

SAVING
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Food and Nutrition Handbook

December 2018

Food and Nutrition Handbook

For more information contact:

World Food Programme
Nutrition Division (OSN)
Via Cesare Giulio Viola, 68
nutrition@wfp.org
wfp.org/nutrition

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Preface

The World Food Programme (WFP) is the leading humanitarian organization fighting hunger worldwide. WFP assists 80 million people in over 80 countries each year, delivering food assistance in emergencies and working with communities to improve nutrition and build resilience. Depending on the context – from immediate humanitarian support to longer term development interventions – WFP works with governments and partners to improve nutrition across three key areas:

- Improving the availability of safe, affordable, nutritious foods
- Improving access to nutritious foods
- Improving demand for and consumption of nutritious foods

This Handbook is aimed at WFP staff at all levels. It is also relevant for any of WFP's partners in the field, including government, civil society organizations, international/non-governmental organizations and the private sector who have an interest in WFP's field programming. It should serve as a reference, providing a better understanding of food and nutrition issues as they relate to WFP. The handbook aims to provide practical tools to tackle basic nutrition-related and context-specific tasks, as well as the ability to judge when specialized nutrition advice should be sought. Many of the references within this Handbook are universal; however, when they refer to internal WFP documents, partners should ask their WFP colleagues to access these documents from the internal WFP site.

This handbook is an update of the previous Food and Nutrition Handbook, published in 2003. It is framed in the context of Sustainable Development Goals (SDGs) 2: '*End hunger, achieve food security and improved nutrition and promote sustainable agriculture*' and 17 '*Strengthen the means of implementation and revitalize the global partnership for sustainable development*'. It has been designed as a stand-alone document, referring to other WFP operational guidelines where relevant. It is not, however, a substitute for expert technical consultation or for other key reference material on the subject of nutrition (e.g. UNHCR and WHO documents, and the SPHERE Minimum Standards for Humanitarian Assistance). The Handbook will enable assessment and analysis of the nutrition situation in specific countries or regions and to help manage the design and implementation of interventions.

The Handbook is divided in two sections. The first section, chapters 1-5, is concerned with relevant food and nutrition concepts, the process of assessing and analysing types of nutritional problems and their drivers, and a decision tool to inform programming in diverse given contexts. The second section, chapters 6-9 covers the practical applications of nutrition interventions. Chapter 6 concentrates on the design of *prevention* programmes: prevention of acute malnutrition; prevention of chronic malnutrition; prevention of micronutrient deficiencies; and programmes to prevent the underlying drivers of malnutrition (nutrition-sensitive programming). Chapter 7 focusses on *treatment* programming for Moderate-Acute Malnutrition (MAM), and chapter 8 on nutrition programming in the context of HIV/AIDS and TB. Social and Behaviour Change Communication (SBCC) is discussed in chapter 9.

Each chapter begins with a statement of purpose and a list of learning objectives, indicating the knowledge or skills WFP staff might be expected to gain from reading that chapter. Each chapter also includes a list of key reading and additional resources.

Introduction

THE SCALE AND IMPACT OF GLOBAL MALNUTRITION

Malnutrition occurs when nutrient and energy intake does not meet, or exceeds, an individual's requirements to maintain growth, immunity and organ function. Malnutrition is a general term that covers both undernutrition (deficiency) and overnutrition (excess). Malnutrition in all its forms includes: undernutrition (indicated by wasting, stunting, underweight), vitamin or mineral deficiency (i.e. inadequacy), overweight, obesity, and other types of excess intake that causes diet-related noncommunicable diseases¹. Malnutrition is a large scale and universal problem.

