SAM.^{5 6 7 17 171 172 173} Children with wasting are more likely to become stunted. It can also affect various developmental processes that may predispose affected children to chronic disease later in life and cause cognitive deficits. SAM is classified as a disease in the International Classification of Disease (ICD-10)⁴ and as such, its treatment should be routinely implemented through health systems in ASEAN Member States as for any other disease that affects the population.

Integrated Management of Acute Malnutrition, a term which in many instances is used equivalently to Community-Based Management of Acute Malnutrition (CMAM), has been shown to be the most effective and preferable approach to manage severe acute malnutrition.⁷ IMAM is divided into four components: inpatient care for complicated cases, outpatient care for uncomplicated cases, management of MAM cases where applicable, and community-based screening, follow-up and mobilization (Figure 23). For children diagnosed with SAM who have medical complications, severe oedema or no appetite, interventions should include in-patient care following existing clinical guidelines.¹⁷⁴ For SAM children who still have an appetite and have no medical complications, outpatient care is recommended, accompanied by regular visits to a health centre.¹⁷¹ Outpatient care includes the use of safe, energy-dense foods with the right balance of vitamins and minerals, such as Ready-to-Use Therapeutic Foods (RUTF).^{78 171} Active case finding of wasted infants and young children should be conducted so that they can be adequately treated and followed up. National actions should also ensure that protocols for IMAM are updated and include strong community-based components, which enable broader coverage and are more cost-effective.^{171 175} The management of SAM should be fully integrated

¹⁶⁹ WHO (2014). Policy brief: producing and promoting more food products consistent with a healthy diet. Geneva; World Health Organization (<http://www.who.int/nmh/ncd-coordination-mechanism/Policybrief32.pdf>, accessed January 12, 2016).

¹⁷⁰ CTAC (2009). Reformulation of products to reduce sodium: salt reduction guide for the food industry. Quebec, CTAC (<http://www.foodtechcanada.ca/siteimages/Salt%20reduction%20guide%20for%20the%20food%20industry.pdf>, accessed January 15, 2016).

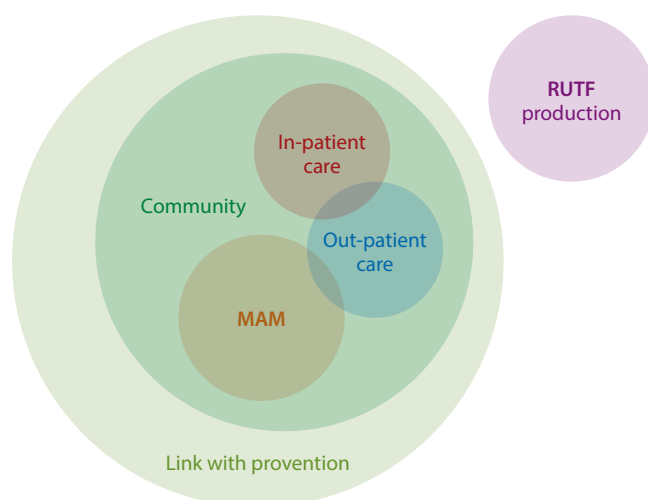
¹⁷¹ WHO/WFP/UNSCN/UNICEF (2007). Community-based management of severe acute malnutrition: a Joint Statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children’s Fund (http://www.who.int/nutrition/topics/Statement_community_based_man_sev_acute_mal_eng.pdf, accessed November 19, 2015).

¹⁷² WHO (2015). Identification of severe acute malnutrition in infants under 6 months of age. Geneva, World Health Organization (http://www.who.int/elena/titles/sam_identification_infants/en/, accessed September 2, 2015).

¹⁷³ WHO (2015). Identification of severe acute malnutrition in children 6–59 months of age. Geneva, World Health Organization (http://www.who.int/elena/titles/sam_identification/en/, accessed September 2, 2015).

¹⁷⁴ WHO (2013). Guideline: updates on the management of severe acute malnutrition in infants and children. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/95584/1/9789241506328_eng.pdf, accessed November 19, 2015).

¹⁷⁵ Bhutta ZA et al. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? *Lancet* 2013; 382: 452–77.

Figure 23. Integrated Management of Acute Malnutrition

Note: This figure illustrates the links between the four different components of IMAM, as well as the link with prevention. Source of this figure is: UNICEF (2015). Management of Severe Acute Malnutrition in children: Working towards results at scale. UNICEF Programme Guidance Document.⁷

in all building blocks of the health system and should be sustainably financed as part of the regular government health budget. Interventions to tackle SAM should include preventive measures, such as improving access to an adequate diet, nutrition education and promotion, optimal breastfeeding and complementary feeding, access to health care for infectious illnesses and access to safe drinking-water and sanitation systems.

7.2 Management of Moderate Acute Malnutrition

MAM in children is defined by a low weight for height (between -3 and -2 z-scores of the median of the WHO child growth standards) or MUAC between 115 and 125 mm without oedema.^{3 16 135} Interventions to manage and prevent MAM in children include breastfeeding promotion, nutrition counselling and other activities that identify and prevent the underlying causes of undernutrition, as well as interventions to improve access to health care and improve food security, such as social protection programmes (cash transfers), support to family farming and crop diversification.^{176 177} Children 6–59 months of age with MAM need to receive nutrient-dense foods to meet their extra needs for weight and height gain, and their diets should be based on locally available foods.^{135 178 179 180} In some cases – for example during and after emergencies – children suffering from MAM may also need to receive supplementary foods.^{16 181 182}

¹⁷⁶ WHO (2012). Technical note: supplementary foods for the management of moderate acute malnutrition in infants and children 6–59 months of age. Geneva; World Health Organization (http://apps.who.int/iris/bitstream/10665/75836/1/9789241504423_eng.pdf?ua=1&ua=1, accessed November 19, 2015).

¹⁷⁷ Jimenez M, Stone-Jimenez M (2014). Preventing Moderate Acute Malnutrition (MAM) through nutrition-specific interventions. CMAM Forum Technical Brief (<http://files.enonline.net/attachments/2290/Nutrition-specific-MAM-prevention-CMAM-Forum-Technical-Brief-Sept-2014-.pdf>, accessed November 19, 2015).

¹⁷⁸ Mucha N (2014). Preventing Moderate Acute Malnutrition (MAM) through nutrition-sensitive interventions. CMAM Forum Technical Brief (<http://www.cmamforum.org/Pool/Resources/Nutrition-Sensitive-MAM-Prevention-CMAM-Forum-Dec-2014.pdf>, accessed January 12, 2016).

¹⁷⁹ Annan RA, Webb P, Brown R (2014). Management of Moderate Acute Malnutrition (MAM): Current knowledge and practice. CMAM Forum Technical Brief (<http://www.cmamforum.org/Pool/Resources/MAM-management-CMAM-Forum-Technical-Brief-Sept-2014.pdf>, accessed January 12, 2016).

¹⁸⁰ Webb P (2014). Standards of evidence for research on ‘what works’ in the management of MAM. CMAM Forum (<http://files.enonline.net/attachments/2292/Standards-of-evidence-for-research-on-MAM-CMAM-Forum-Oct2014.pdf>, accessed January 12, 2016).

¹⁸¹ Examples of supplementary foods include SuperCereal Plus, Plumpy Nut and other Ready to Use Supplementary Foods (RUSFs).

¹⁸² The Harmonised Training Package (HTP): Resource Material for Training on Nutrition in Emergencies, Version 2 (2011). Nutrition Works, Emergency Nutrition Network, Global Nutrition Cluster. Module 12: Management of Moderate Acute Malnutrition (<http://www.enonline.net/htpv2module12>, accessed January 12, 2016).

Box 6. A number of actions have been identified to further contribute to the reduction of wasting (SAM and MAM)³

1. Improve the identification, measurement and understanding of wasting and scale up coverage of services for the identification and treatment of wasting.
2. Develop improved methods and linkages for identification and treatment of wasting, both within the health sector and cross-sectorally.
3. Rapidly develop evidence for effective prevention strategies to reduce the burden of wasting, which can then be translated into policy actions.
4. Encourage and commission research to better understand the links between wasting and stunting, to ensure maximum impact is realized from the current investments in nutrition programming.
5. Encourage the increase of long-term funding for the prevention and treatment of wasting.

8. Deworming or control of parasitic infections in children and pregnant women

It has been long known that parasitic infections often lead to malnutrition.^{183 184} The periodic treatment with deworming medication without previous individual diagnosis is an effective intervention to reduce morbidity and nutrition-related risks for at-risk populations (preschool- and school-aged children and women of reproductive age and pregnant women) living in endemic areas. It should be accompanied by education on health and WASH.¹⁸⁵

9. Disease prevention and management (including infectious diseases, overweight, obesity)

9.1 Management and prevention of infectious diseases

Health and nutrition have an interdependent relationship. Poor nutrition compromises the immune system and increases vulnerability to infectious disease. At the same time, frequent illness can weaken a person's nutrition status. Public health interventions that prevent and control infectious illness (e.g. provision of vaccinations and medicines) are therefore crucial to addressing malnutrition in all its forms.

9.2 Management and prevention of overweight and obesity

Nutrition-specific action, such as promoting exclusive breastfeeding for six months and introduction of suitable complementary food for young children, are interventions common to addressing both undernutrition and overweight/obesity and certain NCDs. Promotion of balanced, diversified and healthy eating habits by increasing consumption of fruits and vegetables and reducing consumption of free sugars, salt and fats is the central message, as described above. There are various channels through which this message can be promoted, including at individual level (through counselling of healthy weight through the health system), in settings (e.g. through schools and workplaces) and at population level (e.g. national social marketing campaigns). Growth monitoring and assessments of BMI, starting at birth and in school settings, for example, could be promoted.

In addition to nutrition-specific actions, prevention of obesity and promotion of healthy weight require nutrition-sensitive actions, described further below.

¹⁸³ Scrimshaw N, Taylor C, Gordon J (1968). Interactions of nutrition and infection. Monograph series no. 37. Geneva, Switzerland: World Health Organization.

¹⁸⁴ Katona P, Katona-Apte Judit (2008). The Interaction between Nutrition and Infection. Clin Infect Dis. 46 (10): 1582-1588.

¹⁸⁵ WHO (2015). Deworming to combat the health and nutritional impact of helminth infections (<http://www.who.int/elena/titles/deworming/en/>, accessed 2 September 2015).

10. Promotion and facilitation of physical activity

Physical activity levels are dropping in many countries with major implications for the prevalence of NCDs and the general health of the population worldwide. WHO developed the “Global Recommendations on Physical Activity for Health” with the overall aim of providing national and regional level policy-makers with guidance on the dose-response relationship between the frequency, duration, intensity, type and total amount of physical activity needed for the prevention of NCDs.¹⁸⁶ In addition to encouraging physical activity at an individual level, safe environments must be available in which people can be physically active.

Nutrition-sensitive actions

1. Promotion of nutrition-sensitive agriculture to ensure food security and the availability and access of diversified food

Growth in the agricultural sector has contributed strongly to economic growth in Southeast Asia over the past several decades – yet improvements in nutrition have not kept pace. Nutrition-sensitive agriculture takes nutrition goals into account and can maximize outcomes for both maternal and child nutrition and agriculture.¹⁸⁷ These interventions include: a) supporting efforts to diversify the production of small farmers, increasing equitable access to resources for women and marginalized groups and improving dietary diversification; b) investing in agricultural research that promotes better nutrition; c) providing fiscal incentives for both production and consumption of a diverse diet; d) promoting healthy diets and including nutrition indicators in agricultural impact assessments; e) increasing production of nutrient-dense foods; f) reducing post-harvesting losses and improving processing, and g) reducing the seasonality of food insecurity.¹⁸⁸ Agriculture programmes have shown potential in improving access to healthy foods, increasing income and providing livelihood support, lowering food prices and promoting women’s empowerment.¹⁸⁹

2. Implementation of the International Code of Marketing of Breast-milk Substitutes and maternity protection

As explained in Box 3, the protection of breastfeeding should include a number of actions. First, there is a need for governments to prioritise the development, enforcement and monitoring of national legislation to restrict the marketing of infant feeding products, including infant formula, other milks, infant foods and bottles and teats, in accordance to the International Code of Marketing of BMS. Second, governments should ensure that maternity regulations are in place (in accordance with the International Labour Organization Maternity Protection Convention Number 183) that allow adequate maternity leave (aiming at six months with full salary payment) and paternity leave (as is the case in Singapore) and provision of nursing breaks after the return to work of the mother (see Table 4 in chapter 3). Third, the creation of appropriate and safe infant care and stimulation infrastructures for working mothers should be promoted, especially for those who work in the informal sector and agriculture.

¹⁸⁶ WHO (2010). Global recommendations on physical activity for health. Geneva; World Health Organization (http://apps.who.int/iris/bitstream/10665/44399/1/9789241599979_eng.pdf, accessed January 15, 2016).

¹⁸⁷ FAO (2013). Synthesis of guiding principles on agriculture programming for nutrition. Rome, Food and Agriculture Organization (http://www.fao.org/fileadmin/user_upload/wa_workshop/docs/Synthesis_of_Ag-Nutr_Guidance_FAO_IssuePaper_Draft.pdf, accessed November 3, 2015).

¹⁸⁸ FAO (2014). Making agriculture work for nutrition: Synthesis of guiding principles. Rome, Food and Agriculture Organization (<http://www.fao.org/docrep/017/aq194e/aq194e00.htm>, accessed November 3, 2015).

¹⁸⁹ World Bank (2013). Improving Nutrition Through Multisectoral Approaches. Washington DC, World Bank.

3. Improvement of access and retention of girls in primary and secondary education

Education and nutrition reinforce one another in a virtuous circle.¹⁹⁰ Well-nourished children are better able to achieve their academic potential.¹⁹¹ Early learning platforms provide an important opportunity for integrating nutrition interventions, as nutrition habits are formed early.¹⁹² At the same time, women with higher levels of education give birth later in life and are able to better understand and act on information, which can result in healthier and better-nourished children. In addition, interventions directed to school-age children, such as school feeding and healthy school meal programmes, can promote attendance to school through the provision of nutritious foods.^{23 100} It is also important to note that adequate physical activity and healthy diets should also be promoted in school.¹⁹³

4. Ensuring early child development interventions

Early child development (ECD) interventions are crucial to ensure that children receive adequate nutrition, care and opportunities to learn.¹⁹⁴ By providing healthy and diverse diets, access to health services, loving care and encouragement to learn in the early years of life, children will be able to be better nourished, healthier, do better at school and have higher earnings when they become adults.¹⁹⁵ It has been identified that combining nutrition interventions and ECD or stimulation interventions leads to greater benefits in children's cognition than nutrition interventions alone.¹⁹⁶ Consequently, when designing and planning ECD and nutrition interventions, there is a need to ensure greater integration.

5. Empowerment of women and promotion of gender equality

The importance of empowering women, families and communities increasing their control over maternal and newborn health is strongly emphasized by WHO.^{197 198 199} Gender inequality is associated with increased child malnutrition and it can be both a cause and an effect of malnutrition.²⁰⁰ In order to achieve better nutritional status for young children and their families in general, it is essential to address and improve women's access to resources, improve their ability to make independent decisions and increase their level of education. In addition, by empowering women, household food consumption can become more equal for the different members of the family. One of the challenges in the region with regard to women's rights and nutrition is their lack of voice with regard to marriage before the age of 18 and their lack of capacity to decide when to have their first child and how to space pregnancies. Pregnancy in young girls leads often to poor nutritional status, both for the pregnant girl and for her child. Having the capacity to space births is an indicator of women's empowerment and access to health services.²³ It is therefore necessary to continue advocating for the rights of young girls and women through the endorsement and enforcement of legislation that prohibits practices such as the marriage of young girls.

¹⁹⁰ UNICEF (2014). Multisectoral Approaches to Nutrition: the case for investment by education programmes. New York, UNICEF (http://www.unicef.org/eapro/Brief_Education_Nutrition.pdf, accessed November 2, 2015).

¹⁹¹ Jukes M, McGuire J, Method F and Sternberg R (2002). Nutrition and education. in nutrition: a foundation for development. Geneva, ACC/SCN (http://www.unscn.org/files/Publications/Briefs_on_Nutrition/Brief2_EN.pdf, accessed November 2, 2015).

¹⁹² UNICEF (2016). Early childhood development and nutrition toolkit. Bangkok, UNICEF EAPRO. Toolkit not yet available online. Contact UNICEF EAPRO's email address included in this document for more information.

¹⁹³ WHO (2010). Global recommendations on physical activity for health. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/44399/1/9789241599979_eng.pdf, accessed November 2, 2015).

¹⁹⁴ UNICEF. Early Childhood Resource Pack (http://www.unicef.org/earlychildhood/index_42890.html, accessed November 3, 2015).

¹⁹⁵ Save the Children. Malnutrition in Bangladesh. Harnessing social protection for the most vulnerable. Save the Children, 2015.

¹⁹⁶ Bundy D (2011). Rethinking school health: a key component of Education for All. Washington DC, World Bank.

¹⁹⁷ WHO (2010). Working with individuals, families and communities to improve maternal and newborn health. Geneva, World Health Organization (http://www.who.int/maternal_child_adolescent/documents/who_fch_rhr_0311/en/, accessed 21 October 2015).

¹⁹⁸ WHO (2013). Counseling for maternal and newborn health care. A handbook for building skills. Geneva, World Health Organization (http://www.who.int/maternal_child_adolescent/documents/9789241547628/en/, accessed 21 October 2015).

¹⁹⁹ WHO (2015). WHO recommendations on health promotion interventions for maternal and newborn health. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/172427/1/9789241508742_report_eng.pdf?ua=1, accessed November 18, 2015).

²⁰⁰ Mucha N (2012). Enabling and equipping women to improve nutrition. Briefing Paper no. 16. Bread for the World Institute. Washington D.C. (<http://thousanddays.org/wp-content/uploads/2013/03/Bread-briefing-paper-16.pdf>, accessed November 3, 2015).

6. Multisectoral interventions to end early marriage and reduce teenage pregnancy (legal protection, education, communication, health)

Early marriage, teenage pregnancy and early childbirth have negative effects on the health and nutritional status of the child and her mother. Girls aged 15–19 have twice the risk of maternal death compared to women in her 20s.²⁰¹ Moreover, babies born from teenage girls have a 50% higher risk of dying during labour or during the first week of life.²⁰²

The number of births to girls aged 15–19 years is relatively large in some ASEAN Member States such as Indonesia (552 916 births by 2011).²⁰³ Therefore, intersectoral interventions to prevent early marriage and teenage pregnancy are very valuable, targeting health centres, schools and communities as a whole.²⁰³ It is important to note that targeting strategies to reach adolescent girls need to go beyond secondary schools in order to be effective.

7. Provision of services to protect and promote maternal mental health

Poor nutrition and inadequate child development outcomes can be linked to maternal depression. Depressed mothers are sometimes unable to provide optimal care to their children or seek support. Therefore, interventions to improve maternal mental health after birth should be implemented and monitored.¹¹²

8. Provision of social protection

Social protection programmes are well positioned to improve nutrition because they target high-risk vulnerable populations, have the infrastructure to promote good nutrition and can stipulate conditions for beneficiaries.^{195 204} These conditions can include attendance of prenatal care for pregnant women and enrolment in other key nutrition-specific or nutrition-sensitive related services, such as school for children and nutrition education activities for caregivers, given that these services are available, accessible and of good quality. However, it has often been identified that the costs of administering such conditions outweigh the advantages of the programmes. As such, unconditional transfers are recommended. Nutrition components can still be integrated within the programmes, such as nutrition education and screening, behaviour communication and cross-referral between health services and social protection schemes.²⁰⁵ Cash transfer programmes should therefore integrate nutrition objectives and goals, as well as nutrition indicators, to monitor and assess effectiveness. Social protection programmes reduce vulnerability to food and nutrition insecurity, contribute to lower child mortality and promote access to healthier and more diversified diets.²⁰⁶

²⁰¹ Population Reference Bureau (2009). Family planning saves lives. 4th edition (<http://www.prb.org/pdf09/familyplanningsaveslives.pdf>, accessed January 12, 2016)

²⁰² WHO (2011). Preventing early pregnancy and poor reproductive outcomes among adolescents in developing countries: WHO guidelines. WHO, Geneva (http://www.who.int/immunization/hpv/target/preventing_early_pregnancy_and_poor_reproductive_outcomes_who_2006.pdf, accessed December 2015)

²⁰³ Dean SV, Imam AM, Lassi ZS, Bhutta ZA (2011). Systematic review of preconception risks and interventions. Aga Khan University (https://globalmotherchildresearch.tghn.org/site_media/media/articles/Preconception_Report.pdf, accessed January 12, 2016).

²⁰⁴ World Bank. Improving Nutrition through Multisectoral Approaches – Social Protection (2013) (http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/02/05/000356161_20130205130807/Rendered/PDF/751020WP0Impro00Box374299B00PUBLIC0.pdf, accessed November 3, 2015)

²⁰⁵ UNICEF. De Groot R, Palermo T, Handa S, Ragno LP and Peterman A (2015). Cash Transfers and Child Nutrition: What we know and what we need to know. Innocenti Working Paper No.2015-07. Florence, UNICEF Office of Research (http://www.unicef-irc.org/publications/pdf/Social%20protection%20and%20nutrition_layout.pdf, accessed November 3, 2015)

²⁰⁶ UNICEF. Multisectoral Approaches to Nutrition: nutrition-specific and nutrition-sensitive interventions to accelerate progress (http://www.unicef.org/eapro/Brief_Nutrition_Overview.pdf, accessed September 2, 2015)

9. Strengthening of health systems (including universal health coverage)

Health systems are vital to improving health and achieving global health targets, including the global nutrition and NCD targets, as well as the Sustainable Development Goals. Health systems have to be sustainable and resilient to meet current and future health needs. As has been shown throughout the document [the nutrition security report], the prevention and management of various forms of malnutrition require action through the health system. The health system is directly involved in providing essential nutrition services, including the management of SAM, as well as early essential newborn care, the promotion of breastfeeding and complementary feeding, growth monitoring and management of obesity or hypertension. The health system is also indirectly involved in providing services to manage and prevent infectious diseases that aggravate nutrition status.

The health system of some ASEAN Member States is still unable to address the burden of undernutrition, while diet-related noncommunicable diseases, overweight and obesity are starting to take a toll. WHO is supporting ASEAN Member States to strengthen their health systems. The Member States of the WHO Western Pacific Region have recently endorsed and committed to the universal health coverage framework: “Towards better health”.²⁰⁷ Universal health coverage can be seen as the overarching vision for stronger health systems, and it is one of the priorities of the ASEAN Health Sector in its ASEAN Post-2015 Health Development Agenda (2016-2020).

10. Improvement of access to safe drinking-water and sanitation and better hygiene practices

Based on the malnutrition conceptual framework explained in chapter 2, use of safe water, sanitation facilities and good hygiene can lead to positive nutrition-related outcomes, since it addresses both immediate and underlying causes of malnutrition.²⁰⁸ It has been estimated that a WASH coverage of 99% can lead to a relative reduction in stunting of 2.4% and a 30% reduction in the incidence of diarrhoea, which reduces the absorption of nutrients by the gut.²⁰⁹ Handwashing with soap is the most effective intervention in reducing diarrhoea, especially when implemented as part of a package of IYCF counselling.^{210 211} Safe disposal of faeces has also been linked to reduction in the incidence of diarrhoeal disease.²¹² Moreover, improved sanitation has been also linked with reduction of child diarrhoea by over 30%.^{23 211 213}

11. Implementation of measures to protect and empower consumers

The following measures to protect and empower consumers were endorsed by WHO Member States in the WHO Global Strategy on Diet, Physical Activity and Health, and through the Global Action Plan to Prevent and Control NCDs. Heads of States committed to these actions through the United Nations High Level Political Declaration on NCDs.

²⁰⁷ WHO (2015). Universal Health Coverage. Sixty-sixth session regional committee. Regional Office for the Western Pacific (WPR/RC66/6) (http://www.wpro.who.int/about/regional_committee/66/documents/wpr_rc66_06_uhc_7sep.pdf, accessed January 15, 2016).

²⁰⁸ WHO/UNICEF/USAID (2015). Improving nutrition outcomes with better water, sanitation and hygiene: practical solutions for policies and programmes. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/193991/1/9789241565103_eng.pdf, accessed November 24, 2015).

²⁰⁹ Bhutta ZA, Ahmed T, Black RE, Cousens S, et al (2008). What works? Interventions for maternal and child undernutrition and survival. *Lancet* 2; 371(9610):417-40. The Lancet 2008 Series on Maternal and Child undernutrition.

²¹⁰ Ejemot-Nwadiaro RI, Ehiri JE, Meremikwu MM, Critchley JA (2008). Hand washing for preventing diarrhoea. *Cochrane Database of Systematic Reviews*, Issue 1. Art. No.: CD004265.

²¹¹ Waddington H, Snilstveit B, White H, Fewtrell L (2009). Water, sanitation and hygiene interventions to combat childhood diarrhoea in developing countries: Systematic Review. International Initiative for Impact Evaluation (http://www.3ieimpact.org/media/filer_public/2012/05/07/17-2.pdf, accessed January 12, 2016).

²¹² Clasen TF, Bostoen K, Schmidt WFP, Boisson S, et al (2010). Interventions to improve disposal of human excreta for preventing diarrhoea. *Cochrane Database of Systematic Reviews* 16;(6):CD007180.

²¹³ Fewtrell L, Kaufmann RB, Kay D, Eanoria W, Haller L, Colford JM (2005). Water, sanitation, and hygiene interventions to reduce diarrhoea in less developed countries; a systematic review and meta-analysis. *Lancet Infect Dis*. 5(1):42-52.

11.1 Reducing the impact of marketing of foods and non-alcoholic beverages to children

The marketing of food and non-alcoholic beverages to children has been recognized as a global concern, due to its detrimental effects in influencing children's preferences, purchases, purchase requests and food habits. As previously mentioned, foods and non-alcoholic beverages that are rich in saturated fats, trans-fats, sugars and salt are of particular concern, since they increase the risk of overweight, obesity and NCDs both in childhood and later in life. Interventions to reduce children's exposure to marketing and the power of marketing of such foods are needed to protect and promote healthy diets.²¹⁴ However, none of the ASEAN countries are implementing mandatory measures to protect children from marketing of unhealthy foods and non-alcoholic beverages. WHO is currently working on a nutrient profile model to categorize unhealthy foods and drinks in order to support countries with the implementation of marketing restrictions.

11.2 Providing food and nutrition labelling

Food labels are an important strategy to ensure consumers' right to information, and an important nutrition education instrument. The Codex Alimentarius has several standards on food and nutrition labelling.^{215 216 217} It recommends mandatory food labels with the list of ingredients, the expiry date and nutrient declarations for energy value, and for the amounts of protein, carbohydrate, fat, saturated fat, sodium and sugars. Health and nutrition claims in food labels must be supported by scientific evidence. Several countries have adopted front-of-pack labelling schemes, using strategies such as colour signage and star ratings to make labels easier to understand. Ongoing efforts to harmonize labelling requirements in ASEAN Member States should be aligned with standards from the Codex and should include mandatory nutrition labelling.

11.3 Selling of healthy foods in schools and restricting unhealthy foods and beverages

Schools are settings in which health can be promoted and nurtured. Children spend a considerable amount of time in school. Pre-schools and schools potentially offer many opportunities to promote healthy dietary and physical activity patterns for children. One key action is to develop and implement school policies that provide guidance on healthy and safe foods that can be sold in schools.

Unhealthy foods and beverages, which are energy dense and nutrient poor, are increasingly available in schools. Only three of the seven ASEAN countries in the WHO Western Pacific Region (Brunei Darussalam, Philippines and, Singapore) have restrictions on the sale of unhealthy foods and/or beverages in schools.

12. Implementation of fiscal measures (including taxation of unhealthy foods and non-alcoholic beverages and subsidies for healthier options)

One of the policy options for Member States to promote healthy diets that is included in the Global Action Plan for the Prevention and Control of NCDs, is the development of economic tools (e.g. taxes, subsidies) that "encourage consumption of healthier food products and discourage the consumption of less healthy options".

The main nutrition-related fiscal policy interventions for NCD prevention are: taxes on soft drinks, unhealthy nutrients (e.g. saturated/trans-fats, salt, sugar) and unhealthy foods (e.g. through nutrient profiling), and subsidies for fruit, vegetables and other healthy foods.

²¹⁴ WHO (2010). Set of recommendations on the marketing of foods and non-alcoholic beverages to children. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/44416/1/9789241500210_eng.pdf, accessed November 18, 2015).

²¹⁵ The General Standard for the Labelling of Pre-packaged Foods (Codex Stan 1-1985) (Revised in 2010). Codex Alimentarius (http://www.codexalimentarius.org/input/download/standards/292/CXS_146e.pdf, accessed November 3, 2015).

²¹⁶ Codex Guidelines on Nutrition Labelling (CAC/GL 2-1985) (Revised in 2013). Codex Alimentarius (<http://www.fao.org/ag/humannutrition/33309-01d4d1dd1abc825f0582d9e5a2eda4a74.pdf>, accessed November 3, 2015).

²¹⁷ Guidelines for Use of Nutrition and health Claims (CAC/GL 23-1997) (Revised in 2013). Codex Alimentarius (http://www.codexalimentarius.org/input/download/standards/351/CXG_023e.pdf, accessed November 3, 2015).

There are strong economic as well as health rationales for using economic tools as part of a comprehensive approach to prevent and control NCDs. Fiscal interventions can play a key role in correcting for market failure, and they can also create incentives to reduce dietary risk factors for NCDs, since price influences food consumption, as most recently shown in Mexico.^{218 219} Taxes and subsidies can also incentivise the food industry to reformulate foods and beverages to make them healthier.²²⁰

13. Tobacco control and air pollution reduction

Interventions to reduce tobacco consumption and indoor air pollution are effective in reducing mortality and morbidity among the population, which is specially important for those at risk of being malnourished. These interventions have been identified as cost-effective, nutrition-sensitive interventions by the 2008 Lancet Nutrition Series, WHO and the SUN movement.^{23 99 102} They can be delivered through community-based platforms.²³ Even if tobacco consumption has long been linked to disease and poor health, its link to poor nutrition remains largely unaddressed. However, evidence shows a mean reduction in birth weight (up to 200g) in pregnant women who actively smoked.²²¹ Effective interventions to reduce tobacco consumption include bans on smoking in public places, increase in the price of tobacco products, implementation of mass media campaigns and packaging controls.

Indoor air pollution also constitutes a serious health concern and affects a large proportion of the population in ASEAN Member States: more than 70% of the population in Cambodia, Lao People's Democratic Republic and Myanmar use solid fuel as the main cooking fuel.^{23 222} The high levels of indoor air pollution caused by the utilization of this type of energy are linked to an increased incidence of respiratory infections and low birth weight.²²³



Girl in a supermarket in Bangkok, Thailand.

Photo credit: ©UNICEF EAPRO/2016/Foote

²¹⁸ Salomon JA, Carvalho N, Gutierrez-Delgado C, Orozco R, Mancuso A (2012). *BMJ* 344; e355 (<http://www.bmj.com/content/344/bmj.e355>, accessed January 16, 2016).

²¹⁹ Cecchini M, Sassi F, Lauer JA, Lee YY, Guajardo-Barron V, Chisholm (2010) D. Tackling of unhealthy diets, physical inactivity, and obesity: health effects and cost-effectiveness. *Lancet* 376:1775-84 (http://www.who.int/choice/publications/Obesity_Lancet.pdf, accessed January 16, 2016).