- Around 45 percent of deaths among children under 5 are linked to undernutrition. These mostly occur in low- and middle-income countries. At the same time, in these same countries, rates of childhood overweight and obesity are rising¹
- 50.5 million children under 5 were wasted in 2017¹, of whom 16 million were severely wasted^{1,2}
- 150.8 million (22.2 percent) children under 5 were suffering from stunting in 2017¹. More than half of all stunted children under 5 live in Asia, and more than one third in Africa². Africa is the only region where the number of stunted children has increased since 2000, from 50.5 million to 58.2 million.^{2,3}
- 38.3 million (5.6 percent) children under 5 were overweight or obese in 2017. In Africa, the number of overweight children under 5 has increased by nearly 50 percent since 2000: from 6.6 to 9.7 million children²
- Worldwide, 462 million adults were underweight, while 1.9 billion were either overweight or obese in 2017¹
- 2 billion people were micronutrient deficient in 2017, lacking key micronutrients like iron and vitamin A³
- 88 percent of countries are facing a serious burden of either two or three forms of malnutrition³

The world faces a grave nutrition situation. The number of people directly impacted by malnutrition globally is immense, affecting countries in all regions and all income levels. The developmental, economic, social, and health impacts of the global burden of malnutrition are serious and long-lasting, for individuals and their families, for communities and for countries.

The body needs the right quantity and quality of food and their nutrients to grow, reproduce, build tissue and perform bodily functions needed to remain healthy. Undernutrition can not only increase the risk of death, but can also prevent children from growing up to reach their full potential. Children without access to an adequate diet during the first 1,000 days of their lives (between conception and 2nd birthday) are more vulnerable to infection, impaired cognitive development, decreased learning capacity and increased risk of noncommunicable diseases later in life. These initial challenges persist over time, as undernourished children tend to perform less well in school, earn less as adults and contribute less to the economy. In addition, the effects of undernutrition are intergenerational:

1 World Health Organization, 2018. Fact sheet: Malnutrition. Geneva: WHO.

2 International Food Policy Research Institute, 2017. *2017 Global Food Policy Report*. Washington, DC: International Food Policy Research Institute.

3 United Nations Children's Fund, World Health Organization, The World Bank. 2018. Levels and Trends in Child Malnutrition: UNICEF, WHO, World Bank Joint Child Malnutrition Estimates. Geneva: WHO.

children of mothers who are stunted have a higher risk of dying than their counterparts who are born from healthy mothers⁴.

Meanwhile, social and economic progress and rapid rates of urbanization have resulted in increased consumption of energy-dense, nutrient-poor foods and decreased physical activity, particularly in urban populations⁵. As a result, globally, the prevalence of overweight and obesity is rising⁶. The increasing rates of overweight and obesity have multiple implications: overnutrition is linked to increased child mortality and maternal morbidity, as well as an increase in noncommunicable diseases such as hyper-tension and diabetes.

Malnutrition represents a serious public health challenge for every country around the globe and affects the overall potential of nations – reducing the economic productivity and earning potential of individuals, and the human capital of nations – thereby, hindering economic growth and development. Research shows that stunted children earn 20 percent – 65 percent less as adults than those who have received adequate nutrition^{7, 8}. At the population level, the cost of undernutrition and micronutrient deficiencies is estimated at 2-3 percent of global GDP, equivalent to USD 1.4–2.1 trillion per year.

Malnutrition, however, is a solvable problem: low-cost, effective interventions are available. The World Bank estimates that the implementation of a full set of 13 interventions – effectively delivered at scale – could reduce child mortality by 1 million deaths per year, with further benefits including improved cognitive and physical development and better health and earnings⁹. According to the Global Nutrition Report¹⁰ for every USD 1 spent on infant and young child nutrition, we can expect USD 16 return on investment through reduced health care costs and increased productivity.

WFP'S APPROACH TO GOOD NUTRITION

WFP'S FOCUS ON OPTIMAL NUTRITION

Appropriate food is necessary to both prevent and treat malnutrition. Good nutrition builds strong immune systems, develops strong bodies and brains, and fuels entire nations. As children grow strong, so do communities and countries, helping to break the cycle of poverty. Well-nourished adults tend to be more productive and earn more than those who are malnourished.

WFP works to ensure that every individual has access to good nutrition for optimal growth and development, and a healthy and fulfilling life. As well as designing and implementing programmes to prevent and treat malnutrition, WFP supports governments to develop national capacity, and works to influence the broader policy dialogue on food and nutrition security.