²²⁰ WHO (2015). Using price policies to promote healthier diets. Copenhagen: WHO European Regional Office (<http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/publications/2015/using-price-policies-to-promote-healthier-diets>, accessed January 16, 2016).

²²¹ Gidding et al (1994). American Heart Association. Active and passive tobacco exposure: a series pediatric health problem. *Circulation*.

²²² UNICEF (2012). Pneumonia and diarrhoea: Tackling the deadliest diseases for the world's poorest children. New York; UNICEF (http://www.unicef.org/eapro/Pneumonia_and_Diarrhoea_Report_2012.pdf, accessed January 12, 2016).

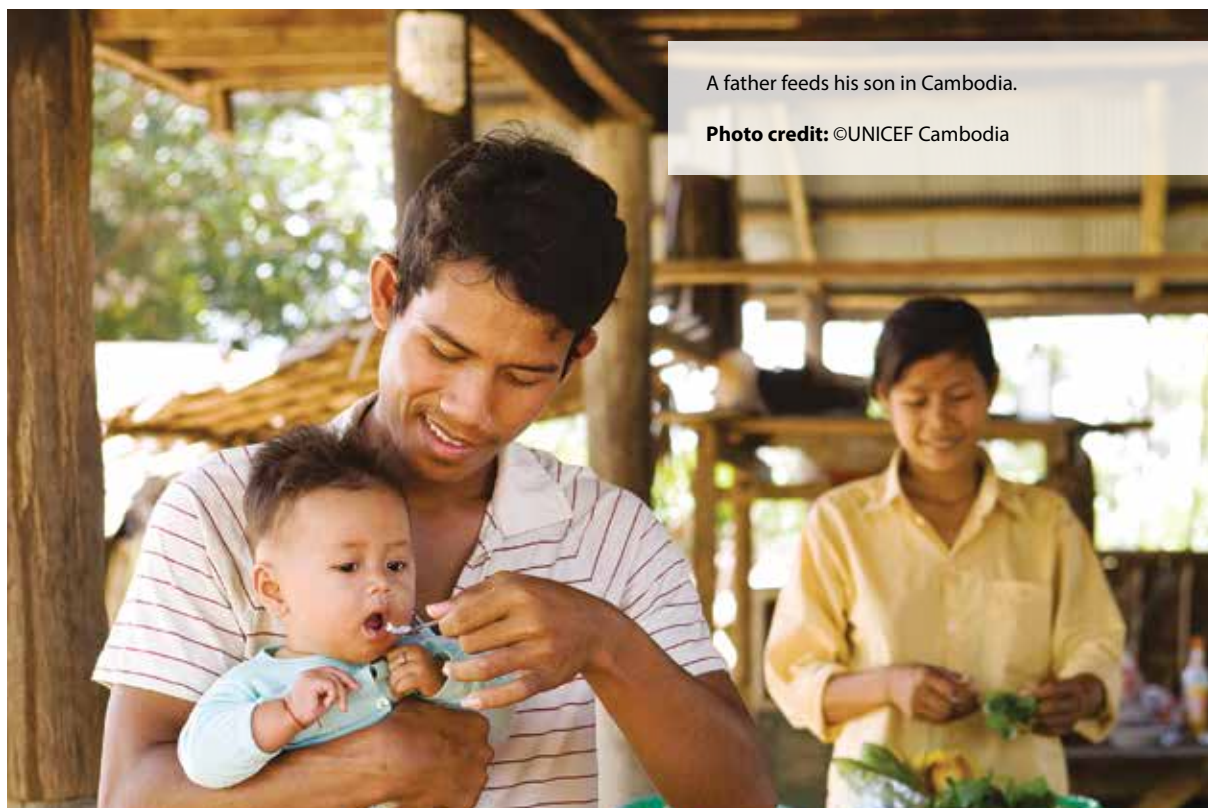
²²³ Dejmek J, Selevan SG, Benes I, Solansky I, Sram RJ (1999). Fetal growth and maternal exposure to particulate matter during pregnancy. *Environ Health Perspect.* 107(6):475-80.

14. Poverty reduction

It is known that nutrition interventions are essential to support poverty reduction. At the same time, poverty is directly linked to a number of forms of malnutrition, such as stunting, which is generally more prevalent in the lowest wealth quintiles of the population. Therefore, poverty and malnutrition are interdependent and both need to be addressed simultaneously in order to achieve national development (see chapter 6).

Key messages chapter 5:

1. Nutrition-specific actions and programmes address the immediate determinants of malnutrition, including fetal and child nutrition and development, and/or the nutritional status of older children and adults (adequate food and nutrient intake, feeding, caregiving and parenting practices, and low burden of infectious disease).
2. Nutrition-sensitive actions and programmes address the underlying determinants of malnutrition and development, and/or the nutritional status of older children and adults (food security; adequate resources at the individual (especially maternal and caregiver), household and community levels; access to health services and a safe and hygienic environment; access to information about healthy food choices), and incorporate specific nutrition goals and actions.
3. Nutrition-sensitive programmes can be used as delivery platforms for nutrition-specific actions, which can increase their scale, coverage and effectiveness.
4. See Box 1 and Box 2 for summaries of nutrition-specific and nutrition-sensitive actions.



A father feeds his son in Cambodia.

Photo credit: ©UNICEF Cambodia



Fruit vendor in the market in Thalat, Lao PDR.

Photo credit: ©UNICEF EAPRO/2015/Foote



Villagers mix bleaching powder with water to spray into a pond to help purify it, in Kawhmu Township, Myanmar. The pond, a source of drinking water for the village, was contaminated by the cyclone.

Photo credit: ©UNICEF/UNI28174/Naing

Chapter 6:

NUTRITION IN EMERGENCIES AND BUILDING NUTRITION RESILIENCE

The goal of this chapter is to describe the issues of key importance for maintaining nutrition security in emergencies, and protecting the nutritional status particularly of vulnerable populations. Asia-Pacific is the most disaster-prone region in the world, and the ASEAN Member States include some which experience a large number of emergencies of varying sizes each year – in particular the Philippines, Indonesia and Myanmar. The types of emergencies affecting ASEAN Member States are usually natural disasters (rapid onset phenomena such as typhoons, tsunamis, floods, volcanic eruptions as well as slow onset disasters such as drought), but conflicts or social unrest may also lead to emergency situations.

It is predicted that global warming and its effects will increase rates of malnutrition in children by about one fifth by mid-century (2050),^{224 225 226 227} with a large proportion of that affected population predicted to be in East Asia, Southeast Asia and South Asia.^{228 229} SDG 13 calls for urgent action to combat climate change and its impacts, yet also recognizes at the same time that strengthening the resilience and adaptive capacity of more vulnerable regions, such as landlocked countries and island states, is essential.^{95 94}



Take urgent action to combat climate change and its impacts*

In the Declaration on Institutionalizing the Resilience of ASEAN and its Communities and Peoples to Disasters and Climate Change (April 2015),²³⁰ ASEAN Member States committed to “forge a more resilient future by reducing existing disaster and climate-related risks, preventing the generation of new risks and adapting to a changing climate through the implementation of economic, social, cultural, physical, and environmental

²²⁴ Nelson GC, Rosegrant MW et al (2010). Food security, farming and climate change to 2050: Scenarios, results, policy options. Washington, D.C.; IFPRI (<http://cdm15738.contentdm.oclc.org/utis/getfile/collection/p15738coll2/id/127066/filename/127277.pdf>, accessed November 5, 2015).

²²⁵ Easterling W & Aggarwal P (2007). Food, Fibre and Forest Products. In: Parry ML, Canzianai OF, Palutikof JP, van der Linden PJ & Hanson CE. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, pp.273–313. Cambridge, UK, CUP.

²²⁶ Parry M, Evans A, Rosegrant MW and Wheeler T (2009). Climate change and hunger: responding to the challenge. Rome; WFP (http://www.preventionweb.net/files/12007_wfp212536.pdf, accessed November 5, 2015).

²²⁷ WFP (2012). Climate impacts on food security and nutrition: a review of existing knowledge. Rome; WFP (<http://documents.wfp.org/stellent/groups/public/documents/communications/wfp258981.pdf>, accessed November 5, 2015).

²²⁸ Asian Development Bank/LIU Institute for global issues (2013). Food security in Asia and the Pacific. Mandaluyong city, Philippines, Asian Development Bank (<http://www.adb.org/sites/default/files/publication/30349/food-security-asia-pacific.pdf>, accessed January 12, 2016).

²²⁹ International Food Policy Research Institute (2009). Building Climate Resilience in the Agriculture Sector of Asia and the Pacific. Mandaluyong: Philippines; Asian Development Bank. 333 p. (<http://www.adb.org/sites/default/files/publication/27531/building-climate-resilience-agriculture-sector.pdf>, accessed January 12, 2016).

²³⁰ ASEAN (<http://www.asean.org/news/asean-statement-communications/item/declaration-on-institutionalising-the-resilience-of-asean-and-its-communities-and-peoples-to-disasters-and-climate-change>).

measures which address exposure and vulnerability, and thus strengthen resilience". Member States also encouraged "all stakeholders to participate in planning and implementation of the institutionalization of disaster risk management and climate change adaptation at the local, national and regional levels and monitor the progress and outcomes in terms of reducing disaster risk and adapting to climate change through multi-stakeholder means and mechanisms".

These activities will take place in the framework of the ASEAN Post-2015 Health Development Agenda. The mission statement of the agenda will be "to promote a healthy and caring ASEAN Community, where the people achieves maximal health potential through healthy lifestyle, have universal access to quality health care and financial risk protection; have safe food and healthy diet, live in a healthy environment with sustainable inclusive development where health is incorporated in all policies".²³¹ Within this agenda, goals for 2020 have been formulated within four clusters: 1) Promoting healthy lifestyle; 2) Responding to all hazards and emerging threats; 3) Strengthening health system and access to care, and 4) Ensuring food safety. The specific goals of cluster 2 regarding the response to hazards and emerging threats are a) to promote resilient health system in response to communicable diseases, emerging infectious diseases, and neglected tropical diseases and b) to respond to environmental health threats, hazards and disaster, and to ensure effective preparedness for disaster health management in the region. It is important to note that, in order to build nutrition resilience and ensure adequate preparedness and response to emerging threats with regard to food and nutrition security, health priorities within cluster 2 (such as disaster health management) should be interconnected with the health priorities of other clusters (e.g. promotion of good nutrition and healthy diet, prevention and control of NCDs, food safety and universal health coverage).

Different organizations have put forward definitions of resilience related to their particular mandates. For example, UNICEF defines resilience as "the ability of children, households, communities, and systems to anticipate, manage, and overcome shocks and cumulative stresses in ways which advance the rights of every child, with special attention to the most vulnerable and disadvantaged children". WHO defines resilience as "the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions".

Nutrition resilience (of systems, communities, households, and individuals) is therefore not only about prevention of malnutrition and strengthening of systems in the routine context, with a particular focus on the areas and groups most vulnerable to various hazards, but it also includes the preparation and communication of detailed preparedness plans before disaster strikes. Even among populations with good health and nutrition status prior to an emergency, the status of the most vulnerable groups, especially children under five and pregnant and lactating women, can quickly deteriorate in an emergency and excess malnutrition and disease can occur, often with significantly elevated risk of death. On the other hand, the impact of emergencies may be prolonged, and food insecurity and acute malnutrition, for example, may peak long after the emergency has occurred, or the effects of a slow onset emergency such as a drought be take many months to manifest.

Elements of **emergency preparedness for nutrition security** typically include:

- Clarification of the responsibilities of government entities and partners regarding nutrition in humanitarian situations. Existing coordination mechanisms need to be strengthened or, if unavailable, created by the national authorities to ensure that the humanitarian response is timely and coordinated, and that it conforms to humanitarian principles and agreed standards and benchmarks. Nutrition cluster interagency coordination needs to be properly established and links need to be created with other emergency cluster coordination mechanisms in order to ensure an adequate multisectoral response at the onset of an emergency. Guidance on the establishment of partnerships to implement emergency nutrition activities needs to be in place at the various levels and depending on the type and scale of the emergency. Local, provincial and national government nutrition managers or focal points need to have guidance on the preparedness and response measures and actions and be oriented on these.

²³¹ ASEAN (2015). ASEAN Post-2015 Health Development Agenda. Unpublished document.

- Functional nutrition and health information systems that enable actors to quickly assess the pre-disaster situation, and anticipate who and where the most nutritionally vulnerable populations will be. Essential nutritional assessment and programme monitoring data need to be included in national early warning systems. Defining a multisectoral rapid assessment mechanism and format that includes priority nutrition information will enable all stakeholders to quickly mobilize to assess the situation and obtain the relevant information when an emergency occurs. Guidelines and capacity for conducting and reporting on rapid nutrition surveys and assessments also need to be in place. Moreover, nutrition information systems should be linked to agriculture and health information systems. The integration of nutrition in the overall framework of food security is considered essential. In the Philippines, success in the initial implementation of the early warning system for food and nutrition security resulted in the expansion of the system. To date, there are a total of 38 early warning system sites, established with co-funding arrangements from the Government, particularly the National Nutrition Council, and United Nations agencies (UNICEF, FAO and WFP). Local governments that participated in the early warning system in the Philippines have experienced improvements in the analysis and utilization of existing food and nutrition data, timely introduction of nutrition and related interventions, and evidence-based project development in the locality.
- The presence of up-to-date guidelines on key nutrition interventions, which will also be implemented during emergencies, is an essential element of preparedness. This includes integrated guidelines for management of acute malnutrition (MAM and SAM), micronutrient supplementation, infant and young child feeding and maternal nutrition.
- The specific approaches and modalities for emergency nutrition response as well as technical aspects need to be included in ongoing training of health workers and lay counsellors.
- Information on availability of functioning services, supplies, trained staff and population coverage of existing services needs to be up-to-date. This helps to rapidly identify trained and skilled staff who can be quickly mobilized for the emergency response, gaps, and the location of existing services and supplies as a starting point for the first response.
- Contingency supplies and mechanisms for procurement and distribution of all necessary nutrition supplies need to be in place, including those for SAM and MAM management, supplementary feeding for children and pregnant and lactating women, and appropriate infant feeding products and micronutrients for infants that have no possibility to be breastfed. Materials for IYCF counselling and communication need to be developed, translated and pre-positioned.
- Detailed plans for all potential aspects of emergency nutrition response need to be in place. Often governments and partners delay the preparation of emergency plans until the emergency is at hand, but this is too late. Plans must be in place and communicated to all actors beforehand.
- Development of a communication plan, including instructions to those who are responsible for the response and information for those who need to access the response services. Community capacities and existing communication channels need to be mapped to identify the most effective ones for nutrition information, and draft appropriate nutrition messages to be incorporated into multisectoral communication initiatives.
- Guidance for those who may offer donations for maternal and child nutrition needs to be in place as part of emergency preparedness, as well as a joint statement to be issued by the Government and partners such as WHO and UNICEF as soon as an emergency happens. Experience in the ASEAN region shows that many well-intentioned citizens, government entities (including military), and corporations may try to donate and/or distribute breast-milk substitutes, milk powder, and baby bottles/teats during emergencies. Many do not know that this is an inappropriate donation that amplifies risks of malnutrition, disease and death for young children and should be avoided. The general public therefore must be made aware promptly about appropriate donations (see Box 6).²³² The awareness-raising needs to emphasize that the best support that the public or external governments can provide is cash support to procure appropriate nutrition supplies as per the preparedness and response plans.

²³² IFE Core Group (2007). Infant and young child feeding in emergencies (Version 2.1). Operational guidance for emergency relief staff and programme managers. IFE Core group (WHO, UNICEF, UNHCR, WFP, IBFAN-GIFA, CARE USA, Foundation Terre des homes and the Emergency Nutrition Network (ENN)) (http://www.who.int/nutrition/publications/emergencies/operational_guidance/en/, accessed November 20, 2015).

Box 7. Guidance on management of BMS in emergencies

Infant and Young Child Feeding in Emergencies, Operational Guidance for Emergency Relief Staff and Programme Managers (IFE Core Group, Version 2.1, February 2007) provides detailed guidance on management of BMS in emergencies:

In emergencies, targeting and use, procurement, management and distribution of BMS, milk products, bottles and teats should be strictly controlled based on technical advice, and comply with the International Code and all relevant WHA Resolutions (4). Section 6.1 sets the position on handling donations of BMS and the responsibility of agencies that supply BMS to others. Sections 6.2-6.4 outline how to control [purchased] supplies of BMS.¹⁶⁷

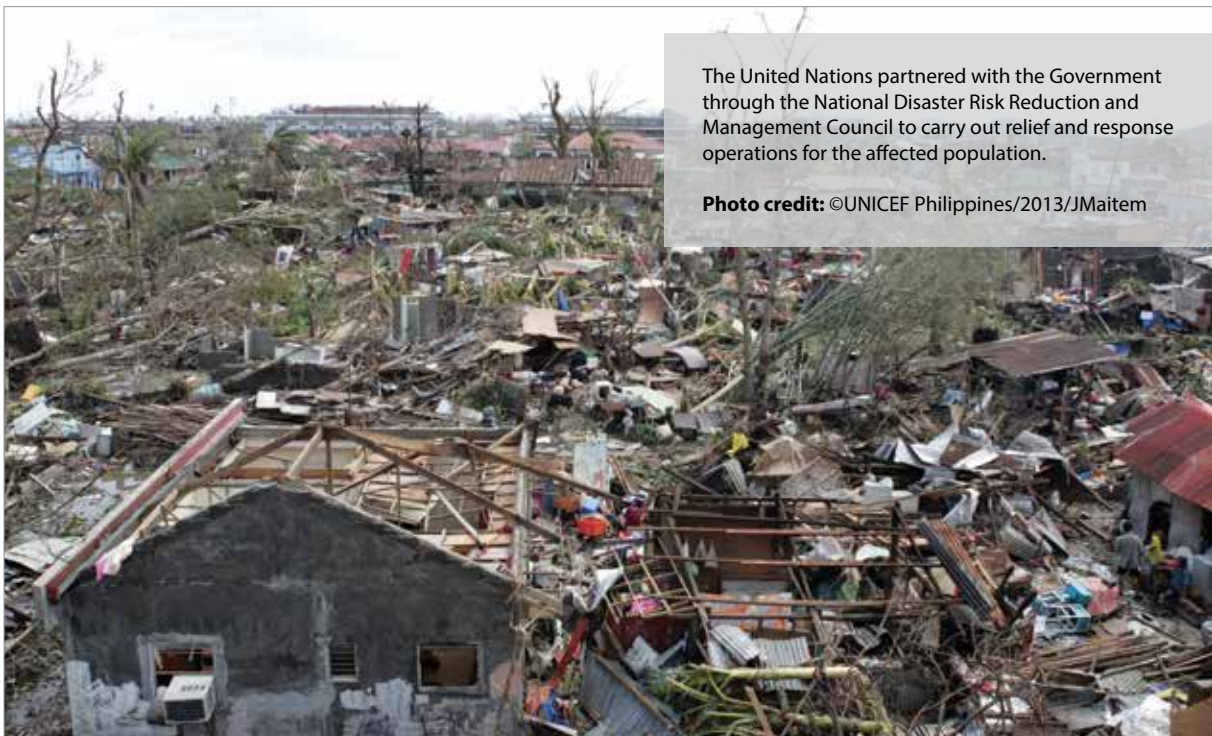
In the ASEAN region, the **response to an emergency** is typically led by Member States, with partners (such as UN or NGO partners) providing assistance as requested. Emergency response for nutrition typically includes all or some of the following elements.²³³

- Effective leadership is established for nutrition cluster interagency coordination,²³⁴ with links to other cluster/sector coordination mechanisms on critical intersectoral issues (such as WASH cluster, Health cluster, Food Security cluster, or Logistics cluster).²³⁵
- Timely nutritional assessment and surveillance systems are established and/or reinforced. This enables actors to know the extent of malnutrition and its risks in the affected area, and deliver an appropriate response in a timely manner. Monitoring of the response is also important to ensure the targeted population is being reached.
- Support for appropriate infant and young child feeding is accessed by affected women and children. This includes support for breastfeeding mothers (e.g. counselling, communication, breastfeeding spaces, or additional food and water), appropriate feeding support for orphaned infants or those with no possibility to breastfeed, and provision of appropriate complementary foods for young children six months of age or older. It also includes advocacy to prevent donations of breast-milk substitutes, practical measures to ensure donations that do arrive are not handed out unsupervised, and ongoing monitoring.
- Children and women with acute malnutrition access appropriate management services. This would include appropriate screening for acute malnutrition, and appropriate treatment for SAM and MAM.
- Children and women access micronutrients from fortified foods, supplements, or multiple micronutrient preparations (see more in chapter 5). This may include fortified staple foods (rice, wheat flour) or blended products (rice-soya blend, corn soya blend, etc.). Vitamin supplements, such as high-dose vitamin A supplementation, can provide an essential boost to children's immunity, and reduce morbidity and mortality associated to infectious diseases, such as measles, pneumonia and diarrhoea; for example, it is recommended that VAS is provided with measles immunizations, since the risk of disease outbreaks may be higher in post-disaster settings. Distribution of MNPs may also be appropriate for adding essential micronutrients to the diet of young children.
- Children and women access relevant information about nutrition programme activities, including what services are available and where they can be accessed. Communication on behaviour change related to essential nutrition and hygiene practices is an important intervention to prevent malnutrition and disease in emergencies.

²³³ UNICEF (2010). Core Commitments for Children in Humanitarian Action. New York; UNICEF. The first six elements are taken from this reference.

²³⁴ Global Nutrition Cluster website (<http://nutritioncluster.net/>, accessed November 20, 2015).

²³⁵ Cluster coordination (<http://www.unocha.org/what-we-do/coordination-tools/cluster-coordination>, accessed November 20, 2015).



- Supplementary feeding programmes are implemented on a blanket basis, depending on the situation, for most at-risk groups such as children aged 6–59 months and pregnant and lactating women.^{16 177 179}
- Appropriate food donations, vouchers or cash transfers are provided for vulnerable families. While the primary responsibility for managing this aspect may not lie with nutrition teams and entities, it is important that their technical inputs are incorporated in the composition of the food basket, the targeting and the linkages with specific nutrition interventions, especially supplementary feeding.^{16 179}

Box 8. Lessons learnt by the Philippines Nutrition Cluster from Typhoon Haiyan²³⁶

Super Typhoon Haiyan made landfall in the central Philippine Visayas islands on November 8, 2013. It inflicted damage of approximately US\$ 13 billion, affected 14.1 million people and left 4.1 million people, including 1.7 million children, displaced. The nutrition cluster in the Philippines is led by the National Nutrition Council (NNC), with UNICEF as the cluster co-lead. Following the typhoon and the declaration of an L3 emergency, the Interagency Standing Committee (IASC) nutrition cluster was “activated” and a Strategic Core Group was constituted, including the NNC, Department of Health, the Philippines Coalition of Advocates for Nutrition, Action Against Hunger, Save the Children, WFP and UNICEF. The Strategic Core Group took over responsibility for developing the strategic response plan. Five regional nutrition clusters were also activated. While the national cluster was focused on strategic planning and policy development, the regional clusters focused on coordination of the operational aspects of the response. A transition process back to the regular cluster coordination mechanism for the Philippines was quickly initiated. Starting June 2014, informed by the Nutrition Cluster Transition Plan, NNC took over as the sole chair of the national nutrition cluster.

In order to provide technical support to the national nutrition cluster, four technical working groups were organized: the Assessment and Monitoring working Group, the CMAM working group, the IYCF working group and an advocacy and communications working group. The cluster coordination team at the start of the response was constituted by one national cluster coordinator, one national information management officer, three Regional Cluster Coordinators and three regional information management officers.

Lessons learnt:

1. Planning for cluster transitioning should be initiated as early as possible, and adequate and sustainable coordination mechanisms should be restored as soon as possible.
2. From the very onset, the focus of all surge and regular staff should be on supporting and building the capacity of the Government in emergency nutrition response, coordination and information management to promote strengthening of the Government system rather than investing in parallel and temporary coordination structures and processes.
3. Measures to avoid gaps in coordination between the national and regional nutrition clusters should be implemented from the very beginning of the response.
4. United Nations agencies and Cluster Partners need to define a standby programme partnership agreement during the preparedness phase, which then can be immediately activated when a disaster occurs.
5. Absence of a recent provincial level nutrition data for strategic response planning led to over-estimation of strategic response plan targets. It is therefore recommended that the nutrition sector carry out regular nutrition surveys to collect baseline data (with data available up to the provincial level) during the preparedness phase.
6. Operational data generated by the cluster was used to advocate for nutrition programming, response and rehabilitation in high-level Government meetings.
7. The national cluster needs to work more closely with subnational (regional) clusters, with particular focus on the operationalization of the strategic approach.

²³⁶ GNC/Philippines Nutrition Cluster. Lessons learned in Philippines Nutrition Cluster. Exercise conducted by the Global Nutrition Cluster. Synthesis Report. September 11, 2014.

8. Indicators should be consistent between UNICEF, WFP and the cluster.
9. A preparedness planning process should be undertaken and then revisited and refreshed each year.
10. There is a need to have clear guidelines in place on mobilizing existing Government capacities in disaster-affected areas during the emergency (as part of preparedness).
11. Partners' capacity assessment and mapping must be done during the preparedness phase in order to ensure timely and quality scale-up of interventions during the SRP implementation.
12. Advocacy messages need to be evidence-based, targeted at the right level of decision-maker and supported with sustained follow-up.

Based on the above considerations, and noting the commitment of ASEAN Member States to resilience building, it is recommended that Member States:

- work to strengthen nutrition information systems
- map the existing risks for disasters
- build emergency nutrition capacities at all levels (including for nutrition cluster coordination and emergency preparedness and response)
- ensure that emergency nutrition preparedness plans and communication plans are in place and ready to be enacted

UNICEF EAPRO has produced a toolkit to help guide countries in designing their emergency preparedness and response plans and actions.²³⁷ Various other resources on nutrition in emergencies including a handbook for nutrition cluster coordination and a harmonized training package on nutrition in emergencies which can be adapted to country realities are also available through the Global Nutrition Cluster website.^{238 239 240 241 242 243}

²³⁷ UNICEF EAPRO (2015). Preparedness for Nutrition in Emergencies Toolkit. Toolkit not yet available online. Available at email: asiapacificinfo@unicef.org.

²³⁸ UNICEF (2013). Nutrition Cluster Handbook. A practical guide for country-level action. The Global Nutrition Cluster. New York, UNICEF (http://nutritioncluster.net/wp-content/uploads/sites/4/2013/09/GNC_Handbook_v1_FINAL_no_links1.pdf, accessed December 8, 2015).

²³⁹ UNICEF (2015). Cluster Coordination Guidance for Country Offices. New York; UNICEF.

²⁴⁰ IASC (2015). Emergency response preparedness (ERP). Risk analysis and monitoring, minimum preparedness, advanced preparedness and contingency planning. Draft for field testing. IASC (<http://nutritioncluster.net/?get=003818|2015/08/Emergency-Response-Preparedness-2015-final.pdf>, accessed December 8, 2015).

²⁴¹ Save the Children. IYCF-E Toolkit: Rapid start-up resources for emergency nutrition personnel. Save the Children (<https://sites.google.com/site/stcehn/documents/iycf-e-toolkit>, accessed December 8, 2015).

²⁴² Global Nutrition Cluster link to e-learning courses (<http://nutritioncluster.net/training-topics/e-learning/>, accessed December 8, 2015).

²⁴³ Harmonized Training Package (<http://nutritioncluster.net/training-topics/harmonized-training-package/>, accessed December 8, 2015).

Key messages chapter 6:

1. The Asia-Pacific is the most disaster-prone region in the world. Strengthening the resilience and adaptive capacity of more vulnerable regions must go hand-in-hand with efforts to combat climate change and its impacts.
2. In the framework of the ASEAN post-2015 Health Development Agenda, ASEAN Member States have committed to “forge a more resilient future by reducing existing disaster and climate-related risks, preventing the generation of new risks and adapting to a changing climate”.
3. Nutrition resilience is not only about prevention of malnutrition and strengthening of systems in the routine context, but it also includes the preparation and communication of detailed preparedness plans before disaster strikes.

Elements of preparedness

1. Clarification of the responsibilities of government entities and partners regarding nutrition in humanitarian situations. Existing coordination mechanisms need to be strengthened or, if unavailable, created.
2. Development of functional nutrition and health information systems that enable actors to quickly assess the pre-disaster situation, and anticipate who and where the most nutritionally vulnerable populations will be.
3. Gathering of up-to-date guidelines on key nutrition interventions.
4. Inclusion of approaches and modalities for emergency nutrition response in ongoing training of health workers and lay counsellors.
5. Update the information on availability of functioning services, supplies, trained staff and population coverage of existing services.
6. Ensure there is a contingency supply and mechanism for procurement and distribution of all necessary nutrition supplies in place.
7. Detailed plans for all potential aspects of emergency nutrition response need to be in place.
8. Development of a communication plan.

Elements in the response to the emergency

1. Effective leadership is established for nutrition cluster interagency coordination, with links to other cluster/sector coordination mechanisms on critical intersectoral issues.
2. Timely nutritional assessment and surveillance systems are established and/or reinforced.
3. Affected children and women receive support for appropriate IYCF.
4. Children and women with acute malnutrition access appropriate management services.
5. Children and women access micronutrients from fortified foods, supplements, or multiple micronutrient preparations.
6. Children and women access relevant information about nutrition programme activities. Communication on behaviour change related to essential nutrition and hygiene practices is an important intervention to prevent malnutrition and disease in emergencies.
7. Supplementary feeding programmes are implemented on a blanket basis, depending on the situation.
8. Appropriate food donations, vouchers or cash transfers are provided for vulnerable families.



A woman cooks outside of a temporary shelter for people whose homes were damaged or destroyed by the 2004 tsunami, in the Takua-Pa District, Phang-Nga, Thailand.

Photo credit: ©UNICEF/UNI41130/Lakonvong



After a crop of only 2 bags of rice in the previous year, instead of the usual 40 or 50 bags, this farmer cleared a patch of land near the river and invested in vegetable seeds. Thlat, Oddar Meanchey, Cambodia.

Photo credit: ©UNICEF/UNI82748/Vink

Chapter 7:

THE CASE FOR INVESTING IN IMPROVED NUTRITION AND HEALTHY DIETS AND THE COSTS OF NOT INVESTING

Key facts – economic costs for selected ASEAN Member States

- **Cambodia: 2.5%** of GDP is the cost of undernutrition²⁴⁴
- **Lao People's Democratic Republic: 2.4%** of GDP is the cost of undernutrition²⁴⁵
- **US\$ 305.9 million** is the cost of inadequate breastfeeding in seven countries of South-East Asia²⁴⁶
- **Thailand: US\$ 12 million** is the estimated cost of coronary heart disease, stroke, and diabetes²⁴⁷
- **Viet Nam: US\$ 20 million** is the estimated cost of coronary heart disease, stroke, and diabetes²⁴⁷
- **Philippines: US\$ 60 million** is the estimated cost of coronary heart disease, stroke, and diabetes²⁴⁷
- **Indonesia: US\$ 4.47 trillion** is the estimated cost of NCDs from 2012 through 2030^{248, 249}

²⁴⁴ Bagriansky J, Champa N, Pak K, Whitney S, Laillou A (2014). The economic consequences of malnutrition in Cambodia, more than 400 million US dollar lost annually. *Asia Pac J Clin Nutr*. 2014;23(4):524-31.

²⁴⁵ Bagriansky J, Voladet S (2013). The economic consequences of malnutrition in Lao People's Democratic Republic: a damage assessment report. Vientiane; UNICEF/NERI.

²⁴⁶ Walters D, Horton S, Siregar A, Pitriyan P, Hajeebbboy N, Mathisen R, Linh, PTH, Rudert C. The Cost of Not Breastfeeding in Southeast Asia. Submitted to Health Policy and Planning.

²⁴⁷ Abegunde DO, Mathers CD, Adam T, Ortegon M, Strong K (2007). The burden and costs of chronic diseases in low-income and middle-income countries. *The Lancet* vol 370 , Issue 9603 , 1929–1938.

²⁴⁸ Bloom DE, Chen S, McGovern M, et al (2015). Economics of Non-Communicable Diseases in Indonesia. World Economic Forum.

²⁴⁹ World Economic Forum/Harvard School of Public Health (2011). The Global Economic Burden of Non-communicable Diseases. Report.

Chapter 2 has described how malnutrition in all its forms, including undernutrition and overnutrition, strongly increases the risk for morbidity and mortality throughout the life-course. Undernutrition, especially in the first 1000 days, hinders the cognitive and physical development of children. As countries develop, the types of diseases that affect the population typically shift from those related to undernutrition and infectious diseases (e.g. diarrhoea and pneumonia) to NCDs (such as diabetes and cardiovascular diseases). During this transition, countries face this double burden of malnutrition. Furthermore, undernutrition and overnutrition (and their respective manifestations) are linked; a stunted child enters adulthood with a greater risk of developing obesity and NCDs, which will likely translate into economic costs for those individuals and their families.^{250 251} In 2005, it was estimated that **50% of the total disease burden** in 23 selected low-income and middle-income countries was due to chronic disease.²⁴⁷ In the long term, malnutrition affects health and future productive potential, with quantifiable economic and social consequences for individuals and their families as well as for communities and countries as a whole.^{252 253}

Investing in nutrition is both a socioeconomic and a moral imperative.

A number of studies have measured the economic consequences of stunting, acute malnutrition, underweight, micronutrient deficiencies, or not breastfeeding. More recently, many publications have also estimated the cost of overweight, obesity and NCDs. Most of these economic analyses focus on losses of GDP, or the national expenditure (health care and other costs).

Regarding the impact of malnutrition in **individuals**, there is a body of evidence that indicates that malnourished children are not only more likely to be less educated and have poorer cognitive function than other children, but also to have more limited future job opportunities and to be less productive.²⁵³ For example, a study that analysed information on stunting and education from 79 countries estimated that for every 10% increase in stunting, the proportion of children reaching the final grade of primary school drops by 7.9%.³⁴ Another multi-country study reported that improving linear growth for children under two years of age by one standard deviation resulted in an additional half a grade with regard to school attainment in low- and middle-income countries.²⁵⁴ Similarly, Grantham-McGregor et al. estimate that a child who is stunted runs the risk of earning nearly a quarter less income in adulthood than if she or he had been well nourished.³⁴ Furthermore, a recent study identified that breastfeeding for a period longer than 12 months is associated with increased education attainment as well as higher intelligence and higher income after 30 years.²⁵⁵

Economic losses due to malnutrition also affect **entire families**, not just individuals. Malnourished mothers are more likely to give birth to underweight children, leading to a higher risk of physical and cognitive impairment for the infants. Once these malnourished children become adults, they will be less likely to provide care for their families, leading to economic stagnation for the family and perpetuation of the cycle of poverty. It should also be mentioned that certain social practices, such as the utilization of breast-milk substitutes instead of exclusively breastfeeding infants, represent a real financial burden for many families. For example, the cost of consumption of infant formula is estimated to be 13.8% of monthly earnings for

²⁵⁰ Grijalva-Eternod CS, Wells JCK, Cortina-Borja M, Salse-Ubach N, Tondeur MC, et al (2012). The Double Burden of Obesity and Malnutrition in a Protracted Emergency Setting: A Cross-Sectional Study of Western Sahara Refugees. *PLoS Med* 9(10) (<http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001320>, accessed January 12, 2016).

²⁵¹ Kimani-Murage EW, Muthuri SK, Oti SO, et al (2015). Evidence of a Double Burden of Malnutrition in Urban Poor Settings in Nairobi, Kenya. *PLoS ONE* 10(6) (<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0129943>, accessed January 12, 2016).

²⁵² CEPAL/WFP Peru (2008). *El Costo del Hambre: Impacto Social y Económico de la Desnutrición Infantil en Perú*.

²⁵³ UNICEF (2013). *Improving child nutrition: The achievable imperative for global progress*. New York; UNICEF (http://www.unicef.org/gambia/Improving_Child_Nutrition_-_the_achievable_imperative_for_global_progress.pdf, accessed January 12, 2016).

²⁵⁴ Adair LS, Fall CH, Osmond C, Stein AD, et al (2013). Associations of linear growth and relative weight gain during early life with adult health and human capital in countries of low and middle income: findings from five birth cohort studies. *The Lancet*. Vol 382, Issue 9891, 525 – 534.

²⁵⁵ Victora, CG, Lessa Horta, B, Loret de Mola, C et al (2015). Association between breastfeeding and intelligence, educational attainment, and income at 30 years of age: a prospective birth cohort study from Brazil. *Lancet Glob Health*. Vol. 3: e199–e205.

employees in Indonesia, while in Thailand it is 20.5% and in Viet Nam 47%.²⁴⁶ The household economy can also be adversely impacted by NCDs, causing significant economic difficulties where out-of-pocket payments for health care are high and risk pooling is limited.^{256 257}

With regard to the **implications for countries**, it has already been mentioned that malnourished children will constitute a sizeable economic burden to local and national economies when they become adults. The Cost of Hunger study, carried out in several countries of Latin America and the Caribbean as well as in Africa, has provided evidence of the costs of undernutrition for a country in economic terms. For example, the cost of undernutrition in low- and middle-income countries such as Bolivia, Ecuador, Paraguay and Peru was equivalent to 3.3% of their GDP.^{258 259} In the Southeast Asian region, it has been estimated that undernutrition in Cambodia represents a burden to the national economy equivalent to 2.5% of GDP.²⁴⁴ Similarly, the burden of undernutrition on the national economy of Lao People's Democratic Republic may be equivalent to approximately 2.4% of the country's GDP.²⁴⁵

Micronutrient deficiencies, such as iron deficiency, are also linked to reduced school performance, lower physical capacity for work among adults and major economic costs for countries.^{260 261} For example, it was estimated that anaemia costs Peru 0.62% of its GDP.²⁶² Suboptimal breastfeeding also constitutes a high burden for countries. A new study shows that the overall health system costs attributed to inadequate breastfeeding in seven countries of Southeast Asia was US\$ 305.9 million while annual estimated wage losses due to lower cognitive scores due to inadequate breastfeeding were estimated at US\$ 1.64 billion.²⁶³

The prevalence and economic burden of overweight, obesity and NCDs is increasing rapidly worldwide, including ASEAN Member States, constituting a serious public health concern with spiralling costs.²⁶⁴ High-income countries and increasingly middle- and low-income countries are spending billions of dollars a year treating obesity and related conditions. The United States spent US\$ 190 billion on obesity-related health-care expenses in 2005, equivalent to 21% of medical spending.²⁶⁵ Similarly, obesity and obesity-related conditions are expected to cost Mexico US\$ 1.2 billion in 2030 and \$1.7 billion in 2050 respectively.²⁶⁶ Brazil has estimated that health-care costs for obesity will go from \$5.8 billion in 2010 to \$10.1 billion in 2050.²⁶⁷ Moreover, the economic burden of four major NCDs in the island economies of the Caribbean reached \$27 million, 2.8% of the islands' GDP, in 2006.²⁶⁸ In four countries of the Pacific, half the adult population is already obese, which implies a huge economic burden for those countries.^{257 269}

²⁵⁶ Mahal A, Karan A, Engelgau M. The Economic Implications of Non-Communicable Disease for India (<http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/EconomicImplicationsofNCDforIndia.pdf>, accessed January 12, 2016).

²⁵⁷ The World Bank (2012). The economic costs of non-communicable diseases in the Pacific Islands. A rapid stocktake of the situation in Samoa, Tonga and Vanuatu. The World Bank.

²⁵⁸ CEPAL/WFP PERU (2008). The cost of hunger: social and economic impact of undernutrition in Peru. CEPAL, WFP PERU.

²⁵⁹ CEPAL/WFP (2008). El costo del hambre; impacto social, economico de la desnutrición infantil en el Estado Plurinacional de Bolivia, el Ecuador, Paraguay y el Perú (<http://bit.ly/1MC7OAJ>, accessed November 1, 2015).

²⁶⁰ Black M (2003). Micronutrient Deficiencies and Cognitive Functioning. *J Nutr*; 133(11 Suppl 2).

²⁶¹ Bundy D (2011). Rethinking school health: a key component of education for all. Directions in development. Human development. Washington DC, The International Bank for Reconstruction and Development/ The World Bank.

²⁶² Alcazar L (2013). The economic impact of anemia in Peru. ACF/GRADE (<http://bit.ly/1MC7p14>, accessed November 16, 2015).

²⁶³ Alive and Thrive/UNICEF (2015). The economic cost of not breastfeeding on human capital development and health systems in the ASEAN region.

²⁶⁴ Withrow D, Alter DA (2010). The economic burden of obesity worldwide: a systematic review of the direct costs of obesity. *Obes Rev*.

²⁶⁵ Cawley J, Meyerhoefer C (2012). The medical care costs of obesity: an instrumental variables approach. *J Health Econ* 31:219-30.

²⁶⁶ Rtveldadze K, Marsh T, Barquera S (2014). Obesity prevalence in Mexico: impact on health and economic burden. *Public Health Nutr*. Jan;17(1):233-9.

²⁶⁷ Rtveldadze K, Marsh T, Webber L, Kilpi F, Levy D, et al (2013). Health and Economic Burden of Obesity in Brazil. *PLoS ONE* 8(7).

²⁶⁸ World Bank (2011). The growing burden of non-communicable diseases in the eastern Caribbean.

²⁶⁹ WHO (2014). Noncommunicable diseases and mental health. Noncommunicable Diseases Country Profiles 2014. Geneva; World Health Organization (<http://www.who.int/nmh/publications/ncd-profiles-2014/en/>, accessed November 16, 2015).

Even if countries in East Asia have significantly lower obesity and NCD rates than high-income countries in North America or middle- and low-income countries in Latin America and the Caribbean,²⁷⁰ some ASEAN Member States are already experiencing high numbers of overweight, obesity and NCDs. For example, in Thailand, there are more overweight children (11%) than wasted or underweight children, while in Indonesia, there is now an equal prevalence of overweight and wasting among children under five, both very high at 12%.

High numbers of cases of overweight, obesity, NCDs and diet-related risk factors for NCDs, including hypertension and high blood glucose, are already burdening the health systems of many low- and middle-income countries and are a significant public health concern in terms of social and economic costs. In 23 selected low- and middle-income countries, including Indonesia, Myanmar, Thailand, the Philippines and Viet Nam, a study revealed that chronic diseases were responsible for 50% of the total disease burden in 2005.²⁴⁷ Moreover, in 2006, the estimated losses from coronary heart disease, stroke, and diabetes varied from \$12-20 million in Thailand and Viet Nam to almost US\$ 60 million in the Philippines. These estimates almost doubled by 2015.²⁴⁸ Similarly, the World Economic Forum warned that NCDs could cost Indonesia US\$ 4.47 trillion from 2012 through 2030, which is more than five times Indonesia's GDP in 2012.^{248 249} By comparison, China's estimated NCD-related loss is US\$ 29.42 trillion for the 2012–2030 period, or 3.57 times its 2012 GDP.²⁴⁹ This trend is on the rise but can be reversed with cost-effective and affordable prevention interventions that promote the overall health status of the population.²⁵⁷ As a consequence, global political awareness is being raised to mobilize countries, institutions and individuals to change the current trend.

It should be noted that the economic and social burden of undernutrition and micronutrient deficiencies is still higher globally than for overweight, obesity and NCDs and much higher in low- and middle-income countries.²⁷¹ In fact, the cost of child and maternal malnutrition (164 million years of healthy life lost) is three times higher than the cost of adult overweight and obesity in low- and middle-income countries (56 million years of health life lost).²⁶⁹ Moreover, the cost of child and maternal malnutrition (10 million years of health life lost) in Southeast Asia was double the cost of adult overweight and obesity (5 million years of health life lost) in 2010.²⁶⁹

Based on the high cost to individuals, households and countries of dealing with all forms of malnutrition and its consequences for health, it is imperative that high-level commitments to nutrition improvement are translated into effective and equitable actions in ASEAN Member States.

Effective programmes to reduce malnutrition in its multiple forms will have an impact in the quality of life of individuals and their families, and will also represent major savings for the country. Investment in nutrition offers high returns and phenomenal cost–benefit ratios for countries. Recent research shows that investing US\$ 1.2 billion annually in micronutrient supplements, food fortification and biofortification of staple crops for five years would generate annual benefits of US\$ 15.3 billion, a benefit-to-cost ratio of almost 13 to 1, and would result in better health, fewer deaths and increased future earnings.²⁶⁴ Other recent research has shown that every dollar spent on nutrition in the first 1000 days of a child's life yields a saving of an average US\$ 45 and in some cases as much as US\$ 166 (e.g. Indonesia).²⁷² Moreover, the overall cost for all low- and middle-income countries to scale up delivery of a set of “best-buy” interventions to tackle NCDs between 2011 and 2025 is US\$ 170 billion, in comparison to the US\$ 7 trillion that represents the cumulative lost output of those countries during the same period of time due to NCDs.²⁷³ Improving nutrition can add 2–3% to the GDP of poor countries and drive their economic growth.²⁷⁴

²⁷⁰ WHO. Global health observatory (GHO) data. Overweight and Obesity. World Health Organization (http://www.who.int/gho/ncd/risk_factors/overweight/en/, accessed November 16, 2015).

²⁷¹ FAO (2013). The state of food and agriculture (SOFA). FAO (<http://www.fao.org/publications/sofa/2013/en/>, accessed, November 1, 2015).

²⁷² Horton S, Hoddinott J (2014). Benefits and costs of the food security and Nutrition Targets for the Post-2015 Development Agenda. Post-2015 Consensus. Copenhagen Consensus Center. (http://www.copenhagenconsensus.com/sites/default/files/food_security_and_nutrition_perspective_-_horton_hoddinott_0.pdf, accessed January 16, 2016).

²⁷³ WHO (2011): Scaling up action against NCDs: How much will it cost? Geneva; World Health Organization (http://apps.who.int/iris/bitstream/10665/44706/1/9789241502313_eng.pdf, accessed November 3, 2015).

²⁷⁴ The World Bank (2006). Repositioning Nutrition as Central to Development. World Bank.

There is no doubt that malnutrition in all its forms represents a social and economic burden for individuals, households, communities and countries, costing countries millions of dollars. Furthermore, national development is not possible when a large portion of the population is either under- or over-nourished, or is suffering from NCDs. However, investing in malnutrition is not just economically and socially favourable for a country. Investing economic resources to end malnutrition is an ethical imperative. The Universal Declaration of Human Rights states: “everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care...”.²⁷⁵ Moreover, the Convention on the Rights of the Child states that “States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health...”; and therefore “State parties... shall take appropriate measures to combat disease and malnutrition...”.²⁷⁶ A number of tools have been developed to provide states and civil society with a roadmap to apply human rights’ frameworks for strategies to end malnutrition, such as the Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of Food Security at the National Level or the Principles and Guidelines for a Human Rights Approach to Poverty Reduction Strategies.^{277 278}

Key messages chapter 7:

1. In the long term, malnutrition affects health and future productive potential, with quantifiable economic and social consequences for individuals and their families, for communities and for entire countries.
2. At the individual level, malnourished children are not only more likely to be less educated and have poorer cognitive function than other children, but also have limited future job opportunities and are less productive.
3. Underweight infants born to malnourished mothers are more likely to be malnourished throughout childhood and less likely to provide optimal care for their families as adults, leading to economic stagnation for the family and perpetuating the cycle of poverty.
4. Malnourished children are more likely to suffer from disease and have reduced school performance and lower physical capacity, with long-term consequences that will constitute a huge economic burden for local and national economies when they become adults.
5. The prevalence and economic burden of overweight, obesity and NCDs are increasing rapidly in ASEAN Member States, and they constitute a serious public health concern with spiralling costs.
6. Based on the high costs to individuals, households and countries dealing with all forms of malnutrition and its consequences for health, it is imperative that high-level commitments to nutrition improvement are translated into effective and equitable actions in ASEAN Member States.
7. Investing in reducing malnutrition yields tremendous economic and social gains for a country, and it is also an ethical imperative.

²⁷⁵ Universal Declaration of Human rights (article 25) (<http://www.un.org/en/documents/udhr/>, accessed October 21, 2015).

²⁷⁶ Convention on the Rights of the Child (article 24) (<http://www.ohchr.org/en/professionalinterest/pages/crc.aspx>, accessed October 21, 2015).

²⁷⁷ FAO (2005). Voluntary guidelines to support the progressive realization of the right to adequate food in the context of national food security. Adopted by the 127th Session of the FAO Council November 2004. Rome; Food and Agriculture Organization (<http://www.fao.org/docrep/009/y7937e/y7937e00.htm>, accessed November 1, 2015).

²⁷⁸ UNHCHR. Principles and guidelines for a human rights approach to poverty reduction strategies. Office of the United Nations High Commissioner for Human Rights (<http://www.ohchr.org/Documents/Publications/PovertyStrategiesen.pdf>, accessed November 1, 2015).



Mother and child in Sapa, Viet Nam.

Photo credit: ©UNICEF Viet Nam/2011/Schmit Michele

Chapter 8:

OVERCOMING CHALLENGES AND FINANCING GAPS

As indicated throughout this report, maternal and child malnutrition rates and burden remain high in the region, despite economic growth and improvements in recent years in health and nutrition indicators. Moreover, some ASEAN Member States are already dealing with the double burden of undernutrition and overweight or obesity. In order to successfully tackle malnutrition in all its forms in an accelerated manner, nutrition-specific and nutrition-sensitive interventions must be supported by an “enabling environment” and delivered through governance systems that make them cost-effective and sustainable.²⁷⁹ The large financial gap observed in the majority of low- and middle-income countries with regard to nutrition improvement is one of the key barriers to the successful control and elimination of malnutrition. Therefore, challenges to achieve appropriate nutrition governance, provision of funds primarily through increased governmental commitment and improved capacity to deliver nutrition interventions, among others, need to be identified and solutions determined.²⁸⁰ In addition, broader partnerships need to be forged to improve nutrition, including those with civil society, the private sector, academia and others.

Insufficient political commitment to tackle malnutrition in ASEAN Member States is often observed at all levels of governance, affecting all the sectors that are crucial to ensure adequate implementation of both nutrition-specific and nutrition-sensitive interventions. In order to achieve the necessary financial commitments, a well-established nutrition governance system should be in place at national, regional and local levels – favourable legal frameworks and supportive multisectoral and multi-stakeholder coordination mechanisms.^{279 280} Moreover, good governance in all areas should be an integral part of countries’ development efforts.

Tackling malnutrition is central to ensuring the achievement of the global nutrition targets, the diet-related global targets on NCDs and the SDGs, which will lead to more resilient, equitable, economically stable and healthy populations. This chapter is divided into nutrition governance and delivery challenges, and wider challenges.

Context-specific challenges

Following are some of the main context-specific challenges that constrain the adequate delivery of nutrition-specific and nutrition-sensitive interventions and the potential solutions to approach.

²⁷⁹ Mejía Acosta A, Fanzo J (2012). Fighting Maternal and Child Malnutrition: Analysing the political and institutional determinants of delivering a national multisectoral response in six countries. Institute of Development Studies (IDS) (http://www.ids.ac.uk/files/dmfile/DFID_ANG_Synthesis_April2012.pdf, accessed November 20, 2015).

²⁸⁰ WHO (2009). Landscape Analysis on Countries’ Readiness to Accelerate Action in Nutrition. Special Issue of SCN News, No. 37 (<http://www.unscn.org/layout/modules/resources/files/scnnews37.pdf>, accessed November 20, 2015).

1. Intersectoral, vertical and multi-stakeholder coordination

Given the multiple causes of malnutrition, achieving effective intersectoral action and accountability to effectively tackle malnutrition is paramount. Intersectoral coordination is essential at all stages of the process, from the preparation of legal frameworks for nutrition action, to the formulation, implementation and monitoring and evaluation of nutrition-specific and nutrition-sensitive interventions. It is also essential at all levels from the national level to the regional/provincial/state levels, to the municipality. Despite great efforts in recent years to develop multisectoral coordination mechanisms, this still remains a challenge in a number of ASEAN Member States, especially in relation to commitment to results-based accountability. Strong political commitment is required to achieve high levels of intersectoral coordination. This facilitates the integration of nutrition into national plans and the creation of multisectoral plans at national and subnational levels.

Coordination among different stakeholders is also crucial. A large number of multilateral, bilateral, civil society, research, private and local organizations are involved in nutrition action around the ASEAN region. However, not all organizations coordinate with each other, and not all organizations coordinate with the government or are aligned with national policies. Therefore, there is a need for external partners to follow the common principles of cooperation, including transparency and accountability to each other and ensuring ownership of development priorities.²⁷⁹ ASEAN Member States should lead consultation and coordination efforts to manage the diversity of development actors. On the other hand, development actors should reduce fragmentation and limit the surge of aid channels. To that end, country-led coordination arrangements for nutrition improvement should be encouraged.²⁸¹

Lastly, governmental coordination is also fundamental between national and subnational levels (vertical coordination). While some ASEAN Member States have a centralized government, others have shifted responsibilities and resources to the subnational levels. No matter whether a centralized or decentralized system is in place, tackling malnutrition invariably requires coordination between the national, regional, district and local levels. However, coordination could still be strengthened in many of the ASEAN Member States. For example, awareness of national multisectoral frameworks and plans may not always reach lower levels. Moreover, multisectoral plans, budgets and accountability frameworks are often not in place at other levels and subnational coordination and planning across sectors does not take place. Furthermore, the population is often not involved or aware of decision-making processes. There is a need to create mechanisms that facilitate effective coordination between national and subnational levels, as well as multisectoral planning and accountability.²⁷⁹

2. Sustainable financial commitment

As a result of the strengthened momentum for nutrition improvement, many countries globally are receiving increased external resources to tackle malnutrition. Donor disbursements on nutrition-specific interventions nearly doubled between 2012 and 2013, from US\$ 0.56 billion to \$0.94 billion.³⁵ However, different regions of the world have not benefitted equally from this external funding. In fact, ASEAN Member States have started to experience a shortage of funding from external donors, mostly due to the overall improved economic situation of the region and the fact that several formerly low-income ASEAN Member States are now considered middle-income countries.²³

In addition, insufficient political commitment to tackling malnutrition has led to a financial shortfall within the nutrition sector in the region. This constitutes one of the biggest barriers to success. No improvements are likely in nutrition if governments themselves do not commit to provide sufficient funds. Given the importance of improving nutrition for human and national development, current national spending can also be reallocated towards proven priorities whenever additional funding cannot be obtained.²³ Moreover, governments should make their nutrition budget allocations more transparent. Estimates of the percentage of global government allocation to nutrition range from 0.06% to 2.90%, based on the Global Nutrition Report 2015.³⁵ Only three ASEAN Member States provided information for the Global Nutrition Report with

²⁸¹ Busan partnership agreement for effective development co-operation. Fourth high level forum on aid effectiveness.

regard to budget allocation for nutrition-specific and nutrition-sensitive interventions. Rough and very initial estimations indicate that Indonesia spends 0.18% of government budget for nutrition-specific interventions and 1.04% for nutrition-sensitive interventions, while the Philippines spends 0.15% and 1.79%, respectively, and Viet Nam spends 0.05% for both nutrition-specific and nutrition-sensitive interventions. It is important to note, however, that these estimates did not include budgets from all sectors, and will hopefully be included in future yearly reports. All countries should carry out costing exercises for all plans and activities, leveraging both traditional and non-traditional financing mechanisms and fiscal measures such as taxation on various unhealthy foods and beverages. To address the current global financial gap, advocacy efforts should be carried out to encourage traditional donors to increase their spending on this area and to mobilize governments to strongly increase allocation of domestic resources to all sectors involved.²⁸² Adequate, timely and predictable funding is key to ensure the effective delivery of nutrition interventions.

3. Capacity for nutrition improvement

Many ASEAN Member States still need to further develop capacities for nutrition at all levels of governance and institutions. Roles and responsibilities should be clarified for each governmental level, including the sharing of information and accountability to one another. This capacity to coordinate is in turn crucial to the successful implementation and monitoring and evaluation of effective interventions. In addition, more attention needs to be given to nutrition capacity development at the organizational and systemic levels. This not only entails the training of service providers, but also the improvement of capacities of decision-makers to increase government investments in both nutrition-specific and nutrition-sensitive interventions, capacity-building and strengthening for the design and implementation of logistic and infrastructure systems, and monitoring and evaluation systems.^{283 284} As such, it is important that ASEAN Member States carry out extensive capacity gap analysis in order to develop comprehensive capacity building frameworks. This would improve the design, implementation, monitoring and evaluation and scale-up of nutrition-specific and nutrition-sensitive programmes and interventions, as well as increase accountability and make better use of existing resources.^{285 286}

4. Supportive legal frameworks

Supportive legal frameworks that define food and nutrition security as a national priority and as a human right are key to nutrition improvement. An enabling political environment is necessary to create legislative frameworks conducive to enhanced nutrition governance and coherence across sectors, agencies and countries. Despite the existence of legal frameworks on nutrition within ASEAN Member States (see volume 1 for further details),³⁹ nutrition and food security policies and laws in many instances require large improvements, and there is a need for new effective policies to be formulated. In addition, some regulations are mandatory, while others are only of voluntary nature. However, as already mentioned in chapter 5 for the case of USI and other food fortification laws, it has been identified that programmes and interventions are most effective when they are implemented through mandatory regulations. Table 6 shows the nutrition-related issues that are covered in specific national policies for each ASEAN Member State. However, inclusion of topics in current policies does not directly translate to adequate implementation of regulated measures. Therefore, monitoring of compliance to legislation is essential. Enforcement and adherence to legal measures should be continuously assessed through monitoring and reporting mechanisms. Penalties for non-adherence should also be in place and implemented. Lastly, advocacy efforts are needed when developing new regulations, improving existing legal frameworks and enforcing those policies directed to control and eliminate undernutrition, overweight, obesity and NCDs.

²⁸² RESULTS UK (2014). Nutrition Aid Architecture: How could improvements in financing mechanisms galvanize the global effort?

²⁸³ Potter C, Brough R (2004). Systemic capacity building: a hierarchy of needs. Health Policy Plan 19: 336–345. (<http://www.results.org.uk/sites/default/files/Nutrition%20Aid%20Architecture.pdf>, accessed January 12, 2016)

²⁸⁴ The Global Nutrition Report (2014) (<http://globalnutritionreport.org/the-report/the-report-2014/>, accessed on November 4, 2015).

²⁸⁵ Gillespie S, Haddad L, Mannar V, Menon P, Nisbett N; Maternal and Child Nutrition Study Group (2013). The politics of reducing malnutrition: building commitment and accelerating progress. Lancet 382:552–569.

²⁸⁶ Gillespie S (2001). Strengthening Capacity to Improve Nutrition. FNCD discussion paper 106. IFPRI: Washington DC.

Table 6: Nutrition-related issues covered in national/subnational policies in ASEAN Member States

Nutrition-related issues covered in these policies		Brunei Darussalam	Cambodia	Indonesia	Lao People's Democratic Republic	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Maternal and child undernutrition	Child undernutrition	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	Low birth weight	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	SAM management, WHO standards	No	To be updated	To be updated	To be updated	Yes	Yes, updating	Yes	No	No	Yes, draft
	Maternal undernutrition	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Obesity and diet related NCDs	Child obesity	Yes	Both	Both	Both	Both	Both	Yes	Both	Both	Yes
	Adult obesity	Yes						Yes			Yes
	Diet related NCDs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Infant and young child nutrition	Breastfeeding	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	Complementary feeding	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	Int'l Code of Marketing of BMS	Voluntary	Yes	Yes	Yes	Voluntary	Yes	Yes	Voluntary	Voluntary	Yes
Vitamins and minerals	Vitamin A supplementation in children and women	No	Yes	Yes	Both	No	Both	Both	No	No	Both
	Iron folate in children and women	Yes	Yes	Yes	Both	Yes (pregnant woman only)	Both	Both	No	Yes	Both
	Zinc in children	No	Yes	No	Yes	No	Yes	Yes	No	No	Yes
	Other vitamins and minerals in child and women	No	Yes	Children	Both	Yes	Yes	Child	No	Yes	Child
	Salt iodization mandatory legislation	Voluntary	Yes	Yes	Yes	Sub-National	Yes (Universal salt iodisation, initial trial on rice fortification)	Yes	Voluntary	Yes	Voluntary
	Food fortification mandatory legislation	No	No	Yes (wheat)	No	No	No	Yes (rice, wheat)	No	Yes (iodized fish sauce, salt brine, soy-bean sauce)	No, but on progress
Underlying and contextual factors	Food safety	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Food security	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Food aid	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	Maternity leave	15 weeks	12 weeks	13 weeks	13 weeks	12 weeks	6 months	8 weeks	16 weeks	90 days	6 months

Note: Data collected for volume 1 of the Regional Report on Nutrition Security in ASEAN³⁹ and updated by Member States.

5. Monitoring and evaluation

Development, access to and analysis of comprehensive high-quality nutrition security information in the ASEAN region are essential to accelerate progress towards eliminating malnutrition. However, data is often not collected in a timely or periodic fashion, with large surveys such as the Demographic Health Survey (DHS) or Multiple Indicator Cluster Surveys (MICS) carried out only once every few years.²³ Moreover, collected data can be of poor quality and often does not represent population differences due to geography, ethnicity, religion, urbanization or socioeconomic status.

Process indicators are especially important to monitor the quality of implementation and to measure progress of intermediate outcomes more frequently. The data need to be more effectively used to analyse bottlenecks and gaps, which can then be addressed to improve programme performance. It is noted that anthropometric indicators are more useful for impact analysis and are best collected in a representative manner through household surveys rather than through growth monitoring data.²³ Governance indicators should also be monitored.

Nutrition indicators need to be integrated in relevant frameworks at all levels. Examples of these indicators are stunting and other priority indicators in the national development plan; all global nutrition target/SDG relevant indicators in household surveys (the Volume 1 Nutrition Profiles highlight many areas of missing data in several ASEAN Member States)³⁹ and nutrition process indicators of coverage and quality need to be integrated into routine administrative information systems in multiple sectors, including health management information systems. Therefore, ASEAN Member States will need to allocate substantial resources to collect, analyse, use and disseminate nutrition data, which in turn would facilitate the tracking of progress and provide information about the transparent delivery of high-quality interventions.

Moreover, it is recommended that ASEAN Member States conduct nutrition surveillance in a periodic manner, covering all minimum nutrition indicators (see Annex 2). It is also crucial that indicators used by each ASEAN Member State are based on globally accepted standardized definitions. Methodologies to collect and analyse such indicators should also be standardized. For those countries that collect administrative data and do not carry out surveys, it is recommended that internationally recognized indicators (see Annex 2) are used to ensure that the data meets quality standards.