4 Özaltin E, Hill K, Subramanian SV. Association of Maternal Stature with Offspring Mortality, Underweight, and Stunting in Low- to- Middle Income Countries. *Journal of the American Medical Association*. 303(15):1507-1516 (2010).

5 Shrimpton R. & Rokx C. The Double Burden of Malnutrition: A review of global evidence. World Bank HNP Discussion Paper (2012)

6 Black R.E. et al. Maternal and Child Nutrition Series: Maternal and child undernutrition and overweight in low-income and middle-income countries. (2013)

7 Hoddinott J, et al 'The Consequences of Early Childhood Growth Failure over the Life Course', IFPRI Discussion Paper 01073, March 2011, www.ifpri.org/sites/default/files/publications/ifpridp01073.pdf.

8 Grantham-McGregor S et al 'Development potential in the first 5 years for children in developing countries', *The Lancet*, 369: 60–70, 2007.

9 Horton S, Shekar M, McDonald C, Mahal M, and Brooks JK. *Scaling Up Nutrition: What Will It Cost?* The World Bank. Washington DC: 2010.

10 International Food Policy Research Institute. 2016. *Global Nutrition Report 2016: From Promise to Impact: Ending Malnutrition by 2030*. Washington, DC. (Page 28)

Where local diets do not provide required nutrients, and adequately nutritious foods are unavailable, WFP works to increase the availability and affordability of foods that contribute to a diverse, nutritious diet, including fresh foods, fortified foods, or specialized nutritious foods (SNFs) where indicated. However, WFP recognizes that SNFs should complement breastfeeding and the local diet, rather than replace them and includes social and behaviour change communication (SBCC) as an information component of nutrition programming to support these healthy dietary behaviours. Additionally, WFP views the provision SNFs as a short-term response, which should be linked to a longer-term solution: increasing the availability, access, consumption and demand of safe and nutritious diets that meet the nutritional requirements of vulnerable groups.

OVERVIEW OF WFP'S STRATEGIC PLAN (2017-2021)

The WFP Strategic Plan 2017-2021¹¹ has two strategic goals, five strategic objectives, and eight strategic results (see Figure 1). The two Strategic Goals are: 1) Support countries to achieve zero hunger (SDG 2), and 2) Partner to support implementation of the SDGs (SDG 17). Strategic Goal 1 has three Strategic Objectives: 1) End hunger by protecting access to food, 2) Improve Nutrition, and 3) Achieve food security. Strategic Goal 2 has two Strategic Objectives: 1) Support SDG implementation, and 2) Partner for SDG results.

Figure 1. WFP Strategic Plan (2017-2021) results framework



11 WFP Strategic Plan (2017-2021). November 2016. <http://documents.wfp.org/stellent/groups/public/documents/eb/wfp286743.pdf>

OVERVIEW OF WFP'S NUTRITION POLICY (2017-2021)

SDG 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

SDG 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development.

WFP nutrition programming is guided by the Nutrition Policy 2017-2021¹². The policy aligns with SDGs (specifically SDG 2 and SDG 17) and WFP's Strategic Plan.

The policy builds upon the accomplishments achieved since the approval of the first WFP Nutrition Policy in 2012. It also reflects the global nutrition evidence that has emerged in recent years, as well as several key recommendations from the 2015 Nutrition Policy Evaluation, including:

- Address overweight, obesity and the double burden of malnutrition
- Enhance the gender focus
- Ensure diverse strategies and approaches beyond product-based solutions
- Highlight the importance of cash-based transfers and vouchers in addition to in-kind transfers
- Support a shift to new nutrition indicators and improved M&E
- Emphasize capacity strengthening of national governments and nutrition governance

Key aspects of the policy

The policy focuses on adequate nutrient intake as a prerequisite to good nutrition and health. Ending malnutrition in all its forms entails increasing the availability, access, consumption of and demand for safe and nutritious diets that meet, but do not exceed, the nutritional requirements of vulnerable groups. Nutritious diets are tailored to meet nutrient requirements of the targeted population, and should therefore be age-appropriate and diverse, and may include locally available foods, fortified foods and SNFs as needed, based on context and identified nutrient gaps.