6. Accountability

Accountability is another prerequisite for adequate nutrition governance.²⁷⁹ Robust mechanisms that allow the achievement of credible, timely and high-quality data are necessary to track whether nutrition commitments result in action, making stakeholders in all ASEAN Member States accountable for their actions.²³ Commitments can be adequately measured if they are specific, measurable, assignable, realistic, and time bound (SMART).²⁸⁷ However, commitments made by ASEAN Member States do not always comply with these specifications and this makes it difficult for countries to track progress on nutrition targets. Therefore, national accountability on nutrition targets should be strengthened across all relevant sectors and at all levels from the national level down to the lowest administrative level. Countries that have joined the SUN movement are now beginning to document their domestic financial allocation to nutrition. The presence of a nutrition indicator such as stunting in some countries' national development plans may also be helpful to spur greater accountability for the actions required to achieve it. Accountability is therefore being strengthened in some of the ASEAN Member States.

7. Other challenges to scale up effective interventions

Some of the challenges that have not been mentioned above can be summarized here: from the lack of awareness of nutrition and its critical role for survival, health and human capital development, to the lack of communication and advocacy materials, to the lack of integration of certain nutrition supplies in essential medicines lists and supply chains. In order to scale up effective nutrition-specific and nutrition-sensitive

²⁸⁷ Doran GT (2008). There's a S.M.A.R.T. way to write management's goals and objectives. *Management Review* 70.11. 1981: 35. Business Source Corporate. EBSCO.

interventions, it is necessary to commit financial resources that ensure wide coverage and high impact, without compromising the quality of the interventions.³⁵

Finally, it is important to reflect on successful experiences, understanding the importance of creating a politically favourable environment for nutrition improvement, investing in cost-effective interventions, and adopting policies on nutrition and food security, and applying them to economic and social sectors relevant to nutrition improvement. Improved nutrition will facilitate further sustainable development in ASEAN.^{23 208}

General challenges

Some of the more general challenges and issues that directly or indirectly affect the nutritional status of the population are:

1. Urbanization and migration

Despite differences among countries (see Figure 24), approximately half of the population now lives in urban areas in ASEAN Member States and the urban population continues to grow steadily.^{288 289} However, nearly two thirds of the urban population from the poorest and least urbanized countries in the region live in slums. While urbanization is usually seen as a sign of economic development, it also brings considerable challenges related to habitat, transportation, health and education. Many people moving to urban areas are migrants from rural areas or other countries and they often face serious challenges accessing social services. Their children are likely to suffer higher levels of undernutrition and poor health. Many migrants to urban centres leave their children behind in their home areas, also a factor in poorer nutrition and health status.

Poorly managed and rapid urbanization, where often new migrants face inadequate access to water and sanitation, spread of communicable diseases, and shortages of adequate and affordable housing, can worsen the nutritional status of the population and exacerbate nutrition problems.^{23 288} In many urban areas with large populations, a high burden of undernutrition remains despite lower prevalence, including stunted, wasted and/or micronutrient deficient children and pregnant women. For example, almost half of the wasted children in Viet Nam live in Hanoi and Ho Chi Minh City.²⁹⁰ However, the burden of overweight and obese people is also increasing. There is therefore a need for ASEAN Member States to create an enabling environment and develop comprehensive strategies that focus both on vulnerable groups living in urban or peri-urban areas, especially pregnant and lactating women, and children, but also in the general population that is experiencing increased overweight and obesity, and diet-related NCDs as a consequence. This constitutes a major challenge, especially for low-income countries.

2. Dietary changes

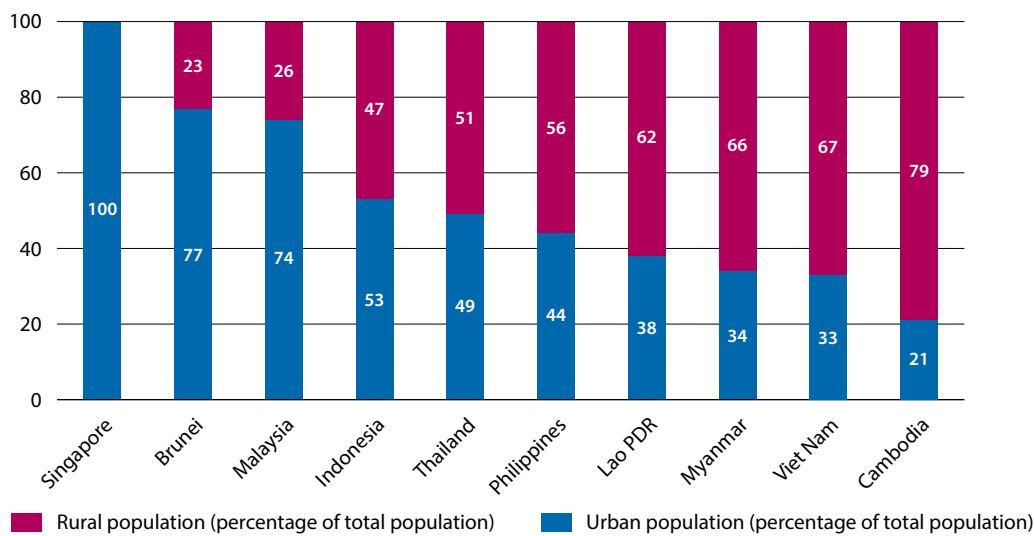
Nutrition strategies are directed to achieve the consumption of a healthy diet that consists of adequate quantities of high-quality and safe nutritious foods. However, food consumption patterns have changed in recent years toward diets higher in energy density with a greater intake of saturated fat (mostly from animal sources) and added sugars, and with reduced intake of complex carbohydrates, dietary fibre, fruit and vegetables. In addition, convenience foods low in nutritional value tend to be more affordable and available to the poor, especially in urban areas. This, linked with less physical activity, leads to an increased number of overweight and obese people as well as people suffering from NCDs. Highly processed foods are also often lacking in micronutrients.

New global trends are showing that treating obesity and NCDs is adding immense costs to already overburdened health-care budgets in low- and middle-income countries. Therefore, promotion of healthy eating habits is needed among the entire population. In order to sustain healthy diets, nutrition education

²⁸⁸ ESCAP (2014). Statistical yearbook for Asia and the Pacific 2014 (<http://www.unescap.org/sites/default/files/ESCAP-SYB2014.pdf>, accessed October 1, 2015).

²⁸⁹ The World Bank open data website. Urban population. Available at: <http://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS> (Last accessed November 4, 2015).

²⁹⁰ Viet Nam Multiple Indicator Cluster Survey (MICS) 2014. UNICEF.

Figure 24: Percentage of the population that lives in urban and rural areas in each ASEAN Member State

with a practical focus (e.g. nutritional literacy) is key for all population groups, with a special focus on school-age children and parents.²³ Moreover, it is essential that nutritious and diverse foods are available and affordable for all populations, with special attention to the most vulnerable groups. It has also been identified that nutrient lists and food labels have a positive effect in improving the quality of the diet, although only in those populations already interested in healthier diets.³⁵ Effective national legislation is needed on the marketing of foods and non-alcoholic beverages to children, based on WHO recommendations,²⁹¹ as well as policies on the sale of unhealthy products in or near schools and policies on healthy school meals.

3. Increased food prices

Affordable food prices are key to ensure that the most vulnerable populations have access to diverse and nutritious foods. However, food price crises (2007, 2008) during recent years have had a negative impact on ASEAN Member States, leading to the consumption of inadequate quality and quantity of foods by the poorest and most vulnerable populations, especially in urban areas. According to the Food Price Monitoring and Analysis from FAO,²⁹² initial concerns regarding damage to major crops being harvested or about to be gathered in 2015 led to increased pressure on prices. However, prices declined during the last months of 2015 in some food commodities in the majority of ASEAN Member States (with exceptions in Myanmar and Indonesia).²⁹³

Since food purchases account for 50–70% of total household expenditure in South and Southeast Asia, it is essential that governments mitigate the risks of lack of access to nutritious foods by the most vulnerable populations through social protection programmes (food or cash transfer), food subsidies, imposed price controls, restricted exports, reduced import duties and help to farmers with agricultural inputs.²⁹⁴ It is also crucial for ASEAN Member States to strengthen food and nutrition governance and design more supportive, sustainable, and long-term nutrition and food security policies with broader investment in food production and research. In addition, governments in the region could benefit from partnering with international development partners to sustain and strengthen targeted safety nets for the most vulnerable populations.²⁹⁴

²⁹¹ WHO (2010). Set of recommendations on the marketing of foods and non-alcoholic beverages to children. Geneva; World Health Organization (http://apps.who.int/iris/bitstream/10665/44416/1/9789241500210_eng.pdf, last accessed November 1, 2015).

²⁹² FAO. Food Price Monitoring and Analysis Regional Roundups (<http://www.fao.org/giews/food-prices/regional-roundups/detail/en/c/335935/>, accessed November 4, 2015).

²⁹³ FAO. Food Price Monitoring and Analysis (<http://www.fao.org/giews/food-prices/home/en/>, accessed September 2, 2015).

²⁹⁴ Mitigating the nutritional impacts of global food price crisis: workshop summary. Chapter 4: responding to the crises at the country level (2010) (<http://www.nap.edu/read/12698/chapter/6>, accessed September 2, 2015).

4. Climate change and natural disasters

Climate change has a direct impact on nutrition security since it affects all determinants of malnutrition. On the other hand, greenhouse gases derived from different diets contribute to climate change. Southeast Asia is highly vulnerable to climate change, since a great part of the economic activity and population are concentrated in coastal areas. Moreover, the increased severity and frequency of natural disasters will most likely translate into reduction of agricultural outputs, crop yields, soil fertility and forest and animal productivity.²⁹⁵ The poorest populations are directly affected by these climate change effects and by seasonal fluctuations. Frequent natural disasters and weather cycles will in turn have an aggravating impact on the economic status of the most vulnerable populations, reducing access to sufficient, nutrient-dense foods.²⁹⁵ Natural disasters such as earthquakes, floods and tsunamis are associated with food shortages, lack of safe drinking-water, inadequate health-care systems, overcrowding, poor hygiene practices, and an abandonment of breastfeeding, which invariably translate into a prompt increase in cases of acute malnutrition and worsen pre-existing nutritional deficits of the most vulnerable populations.²³

Individual and government measures are needed. Individuals can choose diets that are healthy and represent lower greenhouse gas emissions to contribute to the prevention of climate change. Adjustments to livelihoods and housing, for example may be needed by those living in risk-prone areas. On the other hand, governments need to address the climate change-related threats with nutrition-sensitive adaptation and mitigation measures, nutrition-smart investments, increased policy coherence, and institutional and intersectoral collaboration. In order to achieve this, governance will need to be strengthened and climate-resilient policies developed.²⁹⁶ Moreover, governments and civil society should continue to educate the population in climate change and nutrition and food security-related topics, and all rural, periurban and urban stakeholders should be empowered to participate in the development of strategies to reduce the effects of climate change.

5. Inadequate resilience

Natural and man-made disasters threaten countries and communities, especially the most vulnerable populations. Child mortality rates spike during emergencies. In the aftermath of disaster, governments and development partners in the ASEAN region usually focus on short-term responses, such as preventing mortality, treating acute malnutrition, preventing morbidity and sustaining the nutritional status of the population.

Yet, not enough efforts are put in the anticipation of disasters and in the building of resilience. As a consequence, shocks are often not adequately dealt with and affect individuals, communities and countries in a more dramatic manner, especially when it comes to dealing with the most vulnerable and disadvantaged children. It is therefore key for governments and development partners to focus on longer-term responses to ensure that vulnerable communities and systems are resilient to shocks.²³ In order to achieve this, it is imperative that ASEAN Member States strengthen their health, food security and nutrition systems, among others. Countries should reduce disaster-related risks through the implementation of measures that address vulnerability. For example, in order to reduce risks, it is important that countries locate health utilities and services in safe, low-impact areas. Furthermore, disaster risk management should be institutionalized.

6. Food industry

The food and beverage industry and their marketing practices have a tremendous impact on the population's diet and consumption patterns, both negative and positive. This extraordinary influence on people's decisions could be positively utilized to improve the eating habits of the population and address current nutrition challenges in the region. This can be achieved by helping the population to access healthy food products. It is therefore crucial that the food industry take responsibility over this issue, guided by government policies and standards, and be held accountable. One of the biggest challenges for the food industry is, however, the relatively poor understanding and low level of commitment to inducing positive and long-term dietary behavioural change towards a more diverse and healthier diet.²⁹⁷ Meanwhile, governments

²⁹⁵ Mason JB and Shrimpton R (2010). Sixth Report on the World Nutrition Situation. UNSCN, Geneva, Switzerland.

²⁹⁶ UNSCN (2010). Climate change and nutrition security. Message to the UNFCCC negotiators. United Nations Standing Committee on Nutrition.

²⁹⁷ Buttriss JL (2013). Food reformulation: the challenges to the food industry. Conference on 'Future food and health'. Symposium III: Food innovation and health. Proceedings of the Nutrition Society, 72, 61–69.

should consider economic tools that create incentives for certain healthy behaviours and disincentives for unhealthy ones, such as subsidies and taxes. Additionally, nutrition policies and dietary guidance should be protected by the State from the undue influence of commercial and other vested interests. Measures and tools to assess conflict of interest should be included as policy options to promote healthy and diverse diets. One of the measures to ensure that the food industry supports and coordinates with the government in their endeavour to improve nutritional outcomes is through the creation, implementation and enforcement of legal mechanisms by ASEAN Member States that encourage certain actions on a compulsory or voluntary basis, respectively, depending on the importance or urgency of the matter.

7. Inequities

Income inequality is rising in ASEAN.²⁹⁸ Widening disparities are not only found between countries, but also within countries, among ethnicities (including indigenous populations), between migrants and residents, between communities and households, between rural (especially those that are geographically isolated) and urban populations, and among different economic quintiles. For example, in Cambodia, children from the lowest wealth quintile suffer more than double the prevalence of stunting of those from the highest wealth quintile (42% and 19%, respectively).⁴⁵ In Lao People's Democratic Republic, children living in rural areas show almost double the prevalence of stunting of those who live in urban areas (49% and 27%, respectively).⁴⁹ While socioeconomic status is directly associated with certain forms of malnutrition, such as stunting, other forms of malnutrition are not so clearly linked to socioeconomic status (SES), such as anaemia. Generally, as a country's GNP increases, the burden of obesity shifts towards lower SES groups.²⁹⁹

With regard to gender disparity in ASEAN Member States, women still suffer from discrimination, reduced opportunities, greater levels of violence and less freedom of choice.³⁵ Improving the autonomy of women to make decisions, or their capacity to access resources, improves the nutrition of their children.³⁰⁰ This in turn favours national human and economic development. Since ASEAN Member States are characterized by disparity in terms of size, economic development, and health and nutritional status, different solutions should be identified to ensure equity in each country. All improvements to ensure a more equitable environment will accelerate improvements in nutrition.³⁵

8. Social and cultural factors

Food and nutrition security depends on social factors, as well as economic and institutional factors. Social factors can therefore affect the quantity and quality of food. Socio-cultural practices can often have a negative impact in health and nutrition.³⁰¹ For example, in many ASEAN Member States it is common to identify the existence of widespread cultural beliefs, food myths and taboos that often lead to suboptimal dietary intake by mothers and children, and distorted perceptions of healthy weight. Identifying such myths and carrying out campaigns to bring correct information through behavioural change models for mothers and caregivers is essential. In addition, many ASEAN Member States are home to a number of cultures within society. However, it is often seen that social inequalities can be observed across all cultures.

Social norms can have an impact on eating behaviours and drive individuals to eat healthy food or, on the contrary, unhealthy options. Parent's choices also influence the way children eat and what they eat.³⁰² In addition, cultural practices with regard to healthy/non-healthy eating habits can have a lot of influence on individuals. Therefore, it is important that individuals and communities as a whole receive adequate information and are given the tools to make appropriate choices.

²⁹⁸ Carpenter D, McGillivray M (2013). Narrowing the Development Gap: Policy Recommendations for ASEAN and Development Partners. In *Narrowing the Development Gap in ASEAN: Drivers and Policy Options*. USA: Routledge, 178–200.

²⁹⁹ Friel S, Baker P (2009). Equity, food security and health equity in the Asia Pacific region. *Asia Pac J Clin Nutr* 18(4):620-632.

³⁰⁰ Richards E, Theobald S, George A, Kim JC, Rudert C, Jehan K and Tolhurst R (2012). Going beyond the surface: gendered intra-household bargaining as a social determinant of child health and nutrition in low and middle income countries. *Social Science & Medicine* 95: 24-33.

³⁰¹ Burchi F, Fanzo J, Frison E (2011). The role of food and nutrition system approaches in tackling hidden hunger. *Int J Environ Res Public Health* 8(2): 358–373.

³⁰² Fisher JODC, Mitchell H, Smiciklas-Wright, Birth LL (2002). Parental influences on young girls' fruit and vegetable, micronutrient, and fat intakes. *Journal of the American Dietetic Association* 102(1):58-64.

Key messages chapter 8:

Recommendations for ASEAN Member States regarding how to overcome challenges:

1. Tackling malnutrition and the challenges that are associated with the implementation of nutrition-specific and nutrition-sensitive interventions is central to ensuring the achievement of the global nutrition targets, the diet-related global targets on NCDs and the recently endorsed SDGs, which will lead to a more resilient, equitable, economically stable and healthy population.
2. **Governance and delivery challenges need to be overcome:**
 - Intersectoral coordination is essential at all stages of the process, from the preparation of legal frameworks to the formulation, implementation and monitoring and evaluation of nutrition-specific and nutrition-sensitive interventions. It is also essential at all levels: from the national level, through the regional/provincial/state levels, to the lowest administrative level.
 - Adequate, timely and predictable funding is key to ensure the effective delivery of nutrition interventions. Advocacy efforts should be carried out to encourage traditional donors to increase their spending on this area and to mobilize governments to strongly boost allocation of domestic resources to all sectors involved.
 - Many ASEAN Member States still need to further develop capacities for nutrition at all levels of governance and institutions. Extensive capacity gap analyses should be carried out. In addition, more attention needs to be given to nutrition capacity development at the organizational and systemic levels, with special focus on i) the improvement of capacities of decision-makers to increase governmental investments in both nutrition-specific and nutrition-sensitive interventions, ii) capacity-building and strengthening for the design and implementation of logistic and infrastructure systems, and iii) monitoring and evaluation systems.
 - Advocacy efforts will need to be carried out to develop new regulations where needed, improve existing legal frameworks and enforce those policies. It has been identified that implementation of programmes and interventions is most effective when they are implemented through mandatory regulations. Enforcement and adherence to legal measures should be continuously assessed through monitoring and reporting mechanisms. Penalties for non-adherence should also be in place and implemented.
 - Development, access to and analysis of comprehensive high-quality nutrition security information in the ASEAN region are essential to accelerate progress towards eliminating malnutrition. The data need to be more effectively used to analyse bottlenecks and gaps, which can then be addressed to improve programme performance.
 - Robust mechanisms that allow the achievement of credible, timely and high-quality data are necessary to track whether nutrition commitments result in action, making stakeholders in all ASEAN Member States accountable for their actions.
3. **Wider context challenges need to be overcome:**
 - ASEAN Member States should create an enabling environment and develop comprehensive strategies that focus both on vulnerable groups living in urban or periurban areas, but also in the general urban population that is experiencing increased overweight and obesity, and diet-related NCDs as a consequence.

- ASEAN Member States should promote healthy eating habits among the entire population. It is also essential that nutritious and diverse foods be available and affordable for all populations, with special attention to the most vulnerable groups. Effective national legislation is needed on the marketing of foods and non-alcoholic beverages to children, as well as policies on sale of unhealthy products in or near schools and policies on healthy school meals.
- It is essential that ASEAN Member States mitigate the risks of lack of access to nutritious foods by the most vulnerable populations through social protection programmes (food or cash transfer), food subsidies, price controls, exports restrictions, import duty cuts and helping farmers with agricultural inputs.
- ASEAN Member States need to address climate change-related threats by using nutrition-sensitive adaptation and mitigation measures, nutrition-smart investments, increased policy coherence, and institutional and intersectoral collaboration. In order to achieve this, governance will need to be strengthened and climate-resilient policies will need to be developed.
- ASEAN Member States should focus on longer-term responses to ensure that vulnerable communities and systems are resilient to shocks. In order to achieve this, it is imperative that Member States strengthen their health, food security and nutrition systems, among others. Countries should reduce disaster-related risks through the implementation of measures that address vulnerability and build resilience.
- ASEAN Member States should consider economic tools that create incentives for certain healthy behaviours and disincentives for unhealthy ones, such as subsidies and taxes. One of the measures to ensure that the food industry supports and coordinates with the government in their endeavour to improve nutritional outcomes, is through the creation, implementation and enforcement of legal mechanisms that ensure or encourage certain actions in a compulsory or voluntary basis, respectively, depending on the importance or urgency of the matter.
- ASEAN Member States should identify different solutions to ensure equity in each country, based on the level and origin of disparities in terms of size, economic development, and health and nutritional status. All improvements achieved to ensure a more equitable environment will accelerate improvements in nutrition.
- ASEAN Member States should ensure that individuals and communities as a whole receive adequate information and are given the tools to make appropriate choices, since cultural practices with regard to healthy/non-healthy eating habits can have a lot of influence on individuals.



Family looks out a window of their home on South Surin Island, Thailand. They are part of the Moken ethnic group of sea nomads. Their village was one of two destroyed by the 2004 tsunami.

Photo credit: ©UNICEF/UNI41533/Mohan

Chapter 9:

RECOMMENDATIONS

To tackle the increasing challenges faced by ASEAN Member States in achieving the nutrition-related SDGs and global targets, a series of policy options have been proposed through several strategic documents at the global and regional levels, most of which have been endorsed by WHO Member States (see Annex 3).

To advance the creation of an enabling environment for nutrition and outline main areas for action that can facilitate progress towards achieving the global targets for nutrition and nutrition-related NCDs, as set out in chapter 2, the ASEAN Member States, UNICEF and WHO recommend the following:

Strengthen national nutrition policies and legislative frameworks:

- a) Strengthen national nutrition policies as well as policies for various settings (including educational institutions and the workplace) so that they comprehensively address the double burden of malnutrition, as well as nutrition in emergency preparedness and response.
- b) Create an enabling environment for good nutrition through the establishment or updating of legislative and regulatory frameworks, consistent with internationally available standards (see Annex 3), and advocate for adequate mechanisms to safeguard against conflict of interest, including:
 - marketing of foods and non-alcoholic beverages to children, including mechanisms for monitoring;
 - marketing of breast-milk substitutes;
 - maternity protection for public, and private sector workers, as well as mother- and baby- friendly workplace policies to facilitate breastfeeding;
 - food and condiment fortification with micronutrients, as necessary and feasible;
 - food safety and quality;
 - nutrition labelling.
- c) Develop guidelines, recommendations or policy measures that engage all stakeholders in the food supply chain to:
 - increase availability, affordability and consumption of healthy foods;
 - provide consumers with clear nutrition information;
 - reduce the level of salt/sodium, saturated and trans-fats and sugars added to food.
- d) Consider economic tools, such as taxes and subsidies, to create incentives for behaviours associated with improved health outcomes, encourage consumption and improve the affordability of healthier food products and discourage the consumption of less healthy options.

Promote multisectoral and multi-stakeholder commitment, policy coherence and action

- a) Make nutrition explicit in the countries' overall development policies, including economic and social development plans, poverty reduction strategies and other relevant sectoral strategies. Prioritize the nutrition indicators reflected in the global nutrition targets/SDGs, in consideration of the local setting.
- b) Allocate adequate funds for nutrition action, based on costing exercises for the implementation of nutrition plans in all relevant sectors; establish budget lines and national financial targets for nutrition.
- c) Implement effective and active intersectoral and multi-stakeholder governance mechanisms for the implementation of nutrition policies, as well as common results frameworks at the regional, national and local levels. Depending on the context, leadership for nutrition may be most effective at the highest level of government, or the inter-ministerial level, to ensure that nutrition is well-positioned in the development agenda and prioritized across all relevant sectors.

Implement effective nutrition-specific interventions at scale and equitably, within national plans and budgets and as part of emergency response

- a) Identify and target the most vulnerable populations.
- b) Implement with high coverage evidence-based nutrition-specific interventions (see detailed list in chapter 5), particularly during the first 1000 days of life.
- c) Strengthen health systems and promote universal health coverage (facility and community based) and principles of primary health care, including all proven nutrition interventions relevant to the country in maternal, newborn, child and adolescent health services.
- d) In relation to nutrition in emergencies, strengthen nutrition information systems, map the existing risks for disasters, build emergency nutrition capacities at all levels, and ensure that emergency nutrition preparedness plans and communication plans are in place.

Promote social and behaviour change, empowering and engaging the community

- a) Implement comprehensive evidence-based communication strategies for social and behaviour change to improve nutrition.
- b) Engage local governments and communities in the design of plans to expand nutrition actions and ensure their integration in existing community programmes, and provide support for the implementation of community-level nutrition actions that take into account the local context.

Strengthen institutional capacity and the workforce

- a) Identify and map capacity needs in multiple relevant sectors.
- b) Implement a comprehensive approach for capacity-building, including workforce, leadership and management development, community-based and civil society organizations, and academic institutions.

Ensure a coherent monitoring, evaluation and accountability framework

- a) Strengthen nutrition surveillance, in accordance with international standards, to assess the nutritional status and dietary practices of the population as appropriate, and to inform nutrition policy-making. This includes harmonization of nutrition surveillance across ASEAN Member States with regard to indicators, methodologies, timing of data collection, and nationally representative surveys.
- b) Develop or strengthen nutrition monitoring systems for the regular collection of information on selected process, output, and outcome indicators towards achieving the global nutrition targets/SDGs.
- c) Strengthen the quality and use of evaluation in order to assess the implementation of existing nutrition policies and plans, address bottlenecks and barriers and improve the coverage and quality of programmes.



Families rent land around a pond with water to grow vegetables in Kompong Speu, Cambodia.

Photo credit: ©UNICEF/UNI82798/Vink

Ruzita Hajis and her daughters wait for attention at the Gelang Patah Family Health Clinic, Gelang Patah, Johor Bahru, Malaysia.

Photo credit: ©UNICEF/UNI97007/UNICEF



Chapter 10:

CASE STUDIES

1 Brunei Darussalam

Maternity Leave Regulation 2011: a success story in supporting exclusive breastfeeding practice among working mothers

2 Cambodia

Lesson learnt on complementary feeding practices in Cambodia: case study

3 Indonesia

A Community infant and young child feeding counselling at scale: lessons learnt from Indonesia

B The Scaling Up Nutrition Movement: Successful experiences from Indonesia in moving to multi-sector action

4 Lao People's Democratic Republic

A Introduction of home fortification with Multiple Micronutrient Powders in the frame of Infant and Young Child Feeding interventions

B Establishment of a multisectoral coordination mechanism for improved nutrition in Lao People's Democratic Republic

5 Malaysia

A Managing obesity in Malaysia – nutrition interventions

B Breastfeeding promotion: Malaysia's success story

6 Myanmar

Success in enacting the International Code of Marketing and setting up of a monitoring group in Myanmar

7 The Philippines

Management of wasting in the Philippines: lessons learnt from disasters and emergencies, from practice to policy

8 Singapore

Case study on weight management programmes for overweight and severely overweight children and youth in Singapore

9 Thailand

A Thailand's success story in reducing undernutrition in Thai children

B Success story – salt iodization in Thailand

10 Viet Nam

Strengthening maternity protection and the International Code in Viet Nam: extension of maternity leave from 4 to 6 months and ban of advertisement of breast-milk substitutes for children up to 24 months



1 MATERNITY LEAVE REGULATION 2011: A SUCCESS STORY IN SUPPORTING EXCLUSIVE BREASTFEEDING PRACTICE AMONG WORKING MOTHERS

In 2001, in line with the WHO-UNICEF recommendation, the Ministry of Health of Brunei Darussalam introduced its National Breastfeeding Policy as part of its endeavour to protect, support and promote the practice of exclusive breastfeeding (EBF) among women in the country. Despite this, it was identified that only 27% of children were exclusively breastfed up to six months and that around 50% of mothers had already given up EBF after two months,³⁰³ which coincided with the return to work after 56 days (8 weeks) of maternity leave.³⁰⁴ It was also observed that the main reasons for cessation of breastfeeding among the mothers were the perception of insufficient breast-milk and the return to work. Maternal employment has often been cited in the literature as one of the key barriers to exclusive breastfeeding among mothers. Early return to work following delivery has been associated with early cessation of breastfeeding.³⁰⁵ It has also been suggested that, to lengthen the duration of breastfeeding, a delayed return to work was necessary.³⁰⁶ A study by Damit et al. found that one of the major reasons cited for early weaning among working mothers is insufficient time to express breast-milk whilst at work.³⁰⁷

In Brunei Darussalam, a study showed that the prevalence of EBF in 2010 among working mothers fell from 71% at one month after birth to 51% at two months.³⁰⁸ At six months, the EBF prevalence declined further to 23%. Working mothers in the private sector were also found to be less likely to practice EBF than those working in the public sector, with the prevalence of EBF at six months being 18% and 25%, respectively.

On January 1, 2011, the Government introduced the new Maternity Leave Regulation, which extends the duration of the maternity leave from 56 days (8 weeks) to 105 days (15 weeks). All married female civil servants, as well as female citizens and permanent residents working in the private sector, are entitled to this paid extended leave. In the interest of protecting the maternity rights of female employees in the private sector, His Majesty's Government also bears the costs of their salaries for the final five weeks of their 15-week maternity leave. Additionally, private sector employers may also face a penalty of BND 1000 or six months imprisonment or both if they fail to comply with this new regulation.

The impact of this new maternity leave regulation was shown by a study that looked at breastfeeding data collected from all 22 Maternal and Child Health (MCH) clinics throughout the country.³⁰⁹ Infants are routinely reviewed every month at the MCH clinics from one to six months of age, where their feeding status is also

³⁰³ Brunei Darussalam (2009). 2nd National Health and Nutritional Status Survey (NHANSS) Phase 1 : 0-5 Years Old.

³⁰⁴ Ministry of Health, Brunei Darussalam (2013).

³⁰⁵ Guendelman S, Kosa JL, Pearl M, Graham S, Goodman J, Kharrazi M (2009). Juggling work and breastfeeding: effects of maternity leave and occupational characteristics. *Pediatrics*, 123(1), e38-46.

³⁰⁶ Ogbuanu C, Glover S, Probst J, Liu J, and Hussey J (2011). The effect of maternity leave length and time of return to work on breastfeeding. *Pediatrics*, 127(6), e1414 -e1427.

³⁰⁷ Damit AR, Ya'akub R, Latip J., Apandi, R., Mohd Noor S, et al (2009). Measuring the effects of attitude, environment and knowledge among breastfeeding working mothers in Brunei Darussalam. Unpublished.

³⁰⁸ Mohammed Alhaji M, Sharbawi R, Majeed A and Tuah NAA (2015). Comparative exclusive breastfeeding practice among mothers in 2010 and 2013 in Brunei Darussalam: assessing impact of paid maternity leave extension. Manuscript submitted for publication.

³⁰⁹ Said N, Sharbawi R, Sadiq MA, Tuah NAA (2015). Impact of Maternity Leave Regulation 2011 on exclusive breastfeeding practice among working mothers between 2010 and 2013 in Brunei Darussalam. Unpublished analysed data.

recorded.³¹⁰ For this study, the breastfeeding status of infants of married working mothers that were born in 2012 and 2013 were reviewed. The mothers were civil servants, Bruneian citizens or permanent residents employed in the private sector. A total of 6168 eligible mothers were included in the study without sampling. Similar breastfeeding data of infants born in 2010 (before the introduction of Maternity Leave Regulation 2011) were also used as comparison.

Key findings:

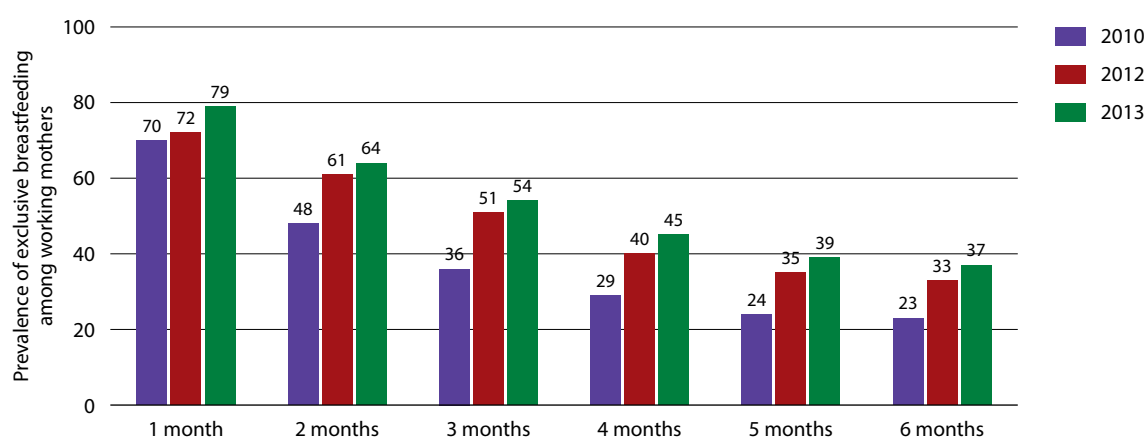
Working mothers are now exclusively breastfeeding their babies for longer time, with EBF prevalence at six months increasing from 23% in 2010 to 33% in 2012 and 37% in 2013 – an improvement of 10 points and 14 points, respectively. Women working in both the public and the private sector showed improvement in their EBF prevalence levels compared to 2010 (Table 1).

Table 1: EBF prevalence at six months among working mothers by employment sector

	2010	2012	2013
Public sector	25%	37%	40%
Private sector	18%	23%	29%

Another key finding is that the prevalence of EBF is highest at one month after birth and gradually declines thereafter. In 2013, the prevalence of exclusive breastfeeding fell from 79% at one month to 54% at three months, coinciding with the return to work. At six months, just over a third of mothers were still breastfeeding exclusively (Figure 1).

Figure 1: EBF prevalence among working mothers from one month to six months after delivery



The key lesson of this experience is that extending the duration of the maternity leave to 15 weeks has shown a positive impact on the EBF prevalence among working mothers in Brunei Darussalam. This encouraging outcome will help ensure that the country will be able to realize its vision of a healthy nation by 2035.

³¹⁰ Nutritional status of infants is routinely recorded at every child health clinic visit, as part of their developmental assessment. Using open-ended questions, mothers are asked what they are currently feeding their babies. If the reply is breastfeeding, she will be asked to clarify whether this is exclusive breastfeeding or mixed feeding (combination of breastfeeding and formula feeding). It is noted that this is not the internationally validated, standard method of establishing exclusive breastfeeding.

Maternity Leave Regulation 2011 booklets distributed in antenatal clinics to increase awareness among pregnant women of their maternity leave rights. Source: Ministry of Health, Brunei Darussalam

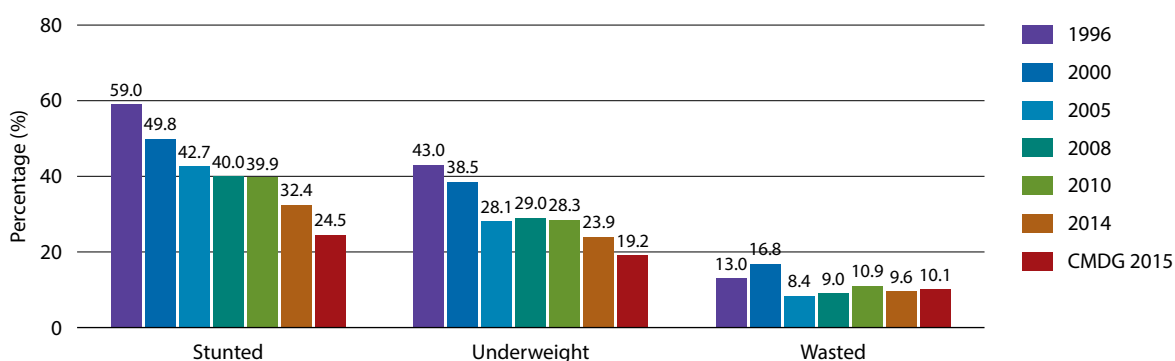




2 LESSON LEARNT ON COMPLEMENTARY FEEDING PRACTICES

Evidence from a study that was carried out in 14 low-income countries showed that consumption of solid foods by infants six to eight months old, intake of diverse complementary foods and sufficient intake of iron-rich foods were associated with significantly lower probabilities of becoming stunted and underweight. In addition, the study also showed that mothers with a higher educational attainment, who initiated breastfeeding within the first hour after birth and who met the WHO guidelines for dietary diversity, had infants at lower risk of underweight and/or stunting.³¹¹

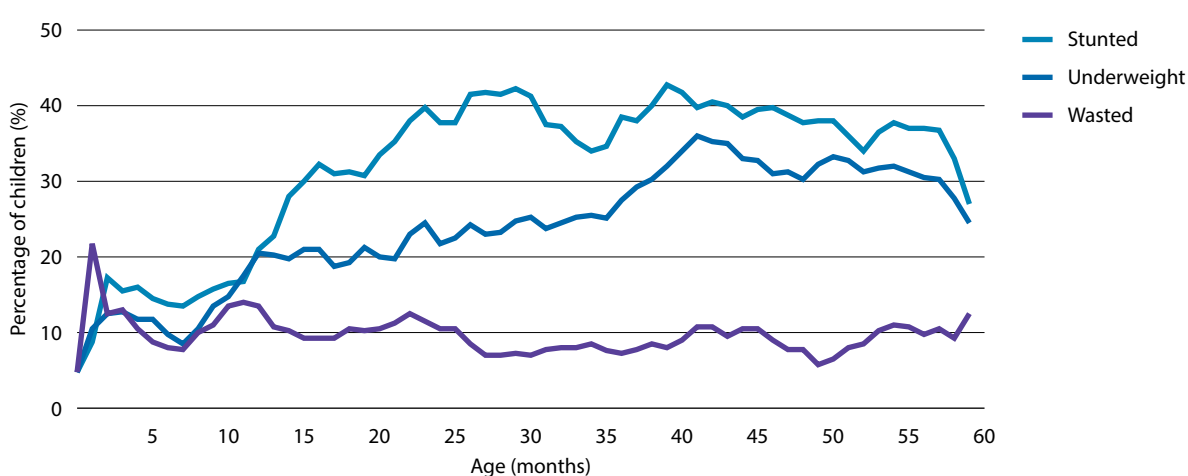
Figure 1: Trends in stunting, underweight and wasting (1990–2014)



Source: CSES 1996; CDMS 2000, 2005, 2010 and 2014.

In Cambodia, the prevalence of wasting, underweight and stunting in 2014 were 9.6%, 23.9% and 32.4%, respectively.⁵ Undernutrition has declined significantly since 1996, particularly stunting, which was 59%, while wasting (13% in 1996) has decreased the least.

Figure 2: Nutrition status of children by age



³¹¹ Marriott PB, White A, Hadden L, Davies CJ and Wallingford CJ (2011). World Health Organization (WHO) infant and young child feeding indicators: associations with growth measures in 14 low-income countries. *Maternal and Child Nutrition*.

The prevalence of underweight and stunting increases sharply at the point where complementary feeding starts.³¹² The percentage of children suffering from stunting increased steadily with age, from 16% among infants under six months of age and 17% for infants 9–11 months old, to 28% among infants 12–17 months of age, up to 39% among children aged 24–35 months.²⁸⁰

Data on complementary feeding in Cambodia indicate that the minimum Infant and Young Child Feeding standards for infants from 6–23 months old are not met, with only 30% receiving a minimum acceptable diet in 2014. Appropriate complementary feeding practices have shown only slow improvement since 2010.

Table 1: Trends of Minimum Acceptable diet

No.	Indicators	CDHS 2010	CDHS 2014	Trends
1	% of appropriate complementary feeding (minimum acceptable diet) for infants aged 6-8 months	13.5	16	↑
2	% of appropriate complementary feeding (minimum acceptable diet) for infants aged 9-11 months	21.0	27	↑
3	% of appropriate complementary feeding (minimum acceptable diet) for infants aged 12-17 months	31.0	38	↑
4	% of appropriate complementary feeding (minimum acceptable diet) for infants aged 18-23 months	24.0	32	↑
5	% of appropriate complementary feeding (minimum acceptable diet) for infants aged 6-23 months	24.0	30	↑

Approximately 15% of 4–5 month-old breastfeeding infants were already consuming food made from grains in 2010, and 8% consumed food made from meat, fish, poultry, and eggs.³¹³ Interestingly, while 57.4% of breastfed infants from six to 23 months of age met the minimum IYCF standards, only 11.8% of non-breastfed infants of the same age met the minimum standards. Moreover, one in five breastfed infants aged four to five months of age were receiving solid, semi-solid or soft foods too early. Moreover, the exclusive breastfeeding rate declined from 73% in 2010 to 65% in 2014. At age 12–17 months, 78% continue to be breastfed, and 40% at 18–23 months of age.

Current interventions to improve complementary feeding by Ministries of Health

As a result of the issues highlighted above, a complementary feeding intervention was included in the IYCF programme, with support from WHO, UNICEF and NGOs. It aimed to improve complementary feeding, starting at six months of age, with continued breastfeeding for at least two years and beyond. Ministry of Health strategies to promote appropriate practices include:

- a establishment of policy and legal frameworks such as Sub-decree on Marketing of Products for IYCF and National Policy on IYCF 2002-2008;
- b implementation of community-based nutrition interventions (C-IMCI³¹⁴) and the establishment of a Baby-Friendly Community Initiative (BFICI);
- c implementation of advocacy and communication strategies, such as the COMBI (Communication for Behaviour Impact) strategy for complementary feeding.

All these initiatives and strategies provide detailed programmatic guidance and tools for improving complementary feeding in Cambodia. The strategies are currently being implemented by the National Nutrition Programme (NNP), in collaboration with a number of relevant government institutions,

³¹² Cambodia Demographic and Health Survey (CDHS) 2014.

³¹³ Cambodia CDHS 2010 (National Institute of Public Health and National Institute of Statistics, Phnom Penh, ORC Macro, 2011).

³¹⁴ C-IMCI: Community Integrated Management of Childhood Illness.

United Nations agencies and other development partners, and civil society. The key interventions to promote appropriate complementary feeding at the community level are cooking demonstrations, through nutrition education and mass media campaigns (comprising radio and television spots). It is estimated that more than 500 000 pregnant and lactating women listen to these radio spots every month. These interventions are part of BFCI (established in 2004),³¹⁵ which is the community-based initiative to support, promote, and protect breastfeeding and promote appropriate complementary feeding practices³¹⁶ through the creation and training of mother's support groups at the village level and through the establishment of close links between communities and with health centres. By 2014, BFCI covered 6265 villages out of a total of 14 000. To strengthen complementary feeding practices, a campaign was launched in 2012 to promote cooking and feeding of appropriate complementary food to children. It was implemented in BFCI villages of 10 provinces.³¹⁷ In addition, complementary feeding messages were delivered through interpersonal communication at Child Health Fairs.²⁸⁵ A Multiple Micronutrient Powder supplementation programme for infants aged 6–24 months was implemented from 2011 to 2015 in a total of 14 provinces.³¹⁸ Some estimates indicate that a reduction in anaemia of 6.4 percentage points was achieved from 2012 to 2014 (from 74% to 68%).²⁸⁶ Several problems have hindered the effectiveness of this intervention, such as the lack of appropriate targeting at the health centre level, lack of stock and low acceptability by mothers.

Monitoring and supervision

Currently, the routine monitoring and supervision of nutrition-related activities such as the BFCI, micronutrient powders and cooking demonstrations is conducted quarterly at the national and subnational levels. Training is carried out directly in monitoring sites, such as hospitals or health centres. A Cambodia Demographic and Health Survey (CDHS) is conducted every five years and the Health Management Information System (HMIS) from the Ministry of Health provides data every year.

Results of the programmes

The data from 2010 to 2014 (Table 1) shows that the minimum acceptable diet is improving for all age groups of young Cambodian children. However, more efforts are needed in the implementation of complementary feeding strategies and programmes to increase the number of children receiving the minimum acceptable diet.

The challenges of implementing interventions

Lack of human and financial resources constitutes the main challenge for the successful implementation of complementary feeding interventions. For example, one challenge identified is the lack of economic resources to scale-up complementary feeding interventions to the entire country. Other challenges identified in the implementation of the MNP programme were: a) budget constraints to scale up the programme, which could be solved by distributing MNPs only to targeted populations or by developing a cost-recovery strategy; b) lack of monitoring of distribution and coverage, and c) lack of acceptability of the product by mothers. Challenges also exist for improving complementary feeding behaviours. The decline in prevalence of exclusive breastfeeding, the introduction of solid or semi-solid food too early and the use of inappropriate complementary foods might be due to the fact that working mothers need to return back to work after three months of maternity leave and they often lack support from the family. Certain traditional practices and beliefs with regard to feeding practices are still common, such as feeding small children between six and eight months of age with plain porridge only. Finally, additional challenges are the lack of motivation and lack of commitment by governmental officials at all levels.

³¹⁵ Foote D (2007). Final Report: Baby-Friendly Community Initiative (BFCI) and Baby Friendly Hospital Initiative (BFHI) in Cambodia, Phnom Penh, Cambodia: Ministry of Health.

³¹⁶ UNICEF (2009). Implementation Guidelines for Baby-Friendly Community Initiative (BFCI), Phnom Penh, Cambodia: UNICEF.

³¹⁷ 10 provinces: Siem Reap, Banteay Meanchey, Pursat, Kampong Cham, Kampot, Battambang, Stung Treng, Kampong Cham and Svay Rieng.

³¹⁸ Kingdom of Cambodia/UNICEF. Cambodia 2014 National Nutrition Report. (2014).

Key lessons learnt

- Radio and other communication methods are useful in Cambodia to reach a large portion of the population, especially the rural population, with messages on adequate complementary feeding practices.
- In order to ensure that a MNP programme is affordable and sustainable, approaches to minimize the cost of the interventions and optimize the impact should be designed.
- In case of budget constraints, MNPs should be targeted to the most vulnerable populations and social marketing strategies should be developed to ensure certain degree of cost-recovery.
- Community-based nutrition intervention strategies allow community participation and empowering.
- A small compensation should be provided to volunteers that support the implementation of the MNP programme. Funds allocated by the central government to local governments to address local issues can be utilized for this purpose.



3a COMMUNITY INFANT AND YOUNG CHILD FEEDING COUNSELLING AT SCALE: LESSONS LEARNT

The prevalence of all forms of malnutrition is high in Indonesia. Stunting affects 37% of children aged less than five years, while 12% are wasted and 11% are overweight.⁴⁷ There has been no improvement in malnutrition levels since 2007, and disparities in nutritional status persist across geographic areas and by wealth status.

One of the factors that is likely to contribute to the high levels of malnutrition in Indonesia is poor infant and young child feeding (IYCF) practices. In 2012, only 42% of infants under six months were exclusively breastfed and only 37% of infants 6–23 months received the “minimum acceptable diet” Indonesian Demographic and Health Survey (IDHS) 2012.

To address this situation, the Government of Indonesia developed a National IYCF Strategy in 2011, which provides the framework for actions to improve IYCF practices in the country. One of the actions that has been pursued is the design, introduction and scale-up of community Maternal Nutrition and IYCF (c-MIYCF) counselling services.

Indonesia has an extensive network of integrated community posts (Posyandu) at sub-village level that are operated by community health workers (CHWs) known as *kader*. On average, there are four *Posyandu* and 20 CHW per village that provide monthly health and nutrition services to children aged less than five years, including growth monitoring and promotion, twice-yearly vitamin A supplementation and routine immunizations. Up until 2011, this considerable workforce was not effectively engaged in promoting and supporting optimal IYCF practices at community level.

In 2011, the Government of Indonesia adapted the global c-MIYCF Counselling Package for use in Indonesia. These adaptations included a greater focus on maternal nutrition; the role of fathers in supporting IYCF practices; and the addition of a growth-monitoring and promotion component.

A cascade training model was then developed to support rapid scale-up of the c-MIYCF package. It comprises a pool of Master Trainers, responsible for Facilitators, who are in turn responsible for training village midwives and CHWs. The Facilitators comprise officials in the District Health Office, as well as nutritionists and midwives working in health centres (*Puskesmas*) at sub-district level.

The training methodology is participatory and applies adult learning principles, which acknowledge that adults learn best by reflecting on their personal experience. It uses the experiential learning cycle method and prepares participants for hands-on performance of skills, by focusing on mastery and performance of one set of skills and knowledge at a time. A variety of training methods are employed, such as counselling tools, visual aids, demonstrations, group discussion, case studies, role plays, and field practice. The MIYCF job aids include a flip-chart, counselling cards and leaflets.

Stringent criteria were introduced in Indonesia to ensure that only trainee Master Trainers and Facilitators who demonstrate the necessary knowledge, skills and competencies progress to a training role. Firstly, only individuals that have already been trained on the 40 hours Breastfeeding Counselling Course or Complementary Feed Course are eligible to become a Master Trainer. Secondly, all trainee Facilitators must complete two batches of on-the-job training for CHWs, with supervision from an existing Facilitator, before they can train CHWs independently. Thirdly, a report card is used throughout the entire training process



Infant and young child feeding counseling training for community health workers in Klaten District, Central Java.

Photo credit: ©UNICEF Indonesia/2012/Estey

to track the performance of each trainee Facilitator and assess whether they (a) can progress directly to training others, (b) require addition coaching in order to address specific capacity gaps; or (c) lack the basic knowledge, skills or competencies to progress further.

Processes and tools for supportive supervision have also been developed to further develop the skills and knowledge of CHWs after the training. CHWs maintain a logbook to record all counselling interactions with mothers/caregivers, which helps to build accountability for the provision of IYCF counselling services.

To date, approximately 24 provinces and more than 100 districts have rolled out the c-IYCF package using financial resources from the Government and its partners, including United Nations agencies and nongovernment organizations. This training has resulted in the preparation of over 10 000 trained CHWs, who collectively counsel approximately 100 000 mothers (each CHW is responsible for counselling 10 mother/infant pairs). In addition, every trained health worker is encouraged to facilitate the establishment of at least one mother-to-mother support group in their village.

Changes in stunting and IYCF practices have been evaluated in three districts where the c-MIYCF package was introduced (Klaten, Sikka and Jayawijaya Districts). Between the “baseline” in 2011 and “endline” in 2014, the prevalence of stunting in children aged 0–35 months declined from 30% to 24% and the percentage of infants aged less than six months who were exclusively breastfed increased from 52% to 72%. In addition, there was a significant improvement in complementary feeding practices among children living in the poorest wealth quintile: the proportion of children consuming adequate food groups (“minimum dietary diversity”) increased from 15% to 25% and the proportion that had a “minimum acceptable diet” increased from 7% to 17%. These findings suggest that IYCF counselling services delivered through community-level structures (*Posyandu*) are effective in reaching the most vulnerable children.

Challenges:

- 1 Health workers and CHWs are familiar with giving information to caregivers on IYCF practices, but often lack the skills and competencies to effectively *counsel* mothers. Constant reinforcement on appropriate counselling approaches is required to reverse the tendency to provide unidirectional messages instead of two-way counselling.

- 2 Actions to strengthen the enabling environment have yet to be fully realized, including the implementation and monitoring of national legislation to protect breastfeeding. In addition, potential conflicts of interest have arisen in nutrition programmes which could interfere with establishment of optimal IYCF practices.

Lessons learnt:

- 1 The implementation of Infant and Young Child Feeding Counselling Package has improved the knowledge, attitudes and practices of mothers in providing optimum feeding practices for their young children.
- 2 The establishment of strict criteria for selecting IYCF facilitators and evaluating their performance is a good lesson learnt that can be applied in other country settings as well as for other nutrition training programmes.
- 3 Supportive supervision following training is essential to further develop the knowledge, skills and competencies of IYCF counsellors, particularly counselling skills.



3b THE SCALING UP NUTRITION MOVEMENT: SUCCESSFUL EXPERIENCES IN MOVING TO MULTISECTORAL ACTION

Indonesia is battling high levels of both undernutrition and overnutrition. The Basic 2013 Health Research Survey found that all forms of malnutrition remain very prevalent in children under five years: 37% were stunted, 12% are wasted and 12% are overweight. Undernutrition is also common among women and is likely to contribute to poor pregnancy outcomes and undernutrition in the next generation. Anaemia affects 22.7% of women of reproductive age and 37.1% of pregnant women, while 24.2% of women of reproductive age have a low mid-upper arm circumference (less than 23.5 cm) and are at risk of chronic energy deficiency. Poor feeding, caring and hygiene practices, household food insecurity, lack of sanitation, and inadequate access to good quality health services all contribute to malnutrition in Indonesia. There is no single solution to these issues, and the Government of Indonesia recognizes that multisectoral action is critical.

In 2011, the Government signed up to the global Scaling Up Nutrition (SUN) Movement as one of the “early riser” countries. In September 2012, it launched its own national movement known as the “First 1000 Days of Life Movement” or its abbreviation “1000 HPK”. The Movement brings together multiple sectors and stakeholders to work together to lower the prevalence of stunting and other forms of malnutrition and change the course of children’s lives for the better.

Policy and legal framework for SUN

In May 2013, the Government of Indonesia released Presidential Decree (42/3013) that provides the legitimate regulatory framework to operationalize scaling up nutrition efforts in Indonesia. The Policy Framework for SUN Movement in Indonesia identifies five nutrition goals that cover stunting, wasting, anaemia, low-birth weight, obesity and exclusive breastfeeding.

Many of the provisions of the International Code of Marketing of Breast-milk Substitutes have been endorsed in Government Regulation No. 33/2012. The Maternity Protection Law legislates for three months of maternity leave, which is slightly less than the minimum length of 14 weeks recommended by the International Labour Organization. Legislation for fortification of flour and salt iodization is in place and mandatory fortification of oil will begin in 2016.

Multi-sector, multi-stakeholder coordination on SUN

The Presidential Decree articulates the coordination structures for the various sectors and stakeholders under the SUN Movement. At the national level, the multi-sector National Task Force is supported by a Steering Committee and Technical Committee. Six working groups have been established to support the Technical Committee in the areas of campaigns, advocacy and communication, planning and budgeting, capacity building/training, environmental health risk assessment and partnerships. In addition, there are three stakeholder networks comprising donors and United Nations agencies, civil society organizations and the business sector. Guidelines are currently being developed to assist the government in identifying and responding to actual or potential conflicts of interest among SUN stakeholders in Indonesia.

Implementing and aligning programmes

The National Plan of Action on Food and Nutrition (2011–15) provides the common results framework for nutrition-specific and nutrition-sensitive actions in country. The forthcoming plan for 2015–2019 is currently under development and will incorporate SUN principles, the sustainable development goals, outcomes of the second International Conference on Nutrition (ICN2), as well as national priorities articulated in the Medium Term Development Plan (2015–2019), which identifies stunting as a main development indicator.

Indonesia has taken action to better converge and integrate actions across sectors. Two social protection programmes are currently working to increase their impact on nutrition outcomes: Program Keluarga Harapan (PKH), a conditional cash transfer programme; and Program Nasional Pemberdayaan Masyarakat Generasi Sehat dan Cerdas (PNPM Generasi), a community empowerment programme. These programmes target the extreme poor and have huge potential to reduce the burden of undernutrition among the most vulnerable children and women.

PKH provides cash transfers to poor women on the condition that the pregnant women and young children utilize health and nutrition services and that school-age children attend school. A study in 2011 found that PKH increased uptake of health services, but had no impact on nutrition status. A pilot project, PKH Prestasi, is currently underway to enhance the nutrition-sensitivity of PKH by improving coordination between social welfare and health stakeholders; improving the supply of good quality nutrition services through capacity building of health workers and PKH facilitators; and increasing the demand of PKH beneficiaries for nutrition services through Family Development Sessions.

The “Community-Based Health and Nutrition to Reduce Stunting Project” is supported by the Millennium Challenge Corporation (MCC) and works in 64 districts in 11 provinces to enhance the impact of PNPM Generasi on the nutritional status of children and women. This project is financing the block grants and equipping PNPM Generasi community facilitators with knowledge and skills on nutrition so that they can assist community members to identify ways to effectively use the village block grants to improve health and nutrition outcomes. The project is training health workers and community-based workers on how to provide counselling to mothers on maternal nutrition and on infant and young child feeding. It also has a component on community-led total sanitation because of the increasing evidence linking poor water, sanitation and hygiene with stunting.

The “Mother class” programme aims to provide community empowerment, by improving the knowledge and attitude of mothers and their families on maternal and child health care practices, including nutrition. The programme is facilitated by midwives or health workers, by using the Maternal and Child Health handbook as well as flipcharts. It was designated as a national programme in 2009 and implemented nationwide by 2015, in a total of 34 provinces, 511 districts and 8201 health centres. The programme is considered crucial to overcome demand-side barriers in increasing the coverage of key health and nutrition indicators, in order to accelerate the reduction of maternal and under-five mortality rates.

Mobilizing resources

Efforts and resources are concentrated on preventing malnutrition during the critical first 1000 days of life. The Government and partners have tools that are being used to track budget allocations on both nutrition-specific and nutrition-sensitive interventions. As Indonesia is decentralized, it is important to mobilize resources from local government budgets, as well as the central budgets.

Lessons learnt

- In Indonesia, the issuance of a Presidential Decree for the SUN Movement was instrumental in enabling high-level support for the SUN Movement, which is needed to bring all sectors on board.
- The inclusion of stunting as a main development indicator in the National Medium Term Development Plan (2015–2019) reinforced the need for action across multiple sectors.
- The national and subnational Plans of Action on Food and Nutrition provide the road map for multisectoral actions to improve nutrition.
- Social protection programmes have huge potential to improve nutrition because they target the most vulnerable children and women who are at greatest risk of stunting and other forms of malnutrition.



Pregnant women gather on their way to an antenatal check-up in Klaten District, Central Java, Indonesia.

Photo credit: ©UNICEF Indonesia/2012/Estey

Challenges

The SUN Movement has been effective in elevating the political prominence of nutrition in Indonesia, including the focus on stunting and the first 1000 days of life. Policy frameworks, national plans and coordination structures are more multisectoral and multi-stakeholder, and innovative approaches are underway to increase the nutrition-sensitivity of programmes. It is now crucial to build the capacity of provinces and districts to design, manage and monitor the scale-up of essential nutrition-specific and nutrition-sensitive interventions. This is challenging given the decentralized nature of Indonesia: there is need to build the advocacy case for nutrition among 34 provinces and approximately 500 districts in the country to secure the necessary budget allocations to support actions.

POLICY FRAMEWORK FOR THE SUN MOVEMENT IN INDONESIA

Vision

- Satisfaction of food and nutrition requirements of every mother and every child so each of them can realize their full potential and right to adequate nutritious food

Mission

- Ensuring establishment of coordination mechanism(s) among various stakeholders to ensure the fulfilment of the nutrition and food requirements of every mother and every child
- Ensuring provision of adequate nutrition education to improve the quality of the dietary intake of the mother and child

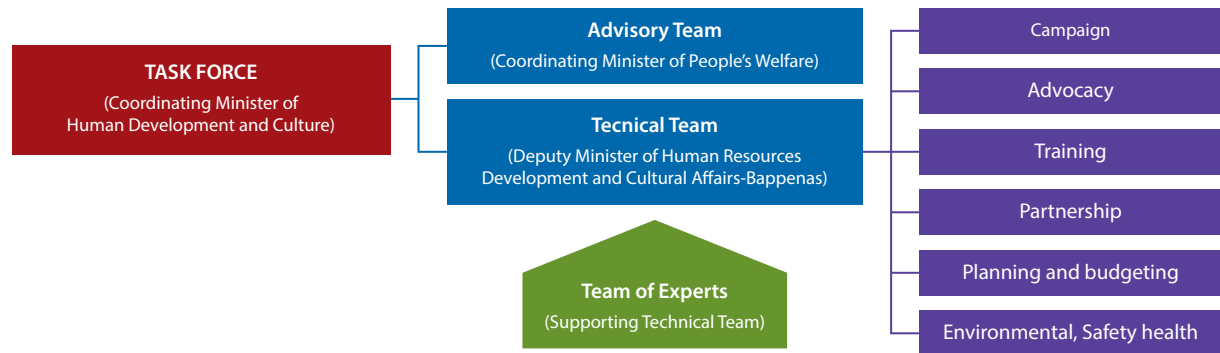
Goals

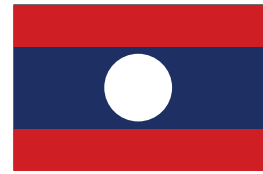
- Reduce the proportion of stunting in children under five to 32%
- Reduce the proportion of underweight in children under five to <15%
- Increase exclusive breastfeeding for 0–6 months to 80%
- Reduce the proportion of low-birth-weight infants by 30%
- No increase in the proportion of overweight children under-five

Outcomes

- Increased multisectoral partnership for the implementation of nutrition-sensitive programmes to address malnutrition
- Increased coverage (or scale-up) of nutrition-specific interventions which are cost-effective

Coordinating structures for SUN in Indonesia:





4a INTRODUCTION OF HOME FORTIFICATION WITH MULTIPLE MICRONUTRIENT POWDERS IN THE FRAME OF INFANT AND YOUNG CHILD FEEDING INTERVENTIONS

Over the past decade, Lao People's Democratic Republic has made great strides in reducing poverty, yet rates of undernutrition in children are among the highest in Southeast Asia. About 44% of children under five are stunted and one in four children is underweight.³¹⁹ Like many other countries in the region, mineral and vitamin deficiencies are widely prevalent in Lao People's Democratic Republic and constitute a severe public health problem, even if they are often invisible. An estimated 42% of children under five years of age or 63% under two years of age are suffering from anaemia.³²⁰ The prevalence of stunting and anaemia by age shows a particularly steep increase in malnutrition in the first two years of life. This indicates the special importance of the first 1000 days of life (from conception until two years of age) for prevention of "growth faltering" and for improving child nutrition.

One of the major immediate causes of malnutrition is represented by inadequate complementary feeding practices, such as timeliness, frequency and quality of diets of young children. Lack of animal protein consumption, vegetables and fruit among infants of 6–15 months is a likely contributor to high rates of anaemia and other micronutrient deficiencies in this age group. A 2013 study conducted by the National Institute of Public Health in Lao People's Democratic Republic revealed that the best diets given to young children in the country cannot satisfy their requirements in iron and certain other micronutrients.