Mechanisms for achieving adequate dietary intake include:

- Supporting governments to design national plans and policies to achieve good nutrition
- Cultivating partnerships to strengthen social protection, education, health/WASH, and agriculture and food systems
Incorporating nutrition-sensitive concepts and approaches into programming, including specific nutrition objectives and indicators, to improve nutrition
- Advocating for multi-sectoral, multi-stakeholder coordination and engaging on global platforms, such as the Scaling Up Nutrition Movement (SUN) and the Committee on World Food Security (CFS), to improve nutrition governance as well as coverage/delivery of interventions

Nutrition-sensitive programming

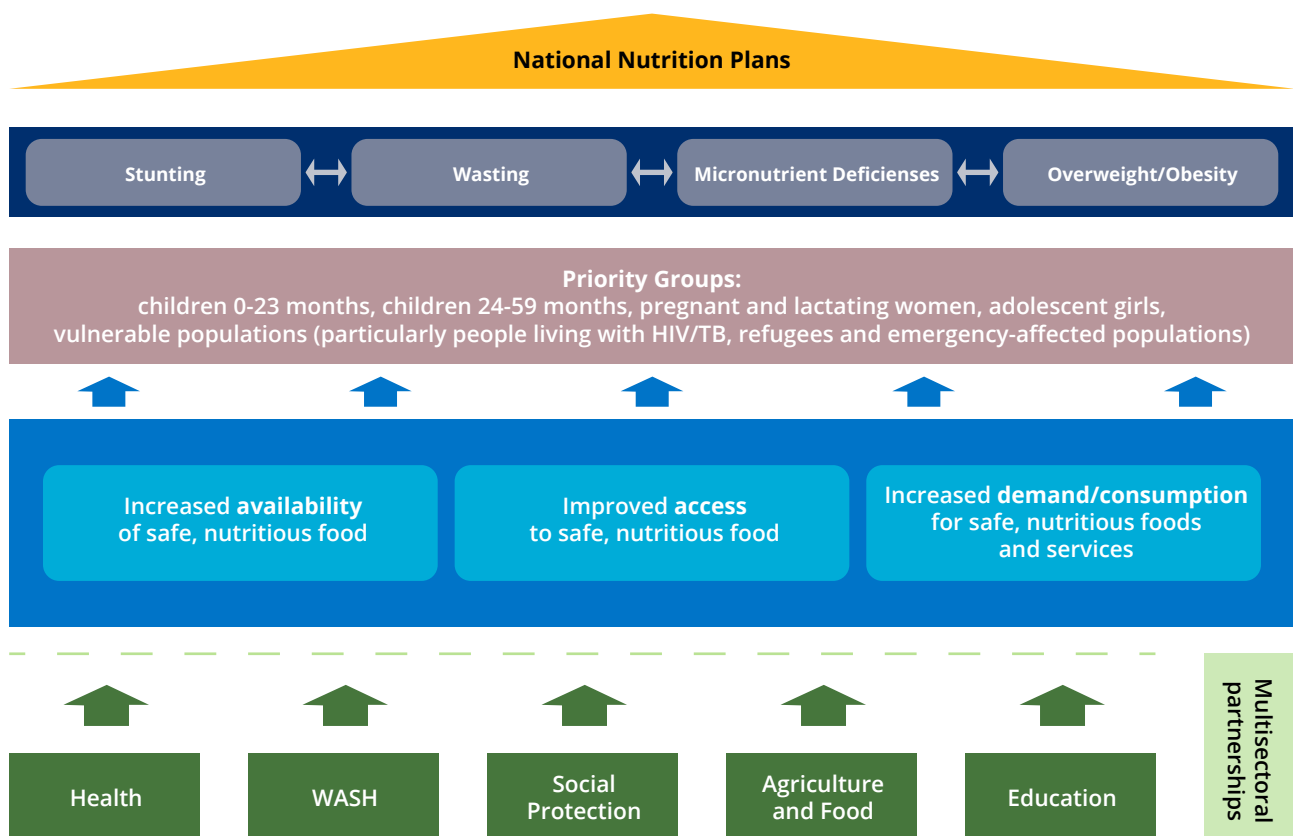
Nutrition-sensitive programming addresses some of the underlying and basic drivers of nutrition, including food security, adequate caregiving, access to and use of health services, and a safe, hygienic environment. These programmes are carried out in a wide variety of sectors, and while their primary objective is not necessarily nutrition-related, they articulate specific nutrition goals, actions and indicators.