While the number of infants that experience early initiation of breastfeeding (39%) and exclusive breastfeeding to six months (40%) has increased over recent years, continued breastfeeding at 12 and 24 months declined (to 73% and 40%, respectively).³²¹ It is estimated that only 16% of children meet the minimum dietary diversity criteria and almost none (5%) meet the minimum acceptable diet criteria.³²² Dietary intake by Lao infants and young children is poor and can be explained by inadequate childcare and YCF practices, widespread food taboos around child feeding, poor nutritional status of the mother before and throughout pregnancy and socioeconomic constraints.

The National Nutrition Strategy and Plan of Action (NNS-NPAN, 2010–2015) of Lao People's Democratic Republic aims to address anaemia and other micronutrient deficiencies through home fortification of children's diets with MNPs³²³ in combination with education of families with infants and young children on appropriate complementary feeding including the need for dietary diversification. The national plan aimed to ensure that by end of 2015, 80% of children of 6–23 months would have their diets fortified with MNPs. Globally, the provision of micronutrients is regarded as one of the most cost-effective interventions for economic development, boasting the highest development returns on investment.³²⁴ Furthermore,

³¹⁹ Lao Social Indicator Survey (LSIS) 2011-12 (multiple indicator cluster survey/demographic and health survey).

³²⁰ Multiple Indicator Cluster Survey (MICS) 2006.

³²¹ Lao Social Indicator Survey (LSIS) 2011/12.

³²² Nutrition tag-on survey to LSIS 2011/12 in four provinces of Lao People's Democratic Republic.

³²³ MNPs are sachets containing a blend of vitamins and minerals in powder form. One sachet of 1g dry powder contains 15 micronutrients (iron, zinc, selenium, copper, iodine, vitamin A, vitamin B, folic acid, vitamin C, vitamin E, etc.). It can be easily added to semi-solid foods prepared in the home and allows families to fortify a young child's food at an appropriate and safe level for healthy physical and cognitive development.

³²⁴ Copenhagen Consensus (2012).

MNPs are one of the 13 highly effective direct nutrition interventions endorsed by the SUN global movement and recommended by WHO for populations with poor dietary diversity and high levels of anaemia (over 20%, as seen in the Lao case).

Since 2012, the Ministry of Health of Lao People's Democratic Republic with support from UNICEF, European Union and Mines and Minerals Group developed and tested operational delivery models for MNPs accompanied with appropriate complementary feeding promotion and counselling focused on dietary diversity in three southern provinces of Lao People's Democratic Republic: Saravane, Savannakhet and Attapeu. The initial implementation experience in these areas demonstrated high levels of enthusiasm and acceptance of home fortification by national and local authorities, service providers and communities.

This new initiative makes use of two operational delivery models. The **first model** includes the free distribution of MNPs for 6–23 month-old infants through the health sector. It aims at universal coverage with a focus on reaching the poorest and most remote populations and is integrated in a package that includes IYCF and WASH interventions. The **second model** includes market-based distribution of MNPs for 6–59 month-old children through private sector outlets (i.e. pharmacies, shops). This model allows caregivers to purchase MNP at an affordable price. The potential to achieve full cost recovery makes this model appear sustainable in the long term. One of the challenges, however, is that it might be difficult to bring the MNPs to the most remote areas of the country. In addition to the distribution of MNPs, a behaviour change communication strategy was developed, based on results obtained from extensive formative research. This strategy reinforces the promotion of appropriate complementary feeding and hygiene practices including the use of appropriate food vehicles for MNP supplementation based on extensive formative research in order acceptability.

The community-based IYCF promotion and counselling program in Lao People's Democratic Republic involves a mix of communication approaches that reinforce key IYCF messages: interpersonal communication with caregivers, pregnant and lactating women through health staff at point of service (health centres, hospitals and outreach) and by village Lao Women's Union volunteers using visual materials such as counselling cards, brochures, posters and banners; sustained nationwide media campaign using radio or TV spots and talk shows; and mobilization of national and local authorities and opinion leaders in support of IYCF and MNPs.

An external review conducted to assess the performance of both public and private distribution models for coverage, equity, acceptability, adherence, cost and efficiency indicates that public, free distribution is more effective in reaching a greater number of beneficiaries. Public sector distribution achieved between 70% and 99% coverage³²⁵ of the target population for subsequent rounds. The reach of MNPs via private sector distribution modality remains very low (< 5%), which is to be expected during the first year of implementation.

The design of the free distribution through quarterly integrated health outreach sessions by health staff and the involvement of Lao Women's Union at the community level – delivery channels and networks with potentially universal reach – has likely contributed to enhanced acceptability, better knowledge of caregivers and adherence to MNP. The private sector depends on marketing strategy and endorsement from clinicians and health centre staff; there seems to be room for the private distribution model to supplement public distribution especially in urban areas. In terms of policy, the review highlights that MNP distribution through the private sector needs to be regulated in programme areas that provide blanket fortified food supplementation, so that children are not overdosed with micronutrients.

Some lessons learnt from this experience are:

- The use of existing delivery channels and service delivery networks with the highest coverage and potential reach of largest number of children (health outreach, LWU volunteers) makes the model more efficient and integrated into the existing systems, however, is highly dependent on the policy development, resource allocation and commitment of programme managers to integrate new services into the existing package.

³²⁵ University of British Columbia, External Review of the SuperKid Home Fortification Program with Micronutrient Powders in Lao PDR, Preliminary Report, November 2015. Note on coverage: variation in coverage is explained by disruptions in integrated outreach in 2015 due to shifts in funding modality and change in guidelines.

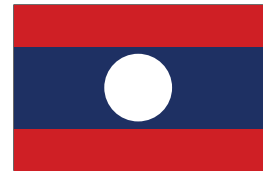


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- Appropriate communication strategies should be developed before any MNP programme is implemented, in order to ensure acceptability and adequate utilization of the supplements:
 - When preparing communication strategies, different languages and cultures should be taken into account and communication tools should be adapted locally;
 - Practical food demonstration and tasting of food by children are more memorable and appreciated by the caregivers.
- Integration of MNP delivery as a package along with other services during the health sessions for mother and child – through fixed site or outreach – is feasible.
- Regular monitoring and supportive supervision by health managers for the network of trained service providers is needed to provide encouragement and to build the confidence of the service providers. In addition, the HMIS should include relevant nutrition and MNP indicators to allow adequate monitoring of the nutrition intervention.



4b ESTABLISHMENT OF A MULTISECTORAL COORDINATION MECHANISM FOR IMPROVED NUTRITION

Despite the country's sustained economic growth over the past decade, undernutrition remains a serious development issue in Lao People's Democratic Republic. Although there have been major reductions in poverty rates, progress on reducing undernutrition is far from sufficient to meet global targets. Stunting is particularly high at 44%, which is equivalent to 385 000 children under five years of age.³²⁶ Furthermore, one in four children is underweight and 6% of children are wasted. 42% of under-fives are anaemic. The youngest age group is the worst affected, with 63% of children under two suffering from anaemia.

Such high levels of child undernutrition are mainly caused by the interaction between poor dietary intake and high prevalence of childhood diseases. Despite increases, the exclusive breastfeeding rate in Lao People's Democratic Republic remains relatively low at 40%. Complementary feeding practices are alarmingly poor with an estimated 10% of infants 6–23 months of age meeting minimum dietary diversity standards and only 5% having a minimum acceptable diet. Poor dietary intake in children is explained by a number of factors, such as inadequate knowledge, widespread food taboos and, at times, food insecurity. On the other hand, the high prevalence of childhood diseases is driven by poor access to water and sanitation facilities, high levels of open defecation and inadequate hygiene, widespread indoor air pollution and limited access to health services.

Recognizing the multisectoral nature of child undernutrition, the Government of Lao People's Democratic Republic developed the country's first National Nutrition Policy (2008), the National Nutrition Strategy to 2020 and the Plan of Action for 2010–2015. The development of the national policy and strategic frameworks has been influenced and aided by international development partners. Between 2008 and 2010, Lao People's Democratic Republic became the first REACH country.³²⁷ In April 2011, it joined the global SUN movement. These national and international frameworks were key to setting up a comprehensive agenda for nutrition action, covering nutrition-specific and nutrition-sensitive interventions in the key sectors, including agriculture and food security, poverty reduction, public health, education, and water and sanitation. However, the operationalization of the 2010–2015 Plan presented challenges due to the lack of a formal multisectoral coordination mechanism, unclear sectoral accountabilities, significant capacity constraints (human and financial) and limited coordination with and among the development partners.

In response to the coordination challenge, in 2013 the Government of Lao People's Democratic Republic³²⁸ established a multisectoral National Nutrition Committee, chaired by the Deputy Prime Minister with sufficient authority and power to mobilize multiple sectors and levels of government. The work of the NNC is supported by the Secretariat, is led by the Ministry of Health and is co-chaired by the Ministry of Agriculture and Forestry and the Ministry of Planning and Investment. Since its establishment, the NNC secretariat has been instrumental in developing strategic and operational guidance for multisectoral response to nutrition. The secretariat facilitated the development and testing of a "convergence" approach in selected districts and provinces of the country, with close engagement of health, WASH, agriculture and education sectors. It also coordinated, with support from FAO, UNICEF, WHO, WFP, MQSUN and other development partners, the updating of the National Nutrition Strategy to 2025 and the Plan of Action for 2016–2020, and led the

³²⁶ UNICEF/WHO/WB 2014.

³²⁷ REACH is a partnership of UN agencies to support nutrition at the country level (<http://www.reachpartnership.org/about-reach>).

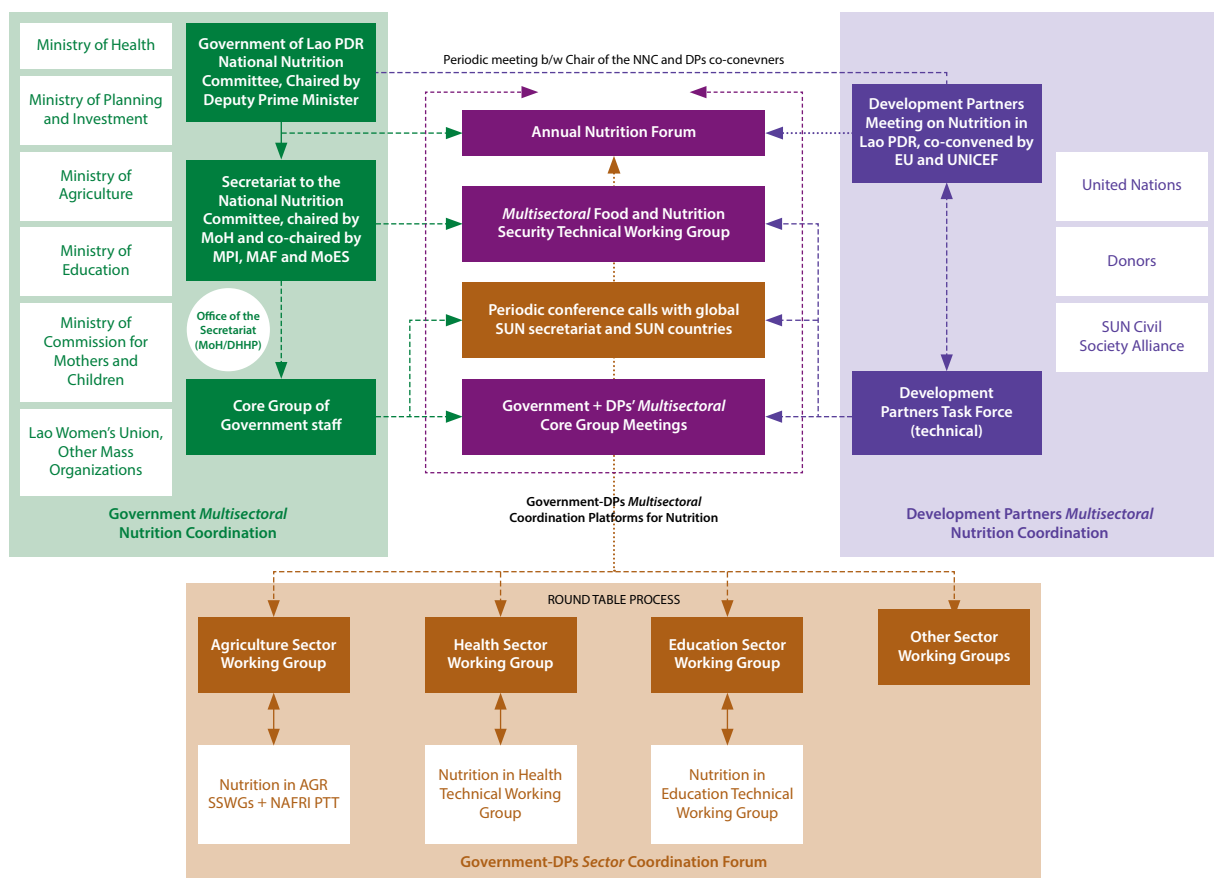
³²⁸ Prime Minister's Decision no.73 as of 31 July 2013 on the establishment of the National Nutrition Committee and its secretariat.

integration of nutrition objectives into the national and sectoral development plans for 2016–2020. The development of a Common Results Framework for Nutrition, clarifying roles and responsibilities of different sectors in implementing priority nutrition actions, has been essential to strengthen the accountability and monitoring framework for nutrition in the country. The health sector response translated into higher national budget allocation for the sector in general (from 4% to 9% of the total Government spending) and for nutrition interventions in particular. From 2013 onwards, the Ministry of Health continuously increased financial and human resource allocations for nutrition, including the establishment of a Nutrition Centre and the first ever allocation of domestic funds for the procurement of nutrition commodities.

The Government SUN focal point is key in facilitating the work of the NNC secretariat, and ensuring multisectoral and multi-stakeholder engagement within the Government and with the development partners. The opportunities for this engagement are numerous and include periodic SUN conference calls and annual reviews of the functioning of the multi-stakeholder nutrition platform.

The office of the NNC secretariat was instrumental in reaching out to development partners and seeking their engagement and support for the development of a nutrition policy and strategic framework, as well as for mobilizing partners' support for the implementation of priority nutrition actions. United Nations agencies played a significant role in the provision of technical advice in the process of designing and testing the “convergent” approach to nutrition. The European Union and UNICEF facilitated the organization of quarterly meetings with donors, agencies and international NGOs from October 2013. Thus, they contributed to improved information sharing, harmonization of approaches and increasing alignment of external development assistance to the country priorities. The office of the NNC secretariat, with support from the EU, UNICEF and the Lao SUN Civil Society Alliance, is undertaking a comprehensive nutrition mapping exercise to inform the annual planning and budgeting for nutrition with regard to Government and development partners programmes. The World Bank, the EU and UNICEF brought their resources together to help the Government develop one National Communication Plan of Action for Nutrition.

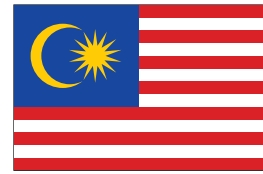
National Coordination Platforms for Nutrition in Lao People's Democratic Republic (updated May 2015)



The Lao government appears determined to strengthen multisectoral coordination for nutrition in the coming months and years. While the enabling environment for multisectoral nutrition response has been strengthened at the national level, efforts to enhance understanding and application of multisectoral nutrition governance and planning at the subnational levels (provincial, district and village levels) have just started. This remains an area of priority attention for the Government and development partners, since transformative and effective action at this level is essential to achieve further and faster improvements in the nutritional status of children, women and their families. The preliminary findings of the 2015 Food and Nutrition Security Survey in five southern provinces of the country show a significant decline in stunting – between 7 and 13 percentage points during 2012–2015 – in all four “convergent” provinces.

Some key lessons from multisectoral coordination for improved nutrition are:

- Successful multisectoral collaboration depends on political, economic, and social factors and requires buy-in and commitment from all parties working together. Lao People’s Democratic Republic integrated the multisectoral nutrition coordination approaches under the SUN movement, in order to fit the national structures, communication approaches and channels, as well as existing management arrangements (such as setting up a dedicated committee). These mechanisms continue to evolve in response to emerging needs and challenges. For example, to better link the Government and development partners and to establish a dedicated platform for high-level policy dialogue on nutrition, the Government established a National Nutrition Forum, the first meeting of which took place on November 20, 2015.
- By leveraging the strengths and varied approaches of partners, effective multisectoral coordination can reduce policy implementation barriers, facilitate scale-up, and multiply the impact that one sector or partner might have had on its own. Strong government leadership and advocacy has translated into increased domestic resource allocation in a number of areas. For example, the Ministry of Health’s commitment to scale up nutrition-specific interventions translated into significant domestic budget allocation to nutrition commodities/products and more capacity-building activities for health providers and community-based workers.
- Multisectoral planning and programming demands dedicated staff with capacity for coordination, strategic and operational planning across sectors, implementation, monitoring, advocacy and communication. The number of governmental staff working in the office of the Secretariat to the NNC was limited. They were challenged and overstretched by multiple priorities, numerous meetings and diversity of approaches by different sectors to operationalize the multisectoral work at the district and village levels and to develop the “convergence” implementation model. Timely and relevant technical and financial support from the development partners to support the work of the Secretariat was instrumental in strengthening and supporting the operation of the multisectoral structures and operationalization of the multi-stakeholder response. The joint EU and UNICEF initiative for Maternal and Young Child Security Initiative in Asia (MYCNSIA) made a significant contribution in this area.



5a MANAGING OBESITY IN MALAYSIA: STRATEGIES TO PROMOTE HEALTHY LIFESTYLES

As reported by WHO in the list of noncommunicable disease country profiles 2011, Malaysia has the highest prevalence of obesity among the twelve Asian countries that are included in the list.²⁶⁹ The accelerated phase of industrialization and urbanization has brought changes in the lifestyle of the Malaysian population. These changes extend to dietary habits and sedentary lifestyle. The National Health and Morbidity Survey (NHMS) found that the prevalence of overweight and obesity amongst adults had increased from 21% in 1996³²⁹ to 43.1% in 2006,³³⁰ and 44.5% in 2011.³³¹ As reported in NHMS 2006 and NHMS 2011, the overweight prevalence among children under five was 5.8% and 4.4% respectively. At the same time, Malaysia's children are still affected by undernutrition. The NHMS 2006 and NHMS 2011 showed stunting prevalence among children under five of 15.6% and 11.3% respectively. This phenomena of the presence of both overnutrition and undernutrition is often referred to as the “double burden”, and implies the presence of both conditions in the same country, communities, households and even in individuals: a stunted child may also become overweight.

Malaysia has taken considerable concerted measures to mitigate the increase in obesity prevalence. This is proven by the findings of the NHMS 2011, where the increase of adult obesity prevalence from year 2006 to 2011 was only of 1.1% as compared to 9.6% from 1996 to 2006. This success might be attributed to the intensive multi-pronged strategies that have been carried out to promote healthy eating habits and active lifestyle through the “from womb to tomb” approach. This approach addresses prevention and control of obesity throughout the life-course from pregnancy onwards. A well-structured two-tier system and strong delivery of the primary health care system for more than 90% of the population, which is in the majority of cases lives within 5 km of a health facility, have made the prevention and control of obesity easier. Nutrition interventions such as nutrition consultation, weight reduction programmes and cooking demonstrations are carried out at the clinic level.

In 2006, Malaysia formulated the National Nutrition Policy and National Plan of Action for Nutrition of Malaysia (NPANM) II, 2006–2015 (Figure 1). The NPANM was formulated through multisectoral efforts involving government agencies, the private sector, professional bodies and NGOs. The main objective of the Plan was to achieve and maintain optimal nutritional well-being of the population. This document outlines the strategies and programmes to be implemented by the relevant key agencies. Several strategies have been identified to address healthy eating and active living. The Ministry of Health, via the National Coordinating Committee on Food and Nutrition, is responsible for monitoring the progress and achievement of the NPANM to ensure that its implementation is in line with the guiding principle of close multisectoral collaboration.

To effectively combat obesity in the country, various guidelines and programmes to promote and empower healthy eating practices have been implemented, such as Healthy Cafeteria, Healthy Catering and Guidelines on Healthy Menus during Meetings. The Ministry of Education, in collaboration with the Ministry of Health, also published and implemented a revised Guide for Healthy School Canteen Management in 2011. This guide classifies the foods that are allowed to be sold, foods that are not recommended, and foods that are

³²⁹ Malaysia National Health and Morbidity Survey (NHMS) II 1996.

³³⁰ Malaysia National Health and Morbidity Survey (NHMS) III 2006 (based on WHO classification, 1998).

³³¹ Malaysia National Health and Morbidity Survey (NHMS) 2011 (based on WHO classification, 1998).



not permitted for sale at school canteens. A guideline to ban the sale of unhealthy food outside school premises within a 40-metre radius were also developed and implemented in collaboration with the Ministry of Urban Wellbeing, Housing and Local Government. Monitoring of this guideline is carried out the respective local governments and includes withdrawal of licensing. The Ministry of Health has also implemented the Guidelines on Advertisement and Nutrition Labelling for Fast Food Restaurants that requires all fast food restaurants to display major nutrition information such as energy, carbohydrate, protein, fat, sodium and sugar content. Regular dialogue is conducted with fast food restaurants to ensure the availability of smaller food portion sizes and healthier food and beverage options.

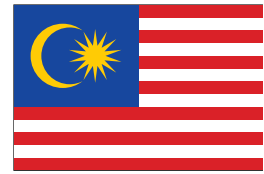
In terms of the nation's response, apart from the NPANM, the health ministry has also strengthened the Noncommunicable disease prevention and control programme in Malaysia, as outlined in the National Strategic Plan for Non-Communicable

Diseases (or NSP-NCD) 2010-2014. Malaysia subscribes to the notion of healthy public policies and acknowledges that national policies in sectors other than health have major bearing on risk factors for NCDs, including obesity. It is a well-known fact that the determinants of NCDs largely fall outside the domain of the health-care system. Two notable examples of policies in addressing NCDs in the country were the removal of sugar subsidy in October 2013 and the adoption of a Guideline on Marketing of Food and Beverages to Children in 2012, which limits the advertisement of foods high in fat, sugar and salt on television and printed media as a voluntary guideline. To further strengthen the control of the obesogenic environment, a total of ten food and beverage companies have signed a pledge on Responsible Advertising to Children or "The Malaysia Pledge" in 2014. The food and beverage companies have also given their official and full commitment to increase the production and promotion of healthier food products. The monitoring of progress on all these guidelines is undertaken through regular meeting with these stakeholders and the Malaysian Advertising Association.

The current and upcoming National Development Plan will continue to focus on prevention and promotion in health care. Individual and community empowerment will continue to be the emphasis in reducing the exposure to NCD risk factors including obesity. In 2013, the Honourable Minister of Health launched a new initiative called *Komuniti Sihat, Perkasa Negara* or KOSPEN, literally translated as "Empowering Communities, Strengthening the Nation". This is a joint initiative between the Ministry of Health and other governmental agencies at the grassroots level. Attempts are being made to add value to the existing programmes and activities of these different agencies by incorporating elements of NCD risk factor screening and interventions. The aim is to change specific behaviours, including unhealthy eating practices and physical inactivity. It is undeniable that combating obesity is not an easy task and Malaysia is well known as a "food heaven".



In ensuring the success of managing obesity with complex and diverse determinants, simultaneous action and engagement of key stakeholders are crucial. A key factor in engaging stakeholders is strong leadership from the national government, particularly from the health ministry as the lead agency. This leadership is essential to ensure that all stakeholders' work towards a common aim and objectives and also to ensure coordinated and sustained actions. As a lead agency, the ministry is forming partnerships with other agencies as well as with public and private stakeholders, in order to jointly draw up a common agenda and a work plan aimed at combating obesity.



Malaysia

5b BREASTFEEDING PROMOTION: A SUCCESS STORY

In Malaysia, the promotion of breastfeeding has been strengthened with the implementation of the Baby-Friendly Hospital Initiative since 1993. This initiative ensures that all baby-friendly maternity facilities practice the Ten Steps to Successful Breastfeeding. In March 1998, Malaysia was recognized by WHO for having all 110 government hospitals registered as baby-friendly. The National Breastfeeding Policy was formulated in 1993 and revised in 2006. The policy states that all mothers are encouraged to breastfeed their babies exclusively with breast-milk from birth until six months of age and thereafter to continue until the child is two years old. Complementary foods should be introduced when the baby is six months old.

In Malaysia, there is a well-structured implementation mechanism for the BFHI at all levels. A National BFHI Recognition Committee led by the Ministry of Health meets twice a month to review the assessments and reassessments of new baby-friendly hospitals. Hospitals that meet the criteria based on the internal assessment and monitoring are then assessed by the external National Baby-Friendly Hospital Assessors. The Baby-Friendly Hospitals are given certification by WHO and UNICEF that is valid for two years (Image 1). In addition, Malaysian Baby-Friendly plaques are valid for a period of three years (Image 2).

Image 1



Malaysia Baby-Friendly Hospital Plaque

Image 2



WHO/UNICEF Baby-Friendly Hospital Plaque

One of the challenges in BFHI implementation is the understanding and adaptation of the revised New Global Criteria WHO/UNICEF 2009. However, concerted efforts and support from various BFHI teams and committees at all levels have led Malaysia to successfully overcome these challenges. Nationwide training on the new criteria was conducted involving hospital and health staff as well as all BFHI assessors. Regular monitoring and assessment helps to maintain the quality and standard of all baby-friendly hospitals.

Since 2008, a modified BFHI concept from hospitals has also been extended to the primary health care clinics that provide maternal and child health services throughout Malaysia. One of the main reasons for the implementation of BFHI at the primary health care clinics is that more than 90% of the antenatal and

postnatal services are being carried out at these facilities. This results in increased knowledge by mothers, who become better equipped before delivery and are better prepared to sustain exclusive breastfeeding for the first six months.

To further reinforce the promotion of breastfeeding in the country, the National Lactation Centre (NLC) was established in 2009. The NLC also provides training for health-care professionals on breastfeeding counselling and lactation management. The Centre is also responsible for advocating the implementation of BFHI in private hospitals as well as providing consultative services to mothers or couples who wish to breastfeed or induce lactation for their babies.

The Ministry of Health has also implemented the Malaysian Code of Ethics for the Marketing of Infant Foods and Related Products since 1979. The overall aim of the Code is to uphold the supremacy of breast-milk and to assist in the safe and optimal nutrition of infants through the protection, promotion and support of breastfeeding. It also aims to ensure appropriate marketing and proper use, when required, of designated products and complementary foods. Monitoring data show that there are still some violations of the Code by the industry. However, a challenge is that a “full-provision” mandatory law on the marketing of breast-milk substitutes, the international gold standard as recommended by the World Health Assembly, does not yet exist in Malaysia and more work is needed to make this a reality.

Malaysia hosts the World Alliance for Breastfeeding Action (WABA), an active and dynamic global network of civil society organizations that advocate for and support breastfeeding. Malaysia is given a five-pointed star by WABA for the following four major pioneering initiatives:

- Some three decades ago, Malaysia was one of the first countries to develop a voluntary code of ethics in the marketing of breast-milk substitutes.
- Over a decade ago, Malaysia became the third country in the world to make all government hospitals baby-friendly, after Sweden and Oman.
- Malaysia is among a highly select group of countries to have a dedicated national lactation centre.
- Penang hosts the International Code Documentation Centre (ICDC), which is a member of the International Baby Food Action Network (IBFAN). The ICDC is the global authority that monitors violations of the International Code of Marketing of BMS and is also the premier capacity-building institution in the world on this topic. It has trained hundreds of government representatives and staff from other institutions in legislation, code drafting and implementation. It has also published the most authoritative manual on the subject.

The continued growth in the number of facilities designated and sustained as baby-friendly in Malaysia since 1993 is a testimony to the fact that implementation of the BFHI is an effective hospital quality-improvement activity that improves the rate of exclusive breastfeeding. Currently, a total of 123 hospitals have been re-certified using the revised New Global Criteria WHO/UNICEF 2009. Since its implementation, the BFHI and other breastfeeding promotion activities have had significant impact in increasing the rate of exclusive breastfeeding during the first six months of life. The 2014 National Nutrition Surveillance conducted routinely in all government health clinics throughout the country indicated that the rate of exclusive breastfeeding at six months³³² was 44%, higher than the global rate of 38%. Trend data from the national surveillance system shows that the national prevalence of exclusive breastfeeding at six months has steadily increased from 14.4% in 2009 to 44.4% in 2014. The latest status of population-based data on breastfeeding will be available in the National Health and Morbidity Survey (NHMS) 2016. As reported in NHMS 2006, the prevalence of early initiation of breastfeeding within an hour of birth was 63.7%. This prevalence is expected to increase in line with the steady increase of exclusive breastfeeding at six months.

Promotion of infant and young child nutrition has also been included as one of the five enabling strategies for the National Plan of Action for Nutrition of Malaysia (NPANM) II, 2011–2015 and NPANM III, 2016–2025. One of the key lessons learnt from the BFHI and other breastfeeding initiatives is that their success is to a large extent due to the multipronged approach and commitments from various sectors rather than the Ministry of Health acting alone.

³³² This data was collected from the national surveillance system and it is noted that this is not comparable to rates obtained from national household surveys using the international standard WHO methods to establish the indicator of exclusive breastfeeding.



6 SUCCESS IN ENACTING THE INTERNATIONAL CODE OF MARKETING OF BREAST-MILK SUBSTITUTES AND SETTING UP OF A MONITORING GROUP

In Myanmar, more than 90% of mothers breastfeed their babies. However, the rate of exclusive breastfeeding in infants of less than six months of age remains low. According to MICS 2010, only 23.6% of babies were exclusively breastfed up to six months. Although intensive education and counselling on optimal Infant and Young Child Feeding practices is given through a variety of channels, there are various taboos and myths around breastfeeding and complementary feeding practices in the community. At the same time, advertisement and promotion of breast-milk substitutes also hinder exclusive breastfeeding and complementary feeding practices among mothers and their social networks.

IYCF indicators in Myanmar:

Impact indicators	MICS1 (1995)	MICS2 (2000)	MICS3 (2009-2010)
Exclusive breastfeeding 0–5 months	30%*	15.8%**	23.6%
Timely initiation of breastfeeding (within one hour after birth)			75.8%
Continued breastfeeding rate 12–15 months		89.0%	91.0%
Continued breastfeeding rate 20–23 months	56%	67.4%	65.4%
Timely introduction of complementary feeding (at 6–8 months)	40%	67.3%	80.9%
Appropriate frequency of complementary feeding (2x per day 6–8 months old; 3x per day 9–11 months old)			56.5%

* Up to 4 months

** 0–3 months

In order to improve its exclusive breastfeeding rates, Myanmar revised the IYCF National Strategy and the Plan of Action (2011/12–2015/16), which aims to protect, promote and support optimal breastfeeding and complementary feeding. Community-based communication strategies regarding IYCF were initiated by the National Nutrition Centre and UNICEF in 2010–2011. The baseline study highlighted the following: (a) exclusive breastfeeding declines as infants grow older – 66% of mothers and caregivers give their children water because they feel their child must be thirsty; (b) 30% of mothers feed their infants semi-solid food to strengthen the immune system and increase the baby's weight; (c) grandmothers and mothers-in-law have strong influence on feeding practices in their families. *Less than a third of mothers/mothers-in-law encouraged their daughters to breastfeed exclusively.*

Based on the findings, two key messages have been developed to increase exclusive breastfeeding:

- 1 Breast-milk provides all the water (88%) and nutrients your baby needs for the first six months. You do not need to feed your baby extra water or rice.
- 2 Feeding your children (less than six months) rice or water in addition to breast-milk could harm your child.