12 WFP. 2017. Nutrition Policy: <http://newgo.wfp.org/documents/wfp-nutrition-policy>

While the policy is full of exciting and timely change, it also reinforces WFP's commitment to:

- Maintain and strengthen nutrition capacity in emergencies
- Prevent malnutrition through nutrition-specific approaches including improving community management of acute malnutrition (CMAM) and the continuum of care
- Focus on the first 1,000 days of life as a critical window of opportunity for stunting prevention
- Conduct context-specific analyses and assessments collaboratively with government and other partners to ensure that interventions effectively and efficiently reach vulnerable groups without duplicating efforts
- Generate evidence around appropriate transfer modalities (in-kind, cash, voucher)
- Support communities to build resilience to shocks that affect nutritional status

Figure 2. WFP's focus areas in reducing malnutrition



WFP'S APPROACH TO PARTNERSHIP

Improving nutrition requires the collective effort of multiple stakeholders and sectors. WFP recognizes that food can make an even greater impact on the lives of people when it is part of a food, health care and service delivery package. Active engagement in partnerships with national governments, UN agencies, non-governmental organizations (NGOs), the private sector, policy institutions, academia and private foundations, as well as global nutrition platforms, is an important part of WFP's affirmative nutrition approach.

WFP refers to partnership as a collaborative relationship with an established and specific way of engagement. Memoranda of Understanding (MoUs) have been developed among WFP and other UN agencies, though an MoU is not a requirement for a WFP partnership. Field Level Agreements (FLAs) are developed among WFP and NGOs¹³ and/or cooperating partners when working in partnership on a particular programme (see chapter 6.1 for examples of responsibilities set out in an FLA).

Other partnership agreements include:

- The **Global Humanitarian Platform Principles of Partnership** which were developed to ensure a common understanding of partnership between UN and non-UN Humanitarian Organizations.
- The **UN Development Assistance Framework (UNDAF)**, which provides the strategic programme framework for the UN country teams.

WHO ARE WFP'S PARTNERS?

UN agencies

WFP has established working collaboration with the other three core UN agencies with clear nutrition mandates: UNICEF, FAO and WHO. Other UN partnerships include UNESCO, UNDP, UNFPA, UNHCR, IFAD and UN Women.

Non-governmental organization/Civil society organization partners:

WFP has partnerships with more than 2,000 non-governmental organizations (NGOs) and civil society organizations (CSOs). These are essential in both short-term and long-term responses to malnutrition, and instrumental in increasing WFP's deep field presence. This presence allows engagement with host governments, to align our approach with national priorities, ensuring local ownership and building capacity to promote sustainable solutions to combat malnutrition.

Private sector actors

WFP's partnerships with the private sector actors have been critical in helping to ensure we have the right tools at our disposal to fight malnutrition. From cutting-edge food technology, to development of SNFs for treatment of malnutrition, to telecommunication innovations that enable WFP to reach people in remote regions, WFP's partnerships with food, nutrition, logistics, and telecommunication companies help strengthen our capacity to deliver appropriate, safe, and effective nutrition interventions.

13 Detailed information about working with NGOs can be found at <http://go.wfp.org/web/ngo/guidancematerial>.

Coordination platforms and initiatives

WFP is actively engaging and helping shape key international nutrition efforts and global platforms on nutrition, including the Scaling Up Nutrition (SUN) multi-stakeholder movement. WFP is committed to supporting UN coherence and coordination on nutrition through its support of the UN Network and the Inter-Agency Steering Committee (IASC) Cluster Approach.