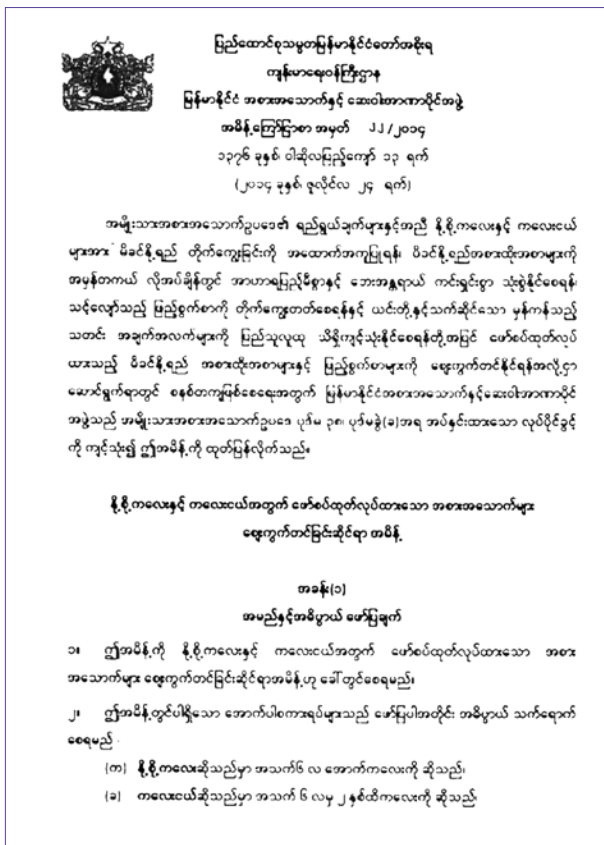
Mixed communication channels including interpersonal communication, printed and mass media linked to behaviour change communication, social mobilization and advocacy were used.



Billboards and video clips for encouraging exclusive breastfeeding in Myanmar

The billboard says: “Breast-milk is Best”. In this videotape and billboard, the mother is saying: “I give only breastfeeding to my baby up to six months. Don’t give water”. The process of monitoring and evaluation showed significant increase in the percentage of mothers who follow proper IYCF practices and an increase in the number of grandmothers involved in peer education in their community and established community groups.

In addition, in order to support breastfeeding practices, since March 2014, the Government of Myanmar expanded paid maternity leave to six months. If both parents are government employees, there is also paternity leave for two weeks.



Myanmar has also adapted the International Code of Marketing of BMS to the context of the country. With the approval of the Ministry of Health, a technical working group comprising representatives from the public health sector, clinicians, the Food and Drug Authority under the Ministry of Health, the Attorney General’s Office and the Ministry of Labour, put great efforts into developing the Order on marketing BMS. After one year of coordinated efforts on a series of literature reviews, coordination meetings, submission, review and revision based on advice by the Attorney General’s Office, Myanmar successfully endorsed and launched the “Order on marketing formulated food for infant and young child” under the National Food Law, on July 24, 2014. The Order is intended to protect, promote and support breastfeeding, covering the child from birth until his or her second birthday.

The training course on “Monitoring the International Code of Marketing of BMS” was successfully conducted in Myanmar in September 2014. That training was organized by the International Code Document Centre (ICDC) from the International Baby Food Action Network (IBFAN). The 40 recipients of the course were

nutrition staff from national and regional levels, Food and Drug Authorities, obstetricians, gynaecologists, paediatricians and representatives from the Attorney General’s Office. In addition, UNICEF facilitated similar training to representatives from international NGO with the aim of disseminating the Code and monitoring it to identify any violations.

Further, representatives from the Nutrition and the Food & Drug Authorization Departments, together with specialists from ICDC-IBFAN, discussed and recommended that official delegates be nominated to a Technical Working Group for Code monitoring. The proposed TWG members are senior officials from the Department of Public Health, the Department of Food and Drug Authorization, the Department of Medical Services, the Attorney General's Office, and the Department of Consumer Protection. The official formation of the group is currently in progress, and will be followed by an intense monitoring mechanism to enforce the order.

The two main challenges faced were the lengthy period taken for the preparation of the Order to ensure it was technically sound, and the enforcement of the Order. More human resources in both Food and Drug Authorization and National Nutrition Centre, regular budgetary allotment for surveillance and other operational cost and in-depth review of legal binding will be crucial for effective enforcement of the Order.

In addition, in order to support breastfeeding practices, since March 2014, the Government of Myanmar expanded the paid maternity leave for six months. If both parents are government employees, there is also paternity leave for 2 weeks.



Breastfeeding Communication



Breastfeeding Promotion IEC



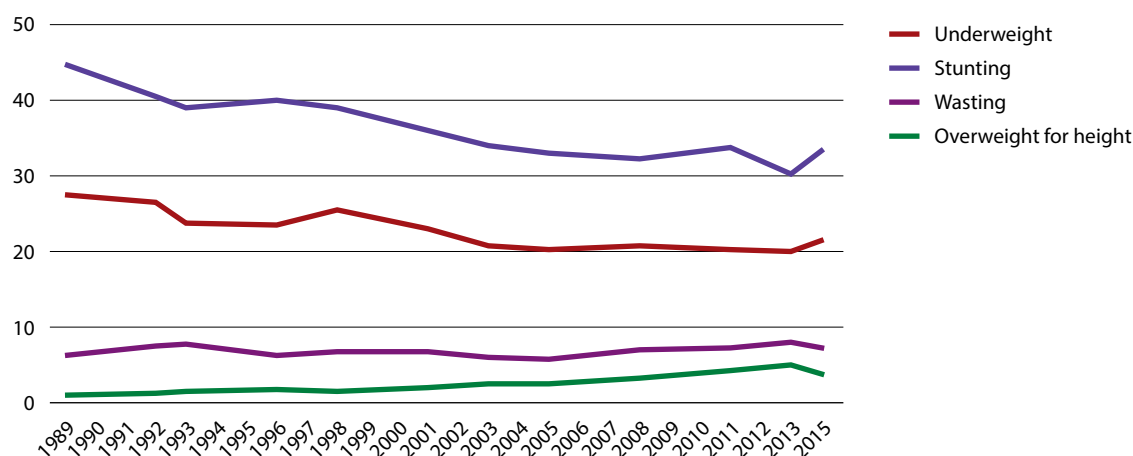
The Philippines:

7 MANAGEMENT OF WASTING IN THE PHILIPPINES: LESSONS LEARNT FROM DISASTERS AND EMERGENCIES, FROM PRACTICE TO POLICY

Undernutrition continues to be a public health priority in the Philippines as it ranks among the top ten countries in the world for stunting burden, affecting 30% or over 3.3 million children under five. The country also has one of the highest wasting rates (8%) in the East Asia and Pacific Region, with about 900 000 wasted children. If not managed, wasting poses a high risk of mortality, particularly in its severe forms.

Over the last two decades, the prevalence of wasting in the Philippines has continued to rank as “poor” (5–9%, source: Nutrition Landscape Information System) according to the WHO Crisis Classification. A consistent upward trend from 6% in 2003 to 7.9% in 2013 has been observed (Figure 1). This is especially alarming as the highest prevalence of wasting is among the poorest population groups. In addition, the Philippines is highly hazard-prone: it is affected yearly by at least 20 typhoons and has around 20 active volcanoes. During emergencies and disasters, the nutritional status of the population, particularly of vulnerable groups with already high rates of malnutrition, can worsen due to displacement or inadequate access to food and health services.

Figure 1: Trends in the prevalence of malnutrition among children, 0–59 months: Philippines, 1989 - 2015



Source: NNS 2013, FNRI

Community-Based Management of Acute Malnutrition (CMAM) in the Philippines was initially implemented in 2009 in the armed conflict-affected municipalities of Mindanao, by various international NGOs (Save the Children, Medecins Sans Frontiers, and Community and Family Services International). Fuelled by positive results, in 2010 the Department of Health convened the CMAM Working Group to explore the development of a CMAM protocol for the Philippines’ context. The following year, the draft protocol of the Philippine Integrated Management of Acute Malnutrition (PIMAM) was developed with the support of global experts. However, due to the local unavailability of essential CMAM commodities, procurement concerns from the Department of Health and a lack of a defined operational component, the guidelines were not officially adopted as a national policy.



Despite the lack of an official endorsement, the protocol was still used by the Nutrition Cluster with much success and provided lifesaving nutrition interventions in response to major emergencies such as Tropical Storm Washi (Sendong), Typhoons Bopha (Pablo) and Haiyan (Yolanda), the Bohol earthquake, the Zamboanga City Siege, and the prolonged armed conflict in Central Mindanao. The various success stories of implementing CMAM in emergency contexts have prompted local government units with a high burden of severe acute malnutrition, such as in Region V and XI (Davao City), to establish their own CMAM programmes within the regular service provision context. In particular, Davao City has integrated PIMAM into its regular funded health and nutrition programmes and services, and the city's health workers have been trained and are now accustomed to the protocol, integrating it in the routine Integrated Management of Childhood Illnesses and tapping into Operation Timbang Plus³³³ for case finding.

In 2014, following the release of the updated WHO 2013 guidelines on the management of severe acute malnutrition, and the compelling need to have updated and endorsed national guidelines, the Nutrition Cluster decided to revisit and finalize the guidelines. Under the leadership of the CMAM Working Group, a decision was made to pursue the development of guidelines for severe and moderate acute malnutrition simultaneously but separately through the support of UNICEF and WFP, respectively. A series of workshops was held to update and finalize the 2011 severe acute malnutrition guidelines into the SAM Manual of Operations. Concurrently, the group also developed the Department of Health Administrative Order, entitled "National Guidelines for the Management of Acute Malnutrition for Children Under Five Years Old", with the intent of formally integrating CMAM into regular health and nutrition programmes. This entailed an intense participatory and consultative process involving all levels of government and other relevant stakeholders, such as the private sector, academia and medical practitioners, for the final review process. These policy instruments were reviewed within the Department to lay down the national policies on CMAM. The National Guidelines on the Management of Severe Acute Malnutrition for Children under Five Years was formally launched in 2015. Starting 2016, the Department of Health is also set to scale up implementation of SAM management services in seven priority provinces. Initial funds will be set aside for the procurement of essential commodities.

³³³ Operation Timbang Plus is the annual weighing that has been done since the 1970s, with the addition of height measurement, which explains the "Plus". At present OPT Plus covers children 0–71 months old but when the Kto12 programme becomes fully implemented, the coverage of the activity will change to exclude the age group expected to attend kindergarten (5 years old).

Implementation of CMAM in the emergency context has also revealed key challenges: 1) the need to further expand training on the new protocol; 2) the need to establish formal referral mechanisms between outpatient and inpatient CMAM facilities, 3) the underdevelopment of a national reporting and surveillance system, not just for CMAM but for other nutrition services, and 4) the lack of local procurement mechanisms for CMAM supplies. In addition, a number of key lessons were learnt after the process of CMAM protocol development in the Philippines:

- It is important to have updated and evidence-based national guidelines that cover both technical and operational components in order to provide a standard guide across the country.
- Protocol development that is extensive, participatory and consultative (involving both national and subnational stakeholders and direct implementers) is a critical step in building consensus and agreement, and helps to ensure ownership. On the other hand, the time such processes can take must be factored in.
- A comprehensive CMAM programme should address the four essential components of CMAM: (a) community mobilization, (b) outpatient care for SAM without complications, (c) inpatient care for SAM with complications, and (d) management of MAM, through supplementary feeding programmes. The development of MAM protocols should be integrated within the CMAM guidelines right from the beginning.

Overall, CMAM has the power to improve survival for children under five nationwide by ensuring access to evidence-based, effective, and lifesaving interventions to prevent and treat acute malnutrition. Management of acute malnutrition that used to be done only in emergency situations, will now be integrated and institutionalized into routine programmes, and scaled up effectively to address severe acute malnutrition in both emergency and development contexts.



One year and 9 months old Jerick was lethargic, emaciated and very small for his age. He was diagnosed with Severe Acute Malnutrition (SAM), Jerick entered the CMAM program for eight weeks. He was given a Ready-to-Use Therapeutic Food (RUTF) to help him regain his health. After few weeks, Jerick is at the right weight for his age and is smiling more often.

Photo credit: ©HOM and UNICEF Philippines/2014



Singapore

8 CASE STUDY ON PREVENTING OBESITY AMONG CHILDREN AND YOUTH

Studies have shown that obese children are more likely to become obese adults.³³⁴ In Singapore, the prevalence of overweight and obesity rate among primary, secondary and pre-university students (from 7 to 18 years of age)³³⁵ has been creeping upwards over the years from 9.7% in 2009³³⁶ to 11% in 2011.³³⁷ To curb this trend, it is critical to inculcate and nurture healthy habits from a young age, using a multipronged approach comprising policy change, environmental change, targeted weight management programmes and parental support.

Policy change

On the policy front, the Health Promotion Board (HPB) introduced in 2015 guidelines³³⁸ to restrict the advertising of food and beverages high in fat, sugar, or salt to children that are 12 years old and below. The guidelines seek to encourage healthier eating habits among children, as studies have shown that children exposed to food advertising prefer and choose advertised food products more frequently than those not exposed to such advertisements. In addition, the Holistic Health Framework was introduced in schools in 2008 to make health promotion comprehensive by including the total well-being (physical, mental and social health) of students and by encouraging them to lead a healthy lifestyle.³³⁹

Environmental change

Environmental change starts at homes with optimal IYCF practices, and with the promotion of balanced nutrition and physical activity among pre-schoolers as well as primary and secondary school-age children. To better engage parents in their child's health and well-being between conception and 6–7 years of age, HPB has implemented the Healthier Child, Brighter Future initiative. The initiative comprises a tool kit that has been developed in collaboration with nine local hospitals to empower parents and parents-to-be to maintain healthy pregnancies and raise healthy children. HPB provides resource guides and conducts workshops to equip parents with the knowledge and skills to inculcate healthy habits in their children.

The pre-school and school environments are ideal platforms to reach out and positively influence the health of schoolchildren and their families. One key initiative to cultivate healthy habits is to ensure that children and adolescents are eating well-balanced and nutritious meals. The healthy meals programme in childcare centres and schools focuses on developing environments that foster healthy eating habits, by allowing children to have convenient access to healthier food and beverage options. This is coupled with

³³⁴ Freedman D, Khan L, Dietz W, Srinivasan S, Berenson G (2001). Relationship of childhood obesity to coronary heart disease risk factors in adulthood: the Bogalusa Heart Study. *Pediatrics* 108: 712-718.

³³⁵ Singapore does not monitor the height and weight of children 0–5 years of age at the national level as prevalence of stunting and wasting is low. Such children, if any, are monitored by their clinicians in their respective health-care institutions.

³³⁶ Singapore Parliamentary replies, MOE (<http://www.moe.gov.sg/media/parliamentary-replies/2010/11/school-obesity-rate.php>, accessed April 2015).

³³⁷ Ministry of Education (2012). Parliamentary reply on "Obesity and health promotion amongst students".

³³⁸ Singapore Food Advertising Guidelines took effect on 1 January 2015 (https://www.moh.gov.sg/content/moh_web/home/pressRoom/pressRoomItemRelease/2014/food---media-industries-to-comply-with-guidelines-for-food-adver.html, accessed January 16, 2016).

³³⁹ Holistic Health Framework (<http://www.moe.gov.sg/education/programmes/holistic-health-framework/>, accessed January 16, 2016).

the reduction of sugar content in drinks from vending machines and school drink stalls by at least a 25%, to ensure a sugar concentration of no more than 7 g/100 ml. This comes hand in hand with the additional installation of more water dispensers in schools to encourage water consumption.

Targeted weight management programme and parental support

Weight management programmes for children who are at risk of becoming obese are conducted in schools through interagency collaboration, particularly with the Ministry of Education (MOE). Students who are severely overweight are referred from the schools to the HPB³⁴⁰ for medical assessment, in order to exclude any obesity-related diseases. In addition, individualized lifestyle counselling and interactive programmes in the areas of nutrition and physical activity are offered to these students and their parents. This equips them with knowledge and skills to positively shape their eating and physical activity practices. The growth and weight status of these children are also regularly monitored.



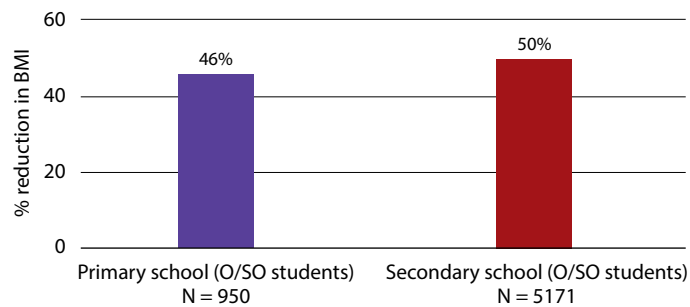
Students' workshop with physical activity and nutrition interactive games.

A number of key lessons have been identified:

- Targeted interventions for overweight students have had a positive impact in influencing the students and parents to make healthier choices. Among the primary school students, 46% (437) achieved reductions in BMI (-1.04 points on average) while 50% (2585) of the secondary school students achieved reduction in BMI (-1.18 points on average) in 2014.

³⁴⁰ In Singapore, obesity prevention and management efforts are largely coordinated by the Health Promotion Board, a statutory board under the purview of the Ministry of Health.

Figure 1: Percentage reduction in the Body Mass Index (BMI) of primary and secondary school students based on programme monitoring through the Students' Programme Survey



- Surveys were carried out to understand the needs of the students. Findings showed that students from mainstream schools preferred trendy and fun workouts (e.g. Zumba) that they could identify with, to manage their weight. Students also suggested that online exercise workouts, coupled with a reward scheme, would motivate them to continue exercising.
- A follow-up model was necessary to ensure that students continued to adopt healthy lifestyle and eating habits in their daily lives, in order to manage their weight. Hence, with the support of the schools, “foot soldiers”³⁴¹ were introduced to offer consistent follow-up and interaction with the students, based on their needs.
- The erroneous mindset that children will eventually “grow out” of obesity as they grow older, coupled with competing needs in their daily lives, are key challenges that parents face in recognizing the overweight or obesity problem in their children. In order to increase the participation rate of parents, weight management programmes were promoted through the schools’ websites and editorials, as well as through HPB’s marketing strategies. In addition, parents were offered the flexibility to choose the nearest location and preferred dates to attend weight management workshops or assessments.

³⁴¹ These are the School Health Executives and Student Health Advisers. School Health Executives deepen the engagement with the students and increase the uptake and reach of HPB’s programmes, while Student Health Advisers are nurses deployed to schools who offer follow-up and counselling for at-risk students.



9a SUCCESS STORY IN REDUCING UNDERNUTRITION IN CHILDREN

Thailand has had success in alleviating undernutrition since the 1980s, particularly in relation to maternal and child malnutrition. Undernutrition was first included in the national agenda in 1977 with the five-year National Economic and Social Development Plan (1977–1981) and a Food and Nutrition Plan. The subsequent National Economic and Social Development Plan (1982–1986) constituted the turning point for Thailand's development. At that time, the nation's Poverty Alleviation Plan was designed to alleviate poverty and malnutrition by fostering multisectoral planning to cover the Food and Nutrition Plan and primary health care. It involved institutions from the central government to the community level with government budgets. The nutrition indicators, including low birth weight, underweight of under-five children and school children, and adequate antenatal care (ANC) coverage, were part of the Basic Minimum Need indicators.

The community-based approach in the frame of the primary health care involved the mutual efforts of social service providers and community participation. Village health volunteers, one per 10 households, were selected among the local population and trained at community level. They did not receive money but the Government granted them free medical care for themselves and for their families. Their major roles were to: assist local health service providers with nutrition and health communication; encourage mothers to attend ANC, which provided daily multivitamins and iron tablets; promote the consumption of supplementary foods in the form of local nutritious snacks for pregnant women; promote breastfeeding; help infant and young children to receive adequate community-based complementary foods; and take part in growth monitoring and promotion, and immunization activities.

The Department of Health set underweight (measured by weight for age) as the main indicator and it was reported every three months by health workers. These health workers were assisted by village health volunteers, who collected the data for the growth monitoring and promotion, and gave nutrition education to parents. Groups of mothers were taught to prepare high-protein and high-energy recipes for undernourished infants and young children by utilizing local foods such as rice, legumes and sesame. They also followed up the children until they were free from moderate and severe acute malnutrition. A government budget was distributed to each village, in the form of a revolving fund, to purchase rice, legumes and sesame as a complementary food mix.

In 1992, the National School Lunch Programme (SLP) and the School Milk Programme (SMP) were implemented by law with government funding, starting from kindergarten to grade 4 primary school children and expanding to grade 6. The SLP and the SMP not only aimed to alleviate undernutrition but to teach students about nutrition and to promote healthy eating habits for good nutrition and health. Moreover, both programmes benefitted local farmers and local dairy industry. As a result of these food and nutrition programmes, including the SLP and the SMP, Thailand has made substantial progress towards eliminating hunger and chronic malnutrition since the 1980s, when underweight was as high as 51%.³⁴² The latest national survey (MICS 4) conducted in 2012 identified that, between 1987³⁴³ and 2012,³⁴⁴ the prevalence of underweight of under-five children decreased from 25.8% to 9.2%, and stunting from 23% to 16.4%.

³⁴² Winichagoon P (2013). Thailand nutrition in transition: situation and challenges of maternal and child nutrition. *Asia Pac J Clin Nutr* 22(1): 6,15.

³⁴³ Institute of Population Studies, Chulalongkorn University, Thailand, Westinghouse Institute for Resource Development (1987). Thailand Demographic and Health Survey 1987. Columbia, United States: Westinghouse Institute for Resource Development.

³⁴⁴ Thailand National Statistical Office. Thailand Multiple Indicator Cluster Survey (MICS) 4 – 2012. Anthropometric status for children 0–59 months of age.



However, there has been an increase in wasting of under-five children in recent years comparing MICS 3³⁴⁵ (2006) and MICS 4⁴¹ (2012), from 4.7% to 6.7%. About 90,000 children under five are estimated to have severe wasting in Thailand. At the same time, the country has experienced an increase in the prevalence of overweight, obesity and NCDs. The prevalence of overweight and obesity for children under five has risen from 5% in 2006³⁴⁵ to 8.7% in 2009³⁴⁶ and 10.9% in 2012.⁴¹ This double burden, also referred to as the “nutrition transition”, affects Thailand similarly to other emerging economies. Another challenge is the poor infant and young child feeding practices. Only 12.3% of Thai infants less than six months are exclusively breastfed, which puts them at risk for malnutrition.

Most recently, the Strategic Framework for Food Management was developed under the National Food Committee Act in 2008, as the national mechanism to link agriculture with food, nutrition and health in all dimensions and at all levels. This included the coordination of a multisectoral team including the agricultural sector, the health sector, local governments, academia, the private sector and NGOs. The

framework covers four main strategic themes: food security, food quality and safety, food education and food management.

The most recent national nutrition policy (2014–2016) developed by the Bureau of Nutrition clearly identifies three nutritional challenges: (i) obesity prevention; (ii) iodine deficiency disorder prevention and control, and (iii) full potential growth of children in Thailand. The comprehensive implementation plan on maternal, infant and young child nutrition with six global targets is on track. The concepts used for campaigns and promotional activities are designed to fit with the new lifestyles of the population. Micronutrient fortification, supplementation, and food diversification will be implemented in addition to ongoing programmes such as USI, fish sauce fortification with iodine, weekly dose of iron supplementation in preschool and school-age children and daily supplementation with iodine, iron and folic acid in pregnant women. At the same time, the policy stipulates advocacy on food and nutrition for health promotion. Research and development activities are also planned.

The key components for success in reducing undernutrition in Thailand include the following: (1) nutrition as a national agenda with multisectoral collaboration and government investment; (2) mass mobilization with community participation; (3) basic indicators including nutrition indicators for problem identification, goal-setting and for monitoring and evaluation of outcomes and impacts; (4) basic or minimum services in health, education and agriculture supplied by local service providers who serve in planning and implementing community action plans, and (5) corrective actions to promote healthy eating habits and solve major health-related nutritional problems.

Currently, the new challenge in Thailand is the coexistence of undernutrition with an increasing prevalence of overweight and obesity. Interventions to address both of these key components need to be prioritized in order to prevent and control these challenges. Efforts to address undernutrition need to be revitalized and updated, with a particular focus on improving IYCF practices, which are the main cause of stunting and wasting. At the same time, overweight programming, which is currently focused on older children and adults, needs to focus on the youngest children as well in order to prevent overweight from an early age. The Strategic Framework for Food Management will continue to be the platform for coordination, harmonization and facilitation that will allow the planning, implementation and evaluation of integrated actions at national and community levels.

³⁴⁵ Thailand National Statistical Office. Thailand Multiple Indicator Cluster Survey (MICS) 3 – 2006. Anthropometric status for children 0–59 months of age.

³⁴⁶ Office of National Health Examination Survey, Health System Research Institute (2010). Report of the fourth Thailand Health Examination Survey: 2008-9. Child Health. Thailand (in Thai).

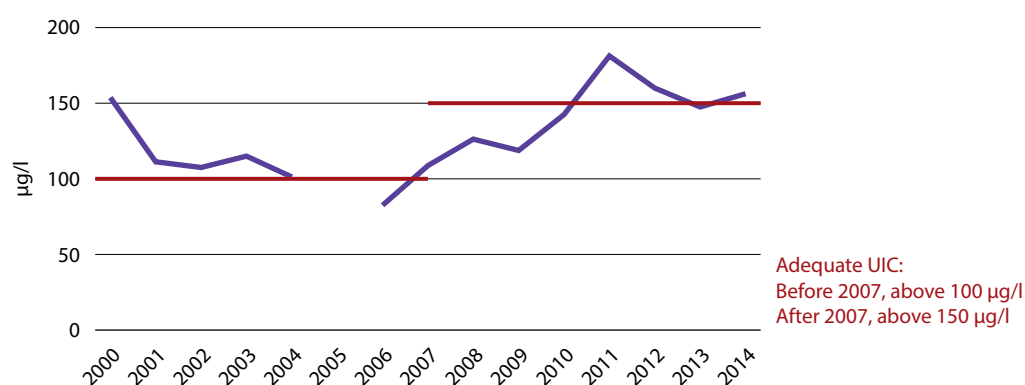


9b SUCCESS STORY – SALT IODIZATION

Thailand launched the National Iodine Deficiency Disorders (IDD) Elimination Programme in 1989. In 1991, the Government established the National Committee for IDD Control to manage the programme and HRH Princess Maha Chakri Sirindhorn graciously accepted to be President of the Committee. The main strategy to eliminate IDD in Thailand is based on USI. In 1994, the Ministry of Public Health issued a notification on iodized salt (No.153), which required that iodine be added to edible salt in the amount of ≥ 30 ppm of salt. In 2010, the notification was revised and updated to include iodization of all types of salt for human consumption with iodine concentration of 20–40 ppm of salt. Also, additional regulations were issued for fish sauce, salt brine and seasoning products of soy beans. These salty condiments must contain iodine in a concentration of 2–3 milligrams per litre of products or by using iodized salt in the production process. According to the latest progress report from Thai Food and Drug Administration (FDA),³⁴⁷ there are a total of 272 iodized salt production sites in 2015; of which five, 56 and 211 are large, medium and small-scale enterprises, respectively. All sites have already been approved by the FDA. Moreover, 100 iodine mixing machines were subsidized for the majority of small-scale enterprises.

To assure progress towards the sustainable elimination of IDD, the Ministry of Public Health and relevant agencies have applied effective strategies to control and prevent IDD through the National Committee, the Intersectoral Committee and its Subcommittees. The quality of iodized salt at the production and distribution levels, as well as household coverage of iodized salt, including iodine content in the urine of pregnant women, are used as indicators for programme monitoring. Although USI calls for iodization of all salt for human and animal consumption, salt for animal consumption in Thailand is not iodized. However, the Department of Livestock Development has indicated that animal food formula contains adequate iodine levels for animal health and productivity. In addition, they stated that it is not likely that salt for animal consumption leaks into the market.

Figure 1: Median urinary iodine concentration (UIC) in pregnant women, 2000–2014*



* Data for 2005 not available

Source: Bureau of Nutrition, DoH

³⁴⁷ Food Bureau, Thai FDA, Ministry of Public Health. Progress report on Elimination of Iodine Deficiency Disorder, 2013-2015 (in Thai).

As a result of the collaboration among several stakeholders from different sectors, including the government, salt producers, academia, the private sector and international organisations, progress of the IDD programme in Thailand has been dramatic and convincing over the past decade. Campaigns to build awareness and recognition of the importance of using iodized salt among the public has been conducted regularly.

In comparison with the MICS3³⁴⁸ that was carried out in 2006, results from the MICS4 (2012)³⁴⁹ showed that Thailand has increased the percentage of households that consume adequately iodized salt (> 15 ppm) from 47% to 71%. In 2014, results from the Department of Health's IDD surveillance system^{4 350} showed that the median urinary iodine concentration in pregnant women was 155.7 µg/L, which indicates adequate iodine intake. Moreover, household coverage of iodized salt was 91.6%. It should also be noted that 83.5% of this salt was adequately iodized salt (20–40 ppm). Regarding the use of iodized salt in food industries, the report from the Thai FDA³⁴⁷ showed that 77.4% (484 out of 625) of food products used iodized salt.

The keys to success have been the political commitment to the sustainable elimination of IDD and the multisectoral and inter-ministerial collaboration. Nevertheless, some of the constraints that have hindered the achievement of total elimination of IDD in Thailand are the weak enforcement of the legislation for salt iodization and the high competition between iodized and non-iodized salt in the market. Non-iodized salt is produced mainly by small-scale salt producers that are scattered throughout the country. The Government is now planning to set up an iodized salt system with a national committee that focuses on three levels: production, distribution and consumption. The responsible ministry will be identified for each level and the work and responsibilities will be divided across line ministries. Other priorities are to ensure effective enforcement of legislation and to continue monitoring and evaluating the impact of the IDD programme, including the quality of iodized salt at the production level, household coverage of iodized salt and the urinary iodine status of risk groups.



An iodized salt packing process in a small enterprise, northeastern Thailand

³⁴⁸ Thailand National Statistical Office. Thailand Multiple Indicator Cluster Survey (MICS)3-2006, Salt Iodization.

³⁴⁹ Thailand National Statistical Office. Thailand Multiple Indicator Cluster Survey (MICS)4-2012, Salt Iodization.

³⁵⁰ Bureau of Nutrition, Department of Health, Thailand (2015). Guideline on IDD prevention and control program for health officers (in Thai).



10 SUCCESS STORY: STRENGTHENING MATERNITY PROTECTION AND THE INTERNATIONAL CODE: EXTENSION OF MATERNITY LEAVE FROM 4 TO 6 MONTHS AND ADVERTISING BAN ON BREAST-MILK SUBSTITUTES FOR INFANTS UP TO 24 MONTHS

Viet Nam has experienced impressive economic growth and rapid reductions in poverty over the last decade, but the prevalence of malnutrition remains uncharacteristically high. Nearly a quarter of children under five years of age in Viet Nam are stunted. Malnutrition is present in all economic strata, and in all geographic regions of Viet Nam. At the same time, obesity in children and adults is on the rise. Viet Nam's poor nutrition outcomes are due in large part to suboptimal infant and young child feeding practices. Most women (97%) breastfeed, but only a quarter initiate breastfeeding in the first hour of birth; and the same proportion of women practice exclusive breastfeeding in the first six months.³⁵¹ Only 22% of children are breastfed up to two years of age. According to Alive and Thrive's Formative Research and Opinion Leader Research in 2010, inadequate maternity leave was one of the barriers to ensuring six months of exclusive breastfeeding.

In an effort to protect and promote exclusive breastfeeding during the first six months and continuation of breastfeeding to 24 months, the Ministry of Health and the Ministry of Labour, Invalids and Social Affairs, together with a coalition of advocacy partners in Viet Nam, joined forces to strengthen two national policies that impact IYCF: the Labour Code, which governs paid maternity leave; and the Advertisement Law, which governs aspects of the marketing of BMS in Viet Nam. Both policies are key to providing mothers and families the support they need to make the best feeding choices for their children. They also fulfil the Government of Viet Nam's obligations under the Convention on the Rights of the Child to create an enabling environment for breastfeeding.

The main challenges came from the commercial sector, which sought to convince policy-makers that the new legislation was unnecessary while attempting to undermine the factual and evidence-based advocacy messages that were being used to promote the measures. Members of Parliament and other stakeholders were hesitant to ban the advertisement of BMS for children up to 24 months because it would be against World Trade Organization agreements. In addition, there was an assumption that employers and even female workers did not want the extension of maternity leave up to six months. The survey conducted by the General Confederation of Labour, however, showed positive results where 90% of both employers and female workers preferred six months of paid maternity leave. This was crucial for the law to be passed. The partners demonstrated that Viet Nam could better implement its obligations under the Committee on the Rights of the Child by adopting the proposed measures. There was also the potential obstacle of funding the extended maternity leave. However, the Department of Social Health Policies Enforcement, which is the guiding body of Viet Nam's social health insurance, confirmed that there were sufficient funds to cover the cost of extension.

³⁵¹ Viet Nam Multiple Indicator Cluster Survey 2014. UNICEF.



New mothers gather to demonstrate their support for optimal breastfeeding practices.

In 2012, after two years of focused engagement with decision-makers and key stakeholders, both policies were successfully strengthened. First, on June 18, Viet Nam's National Assembly made a landmark decision to extend paid maternity leave from four to six months, giving mothers the support to breastfeed exclusively for six months. Three days later, on June 21, the National Assembly voted to expand its ban on the advertising of BMS for infants from six to 24 months – including feeding bottles and teats – as well as other nutrition products for infants under six months of age. Viet Nam's law now more closely aligns with international recommendations, helping ensure that more mothers and families receive the best information about child feeding.

Below is a summary of lessons learnt:

Establishing and sustaining partnerships

- Conducting a stakeholder analysis at an early stage will help identify the right government and nongovernment partners.
- Leverage the experience, expertise, and comparative advantages within partnerships; trusted partnerships help to think bigger, share responsibility, mitigate cost, and leverage the unique strengths of specific organizations.
- Strengthened collaboration with development partners will provide strong evidence at the scientific, economic and socio-cultural levels, as well as benchmarks and supportive evidence from other countries. It will also support building local capacity.
- The advocacy process requires financial resources and technical support, and therefore advance planning is needed to engage and obtain this support from development partners and stakeholders. UNICEF gave support through the sharing of experience from other countries in the world. It also provided financial support for organizing a high-level advocacy meeting with the National Assembly.

Building evidence

- Conduct research early to inform strategies. Research is not only useful to provide information to develop and implement strategies, it is also a tool for getting allies and partners aligned around a common set of goals and strategies. Moreover, collect local, regional, and international data to inform communications, taking into account that each country context will be different. It was very important that UNICEF supported the Department of Social Health Policies Enforcement of Viet Nam Security Funds to carry out a budget analysis, which confirmed that there were sufficient funds to cover the cost of extending maternity leave to six months.
- Build economic evidence to win policy-maker support.

Developing messages and materials

- Identify and use strategic message-frames, since every country context requires different message-frames to achieve maximum impact. Identify those frames, use them consistently, and ensure that message-frames are speaking with one voice.
- Create compelling collateral materials. Policy-maker and opinion-leader audiences are often pressed for time and materials should therefore be brief and should clearly highlight key points.
- Deploy effective champions to deliver the message and consider who is most authoritative and motivational for specific audiences.

Building consensus

- 1 Ensure an input and feedback mechanism for various stakeholders. Prospective policy changes will have widespread and sometimes varied impacts on different groups and constituencies. It is important to provide space for each group and constituency to share their opinions throughout the process.
- 2 Anticipate and plan for strong resistance. Throughout the process, interest groups will raise their objections to policy change. In Viet Nam, even after the Advertisement Law had passed, the Viet Nam Chamber of Commerce and Industry sent a formal letter to the President of the National Assembly opposing the policy and urging the National Assembly to change their decision.

Monitoring and enforcement

It is important that laws/policies are adopted but it is more important to make sure they are monitored and enforced. This process still needs further effort in Viet Nam, and the Government seeks technical and financial support from UNICEF, Alive and Thrive and other development partners to train health inspectors and relevant stakeholders on compliance with policies, conducting supportive monitoring/inspections, organizing review meetings with policy-makers and stakeholders to disseminate the results from monitoring/inspections and gradually integrate these activities into the Government's routine activities.



Mothers with babies under six months of age queue for IYCF counselling in Klaten District, Central Java, Indonesia.

Photo credit: ©UNICEF Indonesia/2012/Estey



Boy eating in Hanoi, Viet Nam.

Photo credit: ©UNICEF Viet Nam/2011/Schmit Michele

Annex 1:

THE SUSTAINABLE DEVELOPMENT GOALS AND NUTRITION

Contributions of nutrition to SDG	Sustainable Development Goals	Contributions of SDG to nutrition
Good nutrition results in higher labour productivity, mental capacity and longer healthy lives. Each added cm of adult height is associated with an almost 5% increase in wage rates.	1 End poverty in all its forms everywhere⁵	Doubling per capita income cuts child stunting by 15 percentage points. This happens as households escape poverty and governments invest more to tackle malnutrition due to reduced GNP losses.
Good maternal nutrition reduces risks of low birth weight and improves care of children. A well-nourished workforce supports productive agriculture and more demand for food, increased food security and reduced hunger.	2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Nutrition would benefit hugely from zero hunger and full food security. Sustainable agriculture supports appropriate diets, income and resource use.
Nutrient-disease interactions are synergistic. Good nutrition significantly reduces the risks of sickness and mortality in the context of a host of diseases, as well as maternal health and fetal growth.	3 Ensure healthy lives and promote well-being for all at all ages	Enhancing health, starting with adolescent girls and focusing on the first 1000 days (including breastfeeding promotion), supports child nutrition and growth while reducing NCD burdens later in life.
Improving linear growth for under-twos by one standard deviation adds half a grade to school attainment. Resolving iron, iodine and other nutrient deficiencies supports mental capacity.	4 Ensure inclusive and equitable quality education and promote life-long learning	Access to information, education, schooling and informal knowledge enhances health and food choices, income growth, and nutrition.
Improving the nutrition of girls, adolescents and women increases their ability to perform well at school and in the workforce.	5 Achieve gender equality and empower all women and girls	Gender equality (in education, status, earnings) accounts for 25% of child nutrition gains. Girls' education delays marriage and first birth.
Improved nutrition is associated with enhanced knowledge and behaviours linked to personal and food hygiene and sanitation, raising demand for clean water and quality sanitation.	6 Ensure availability and sustainable management of water and sanitation for all	Reduction in open defecation and improved access to water cuts bacterial contamination in the food supply and supports handwashing, which impacts nutrition outcomes.
Improved nutrition in all its forms generates demand for food, goods and services, including electrification in the context of demand for refrigeration and food processing.	7 Ensure access to affordable, reliable, sustainable and modern energy for all	Access to energy reduces time burdens on women seeking wood and charcoal. Reduced indoor pollution directly reduces sickness-mediated nutritional compromise.
Nutrition stimulates economic growth, improving the mental and physical productivity of the labour force. Removing undernutrition would prevent GNP losses of 8-11% per year.	8 Promote sustained, inclusive and sustainable growth, full and productive employment, decent work for all	Earning opportunities are key to enable households to rise out of poverty and to enhance the adequacy and quality of their diets. Higher GNP allows governments to invest in pro-nutrition policies and programming.
Enhanced nutrition through the lifespan supports learning and later innovation potential. Industrialization and markets only thrive with productivity and growing demand across food systems.	9 Build resilient infrastructure, promote inclusive industrialization and foster innovation	Innovations in productive technology, value chains and marketing enhance food safety and diet quality. Innovation in communication and marketing among the poor supports nutrition.
Resolving stunting has more impact for the poor, thereby reducing current nutrition inequalities that perpetuate future nutrition and income inequalities.	10 Reduce inequality within and among countries	Reduced inequalities in nutrition allow for more balanced productivity and growth across the population. Less inequality across nations promotes balanced dialogue and engagement.

Contributions of nutrition to SDG	Sustainable Development Goals	Contributions of SDG to nutrition
Lower mortality and morbidity due to enhanced nutrition reduces population pressure on natural resources as fertility falls.	11 Make cities and human settlements inclusive, safe, resilient and sustainable	Urban demand for safe quality diets supports growth in rural production and services, enhancing nutrition. Less water waste and pollution supports nutrition in urban and rural areas.
Falling poverty and improved nutrition raise demand for higher quality and more diverse diets.	12 Ensure sustainable production	Product diversity and more productivity support diet diversity, food quality (including of complementary foods) and safety, all needed for good nutrition.
<ul style="list-style-type: none"> • Research on nutrient quality as crop traits promoting plant vitality supports climate resilient agriculture research. • Reduced population pressure on environmental resources comes through better nutrition supporting reduced mortality and lower fertility rates. • More informed consumer demand for high quality, diverse, safe diets drives attention to sustainability of production and impacts of product choices on entire food systems. 	13 Urgent action to combat climate change and its impacts	<ul style="list-style-type: none"> • Research to enhance crop and animal resistance to agro-ecological shifts linked to climate change will protect food supplies and diet diversity. • Enhanced resiliency of food production and marketing systems can reduce food price volatility that hurts the poor. • Production diversity based on sustainable practices leads to lower consumer prices (diversified demand) and hence to diet quality.
	14 Conserve and use the oceans, seas and marine resources sustainably	
	15 Protect, restore and promote sustainable use of terrestrial ecosystems	
Moves to strengthen nutrition accountability and governance globally bring attention to the importance of inclusive stakeholder dialogues and cross-sector models for effective policy.	16 Promote peaceful and inclusive societies, access to justice for all, and build effective, accountable institutions	Discrimination of all kinds, inequity, economic penury and injustice are drivers of conflict, destruction and malnutrition. Peace and justice are preconditions for building accountable institutions needed to achieve good nutrition for all.
Global prioritization of nutrition has never been higher. Multi-stakeholder platforms such as Scaling Up Nutrition and Zero Hunger Initiative offer platforms on which to build renewed interest and investment in nutrition.	17 Strengthen and revitalize global partnerships for sustainable development	A further strengthening of global partnerships and intergovernmental commitments to sustainability and equality offer a foundation for building peace and effective, open and accountable institutions, and improved multisector and multi-stakeholder coordination and collaboration.

Adapted from UNSCN³⁵²

³⁵² UNSCN (2014). Nutrition and the post-2015 sustainable development goals. A technical note. UNSCN (http://www.unscn.org/files/Publications/Briefs_on_Nutrition/Final_Nutrition%20and_the_SDGs.pdf, accessed January 16, 2016).

Annex 2:

LIST OF MINIMUM NUTRITION-SPECIFIC INDICATORS^{84, 253}

Table 2.1: Description of indicators of nutrition status and practices (impact indicators, from survey data)

Topic	Description of indicator
Stunting prevalence	Percentage of children 0-59 months who are below minus two (moderate and severe) and below minus three (severe) standard deviations from median height for age of the WHO Child Growth Standards
Underweight prevalence	Percentage of children 0-59 months who are below minus two (moderate and severe) and below minus three (severe) standard deviations from median weight for age of the WHO Child Growth Standards
Wasting prevalence	Percentage of children 0-59 months who are below minus two (moderate and severe) and below minus three (severe) standard deviations from median weight for height of the WHO Child Growth Standards
Moderate wasting prevalence	Percentage of children 0-59 months who are between minus two and minus three standard deviations from median weight for height of the WHO Child Growth Standards
Severe wasting prevalence	Percentage of children 0-59 months who are below minus three standard deviations from median weight for height of the WHO Child Growth Standards
Acute malnutrition prevalence	Percentage of children 0-59 months who have weight-for-height less than -2 z-scores of the median of the WHO Child Growth Standards, mid-upper arm circumference (MUAC) lower than 125 mm, and/or presence of bilateral pitting oedema, at a point in time, based on a cross-sectional survey.
Overweight prevalence (overweight/obesity)	Percentage of children 0-59 months who are above two (overweight and obese) standard deviations from median weight for height of the WHO Child Growth Standards
Overweight prevalence	Percentage of children 0-59 months who are between two and three standard deviations above the median weight for height of the WHO Child Growth Standards
Obesity prevalence	Percentage of children 0-59 months who are above three standard deviations from median weight for height of the WHO Child Growth Standards
Body Mass Index (BMI), female	Percentage of women 15-49 years old* with a body mass index (BMI) of: a) less than 18.5 kg/m ² (low) or b) greater than 25 kg/m ² (high)
Overweight prevalence in adults	Percentage of adults 15-49 years old* with a body mass index between 25 kg/m ² and 30 kg/m ²
Obesity prevalence in adults	Percentage of adults 15-49 years old* with a body mass index greater than 30 kg/m ²
Anaemia among preschool-aged children	Percentage of preschool-aged* children with haemoglobin concentration >100 g/l
Consumption of iron-rich or iron-fortified foods	Percentage of children 6-23 months old who receive an iron-rich food or iron-fortified food that is especially designed for infants and young children or that is fortified in the home
Anaemia among non-pregnant women (women of reproductive age)	Percentage of non-pregnant women 15-49 years old** with haemoglobin concentration <120 g/l
Anaemia among pregnant women	Percentage of pregnant women** with haemoglobin concentration <120 g/l

* Age range may vary by country

** Age range and marital status may vary by country

Table 2.1: Description of indicators of nutrition status and practices (impact indicators, from survey data) (continued)

Topic	Description of indicator
Adolescent pregnancy	Percentage of women 20-24 years old who gave birth before age 18
Low birth weight incidence	Percentage of live births that weighed less than 2500 grams at birth
Household coverage of iodized salt	Percentage of households consuming adequately iodized salt
Hypertension/raised blood pressure³⁵³	Age-standardized prevalence of raised blood pressure among persons aged 18+ years (defined as systolic blood pressure equal or above 140 mmHg and/or diastolic blood pressure equal to or above 90 mmHg)
Salt/sodium intake	Age-standardized mean population intake of salt (sodium chloride) per day in grams in persons aged 18+ years ³⁵⁴
Vitamin A deficiency³⁵⁵	Percentage of preschool* children with low serum retinol (0.70 µmol/l or below)
Iodine deficiency³⁵⁶	Percentage of school-age** children with median urinary iodine (µg/l) between 50-99 (mild), between 20-49 (moderate) or below 20 (severe) Percentage of pregnant women with median urinary iodine (µg/l) less than 150. Percentage of lactating women and children aged less than 2 years with median urinary iodine (µg/l) less than 100
Early initiation of breastfeeding (<1 hour of birth)	Percentage of newborns born during the 24 months prior to the survey who were put to the breast within one hour of birth
Exclusive breastfeeding rate (<6 months)	Percentage of infants aged 0-5 months old who were fed exclusively with breast-milk
Early initiation of breastfeeding	Percentage of newborns born during the 24 months prior to the survey who were put to the breast within one hour of birth
Continued breastfeeding (12-15 months)	Percentage of children 12-15 months old who are fed breast-milk
Introduction to solid, semi-solid and solid foods	Percentage of infants 6-8 months who received solid, semi-solid or soft food
Minimum dietary diversity	Percentage of children 6-23 months old who receive foods from four or more food groups
Minimum meal frequency	Percentage of children 6-23 months old who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more (for breastfed children, 'minimum' is defined as two times for infants 6-8 months and three times for children 6-23 months; for non-breastfed children, 'minimum' is defined as four times for children 6-23 months)
Minimum acceptable diet	Percentage of children 6-23 months old who receive a minimum acceptable diet (apart from breast-milk) (composite indicator involving both minimum meal frequency and minimum dietary diversity)

* Age range may vary by country, but it is usually 6-79 months

** Age range may vary by country (6 years and older)

³⁵³ WHO (2013). A global brief on hypertension. Silent killer, global public health crisis. Geneva, World Health Organization (http://apps.who.int/iris/bitstream/10665/79059/1/WHO_DCO_WHD_2013.2_eng.pdf?ua=1, accessed December 8, 2015).

³⁵⁴ WHO. Noncommunicable diseases global monitoring framework: indicator definitions and specifications (http://www.who.int/nmh/ncd-tools/indicators/GMF_Indicator_Definitions_Version_NOV2014.pdf, accessed January 14, 2016).

³⁵⁵ WHO (2011). Serum retinol concentrations for determining the prevalence of vitamin A deficiency in populations. Vitamin and Mineral Nutrition Information System. Geneva, World Health Organization, (WHO/NMH/NHD/MNM/11.3) (<http://www.who.int/vmnis/indicators/retinol.pdf>, accessed December 8, 2015).

³⁵⁶ WHO (2013). Urinary iodine concentrations for determining iodine status deficiency in populations. Vitamin and Mineral Nutrition Information System. Geneva: World Health Organization (<http://www.who.int/nutrition/vmnis/indicators/urinaryiodine>, accessed December 8, 2015).

Table 2.2: Examples of output and process indicators for nutrition-specific interventions (routine information systems and/or surveys)

Topic	Description of indicator
Acute malnourished children supported by services	Percentage of children 0-59 months with weight for height below two standard deviations from the median of the WHO Child Growth Standards, who have been supported with services
Treatment of SAM	Number of children 6-59 months with severe acute malnutrition receiving treatment
Cured of SAM	Percentage of children 6-59 months with severe acute malnutrition discharged as: (a) Cured, (b) Died, (c) Defaulted
Screening of MAM/SAM	Percentage of children 6-59 months screened in the community or health facility for acute malnutrition using MUAC or weight for height and clinical signs of bilateral pitting oedema identified as (1) SAM or (2) MAM (<i>report SAM and MAM numbers separately</i>); if use both weight for height and MUAC, report each separately
Stock out of RUTFs	Number of stock outs of RUTF as defined by national norms over the past [x] weeks
Training of community workers on acute malnutrition	Proportion of community workers trained on screening for acute malnutrition
Training of health workers on SAM treatment	Proportion of health workers (HWs) who received training on treatment of severe acute malnutrition as per national standards
Treatment of SAM by health facilities	Proportion of health facilities offering SAM treatment
Counselling on breastfeeding (0-5 months)	Percentage of mothers of children 0-5 months who have received counselling, support or messages on optimal breastfeeding in a health facility or by a community worker <i>(if appropriate split mothers receiving counselling and messaging into two indicators)</i>
Counselling on breastfeeding (6-23 months)	Percentage of mothers of children 6-23 months who have received counselling, support or messages on optimal complementary feeding in a health facility or by a community worker <i>(if appropriate split mothers receiving counselling and messaging into two indicators)</i>
MNP supplementation	Percentage of beneficiaries reached with MNPs in the last [x] months (choose target group below) 6-11 months; 6-17 months; 6-23 months; 6-35 months; 6-59 months; 12-23 months; School children; Other
Vitamin A Supplementation (full coverage)	Percentage of children 6-59 months old who received two age-appropriate doses during the calendar year
Use of iron-folic acid (IFA) supplements	Percentage of women* who took iron folic acid (IFA) supplements for at least 90 days during their last pregnancy prior to the survey
Training of staff in micronutrient supplementation	Proportion of health workers trained in vitamin A/deworming/MNPs etc. national protocol
Stock out of micronutrients	Number of stock outs of vitamin A/IFA/deworming (choose one) as defined by national norms over the past [x] weeks
Deworming	Percentage of children 12-59 months who received an age-appropriate one dose of de-worming medication through either routine OR event-based in the past semester
Children not weighed at birth	Percentage of live births that were not weighed at birth
Antenatal care (at least one visit)	Percentage of women 15-49 years old attended at least once during pregnancy by skilled health personnel for reasons related to the pregnancy
Antenatal care (four or more visits)	Percentage of women 15-49 years old attended at least four times during pregnancy by any provider (skilled or unskilled) for reasons related to the pregnancy
Treatment of severe acute malnutrition included in national health plans	Indicates the status of each country regarding inclusion of treatment of severe acute malnutrition in national health plans

* Age range may vary by country

Table 2.3: Examples of selected nutrition-sensitive indicators

Topic	Description of indicator
International Code of Marketing of Breast-milk Substitutes	National legislation adopted on all provisions of the International Code of Marketing of Breast-milk Substitutes and subsequent World Health Assembly Resolutions
Maternity protection in accordance with International Labour Organization (ILO) Convention No. 183	ILO Convention No. 183 ratified by the country
Dietary Energy Supply (DES)	Average Dietary Energy Supply (measured as kcal per person per day)
Prevalence of food inadequacy³⁵⁷	Proportion of population at risk of not covering the food requirements associated with normal physical activity. It includes also people who, even though they cannot be considered chronically undernourished, are likely being conditioned in their economic activity by insufficient food.
Prevalence of undernourishment	Proportion of population estimated to be at risk of caloric inadequacy (percentage of the population that consumes an amount of calories that is insufficient to cover her/his energy requirement for an active and healthy life) The indicator is calculated in three-year averages, from 1990-92 to 2014-16, to reduce the impact of possible errors in estimated DES, due to the difficulties in properly accounting of stock variations in major food.
Drinking water coverage	Percentage of the population using improved drinking water sources
Sanitation coverage	Percentage of the population using improved sanitation facilities
Access to sanitation facilities	Percentage of the population with access to sanitation facilities

³⁵⁷ FAO (2013). New approaches to the measurement of the state of food insecurity. FAO Statistics Division (http://www.fao.org/fileadmin/templates/ess/documents/meetings_and_workshops/IICA_2013/Presentations/Day2_Food_Security_3.pdf, accessed December 8, 2015).

Annex 3:

RESOURCES: LINKS TO GLOBAL AND REGIONAL POLICIES AND GUIDELINES

Box 6: Summary of key policy options

Global policies

- “Transforming our world: the 2030 Agenda for Sustainable Development” (United Nations General Assembly 2015, Resolution 70/1). Available at: http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E
- The Comprehensive implementation plan on maternal, infant and young child nutrition (WHO) Available at: http://www.who.int/nutrition/topics/wha_65_6/en/
- The Global action plan for the prevention and control of noncommunicable diseases 2013-2020 (WHO). Available at: <http://www.who.int/global-coordination-mechanism/publications/global-action-plan-ncds-eng.pdf>
- Approach to Scaling Up Nutrition Programming for Mothers and their Children. UNICEF (UNICEF). Available at: <http://wphna.org/wp-content/uploads/2015/10/2015-06-Scaling-Up-Nutrition-UNICEF.pdf>
- Global Strategic Framework for Food Security and Nutrition (FAO). Available at: <http://www.fao.org/docrep/meeting/026/ME498E.pdf>
- The Global Strategy on Infant and Young Child Feeding (WHO). Available at: http://apps.who.int/gb/ebwha/pdf_files/WHA57/A57_9-en.pdf?ua=1
- The Global Strategy on Diet, Physical Activity and Health (WHO). Available at: <http://apps.who.int/iris/bitstream/10665/42590/1/9241562218.pdf?ua=1&ua=1>
- The outcome documents of the Second International Conference on Nutrition (the Rome Declaration and Framework for Action). Available at: <http://www.fao.org/docrep/003/W3613E/W3613E00.HTML>
- Essential Nutrition Actions: Improving maternal, newborn, infant and young child health and nutrition (WHO). Available at: http://apps.who.int/iris/bitstream/10665/84409/1/9789241505550_eng.pdf
- Every Newborn: an Action Plan to End Preventable Deaths (WHO/UNICEF). Available at: http://apps.who.int/iris/bitstream/10665/127938/1/9789241507448_eng.pdf?ua=1
- Iodization of salt for the prevention and control of iodine deficiency disorders (WHO). Available at: http://www.who.int/elena/titles/salt_iodization/en/
- International Code of Marketing of Breast-Milk Substitutes (BMS) (WHO 1981). Available at: http://www.who.int/nutrition/publications/code_english.pdf

Box 6: Summary of key policy options (continued)

Global guidelines

- WHO child growth standards and the identification of severe acute malnutrition in infants and children. A joint statement by the World Health Organization and the United Nations Children's Fund. (WHO/UNICEF 2009).
- Management of Severe Acute Malnutrition in Children: working towards results at scale (UNICEF) (2015). Available at: http://www.unicef.org/eapro/UNICEF_program_guidance_on_management_of_SAM_2015.pdf
- Community-based management of severe acute malnutrition: A Joint Statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children's Fund (WHO/WFP/UNSCN/UNICEF) (2007). Available at: http://www.who.int/nutrition/topics/Statement_community_based_man_sev_acute_mal_eng.pdf
- Guideline: updates on the management of severe acute malnutrition in infants and children (WHO). Available at: http://apps.who.int/iris/bitstream/10665/95584/1/9789241506328_eng.pdf
- Iron Deficiency Anaemia: Assessment, Prevention, and Control. A guide for programme managers (who 2011). Available at: http://www.who.int/nutrition/publications/en/ida_assessment_prevention_control.pdf
- World Health Organization guidelines: Sodium intake for adults and children (WHO 2012). Available at: http://www.who.int/nutrition/publications/guidelines/sodium_intake/en/
- Guidelines on food fortification with micronutrients (WHO/FAO 2006). Available at: http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf
- Food-based dietary guidelines (FAO). Available at: <http://www.fao.org/nutrition/nutrition-education/food-dietary-guidelines/en/>
- Implementing the new recommendations on the clinical management of diarrhoea. Guidelines for policy makers and programme managers (WHO 2006). Available at: http://apps.who.int/iris/bitstream/10665/43456/1/9241594217_eng.pdf
- Vitamin A supplements: a guide to their use in the treatment and prevention of vitamin A deficiency and xerophthalmia (WHO/UNICEF/IVACG Task Force 1997). Available at: <http://whqlibdoc.who.int/publications/1997/9241545062.pdf>
- Use of multiple micronutrient powders for home fortification of foods consumed by infants and children 6–23 months of age (WHO 2011). Available at: http://apps.who.int/iris/bitstream/10665/44651/1/9789241502047_eng.pdf
- Daily iron and folic acid supplementation in pregnant women (WHO 2012). Available at: http://apps.who.int/iris/bitstream/10665/77770/1/9789241501996_eng.pdf?ua=1
- Fortification of food-grade salt with iodine for the prevention and control of iodine deficiency disorders (WHO 2014). Available at: http://apps.who.int/iris/bitstream/10665/136908/1/9789241507929_eng.pdf
- Codex Guidelines on Nutrition Labelling (CAC/GL 2-1985) (2013). Available at: <http://www.fao.org/ag/humannutrition/33309-01d4d1dd1abc825f0582d9e5a2eda4a74.pdf>
- Codex Guidelines for Use of Nutrition and health Claims (CAC/GL 23-1997) (2013). Available at: http://www.codexalimentarius.org/input/download/standards/351/CXG_023e.pdf

Box 6: Summary of key policy options (continued)

Policy briefs

- Global nutrition targets 2025: stunting policy brief (WHO 2014). Available at: http://www.who.int/nutrition/topics/globaltargets_stunting_policybrief.pdf
- Global nutrition targets 2025: wasting policy brief (WHO/UNICEF/WFP 2014). Available at: http://apps.who.int/iris/bitstream/10665/149023/1/WHO_NMH_NHD_14.8_eng.pdf?ua=1
- Global nutrition targets 2025: low birth weight policy brief (WHO 2014). Available at: http://apps.who.int/iris/bitstream/10665/149020/2/WHO_NMH_NHD_14.5_eng.pdf?ua=1
- Global nutrition targets 2025: anaemia policy brief (WHO 2014). Available at: http://apps.who.int/iris/bitstream/10665/148556/1/WHO_NMH_NHD_14.4_eng.pdf
- Global nutrition targets 2025: childhood overweight policy brief (WHO 2013). Available at: http://apps.who.int/iris/bitstream/10665/149021/2/WHO_NMH_NHD_14.6_eng.pdf?ua=1
- Global nutrition targets 2025: breastfeeding policy brief (WHO/UNICEF 2014). Available at: http://www.who.int/nutrition/topics/globaltargets_breastfeeding_policybrief.pdf
- Preconception care: Maximizing the gains for maternal and child health (WHO 2013). Available at: http://www.who.int/maternal_child_adolescent/documents/preconception_care_policy_brief.pdf
- Policy brief: producing and promoting more food products consistent with a healthy diet (WHO 2014). Available at: <http://www.who.int/nmh/ncd-coordination-mechanism/Policybrief32.pdf>

Global reports

- The Millennium Development Goals Report (UN 2014). Available at: <http://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf>
- Global Nutrition Report 2015. Available at: <http://globalnutritionreport.org/the-report/>
- Global status report on noncommunicable diseases (WHO 2014). Available at: http://apps.who.int/iris/bitstream/10665/148114/1/9789241564854_eng.pdf?ua=1
- The state of food and agriculture (SOFA) (FAO 2013). Available at: <http://www.fao.org/publications/sofa/2013/en/>
- State of the World's Children (SOWC) Country Statistical Tables (UNICEF 2015). Available at: http://www.unicef.org/statistics/index_countrystats.html

Regional policies

- The Action plan to reduce the double burden of malnutrition in the Western Pacific Region 2015–2020 (WHO). Available at: <http://iris.wpro.who.int/handle/10665.1/10892>
- UNICEF's Strategic Approach to Nutrition Programming in the East Asia and Pacific Region 2014–2025 (UNICEF). Available at: http://www.unicef.org/eapro/12205_22043.html
- The Western Pacific Regional Action Plan for the Prevention and Control of Noncommunicable Diseases 2014–2020 (WHO)
- Action plan for health newborn infants in the Western Pacific Region 2014–2020 (WHO/UNICEF)
- WHO resolution RC63.R2 "Scaling up Nutrition in the Western Pacific Region" (WHO WPRO 2012). Available at: http://www.wpro.who.int/about/regional_committee/63/resolutions/WPR_RC63_R2_Nutrition.pdf

Regional reports

- Joint Regional Report on Nutrition Security in ASEAN (ASEAN/UNICEF 2016)

Box 6: Summary of key policy options (continued)**Training packages**

- The Harmonised Training Package (HTP): Resource Material for Training on Nutrition in Emergencies, Version 2 (2011). Available at: <http://nutritioncluster.net/training-topics/harmonized-training-package/>
- Nutrition Cluster Handbook. A practical guide for country-level action. The Global Nutrition Cluster UNICEF (2013). Available at: http://nutritioncluster.net/wp-content/uploads/sites/4/2013/09/GNC_Handbook_v1_FINAL_no_links1.pdf
- IYCF-E Toolkit: Rapid start-up resources for emergency nutrition personnel (Save the Children). Available at: <https://sites.google.com/site/stcehn/documents/iycf-e-toolkit>
- Global Nutrition Cluster link to e-learning courses. Available at: <http://nutritioncluster.net/training-topics/e-learning>



one vision
one identity
one community



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