SUN¹⁴: WFP is a firm supporter and active participant of SUN — which has galvanised unprecedented political commitment for improving nutrition during the critical 1,000-day window: from conception to a child's 2nd birthday.

In July 2010, an overarching framework for multisectoral action to address undernutrition through strengthened partnership and investment led by government commitment was developed by a broad range of UN agencies (including WFP), governments, donor agencies, civil society, the research community, the private sector, intergovernmental organizations and development bodies. The Global Roadmap for SUN was launched in September 2010, detailing how country, regional and international stakeholders can collaborate in the scale up of nutrition programming.

As of September 2018, 60 leaders from national governments have expressed their commitment to scaling up nutrition. SUN supports country-led approaches that are inclusive and multi-sectoral, and promotes the scale up of nutrition-specific as well as nutrition-sensitive interventions.

WFP's Nutrition Policy is fully aligned with SUN. WFP is a key stakeholder, and is helping shape the SUN movement's forward agenda. WFP is a member of the SUN Lead Group, representing the broader UN Network in the SUN stewardship arrangements.

United Nations Standing Committee on Nutrition (UNSCN)¹⁵: UNSCN comprises the five UN agencies with explicit nutrition mandates – FAO, IFAD, UNICEF, WFP and WHO, with an explicit mandate to improve nutrition levels in the world, are members of UNSCN. However, membership of UNSCN is open to all UN agencies that have a significant interest or engagement in nutrition-related issues. UNSCN is the global interagency platform furthering, coordinating, and supporting joint efforts on nutrition across the UN system, to harmonise technical and policy guidance on nutrition. UNSCN also works in partnership with SUN. WFP currently chairs UNSCN..

No Wasted Lives¹⁶: The No Wasted Lives Coalition is helping to build knowledge about prevention and treatment of acute malnutrition, catalysing investment, and aiming to increase the percentage of children receiving treatment for severe acute malnutrition, while decreasing the percentage of children who need it.

14 <http://scalingupnutrition.org>

15 www.unscn.org

16 <https://www.nowastedlives.org>

UN Inter-Agency Steering Committee (IASC) humanitarian reform and the cluster approach

The Humanitarian Reform agenda, including the Cluster Approach component, was developed to address shortfalls in humanitarian response. The Cluster Approach aims to strengthen predictability, response capacity, coordination and accountability in emergency response. It does this through designating responsibilities for technical sectors to specific agencies at global level, strengthening partnerships, and specifying which agency has the responsibility to prevent and address gaps as “provider of last resort”.

UNICEF is the Cluster Lead Agency (CLA) for nutrition. WFP is an active member of the Global Nutrition Cluster (GNC) and participates in country and regional Nutrition Clusters where they exist.

WFP is also a co-lead agency for the Global Food Security Cluster; members include FAO, WFP, NGOs, and Red Cross and Red Crescent¹⁷.

KEY READING AND ADDITIONAL RESOURCES

- For more information on the WFP Partnership Evaluation: <https://docs.wfp.org/api/documents/e309db1795774bd491e41ab3332ea7bf/download/>
- For more information on the Principles of Partnership: <http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp273179.pdf>
- The SUN Movement: <http://scalingupnutrition.org/>
- No Wasted Lives: <https://www.nowastedlives.org>
- UNSCN: <https://www.unscn.org/>
- STRATEGIC EVALUATION - Joint Evaluation of Renewed Efforts Against Child Hunger and under-nutrition (REACH) 2011-2015: <https://docs.wfp.org/api/documents/5e98cca6c4ab4879bb6d1892c22dc95c/download/>
- 2017 WFP Nutrition Policy: <http://newgo.wfp.org/documents/wfp-nutrition-policy>
- SDGs – a quick guide (WFP, 2016): <http://newgo.wfp.org/documents/sustainable-development-goals-a-quick-guide>
- SDGs: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- UNICEF-WHO-The World Bank: Joint child malnutrition estimates - Levels and trends <http://www.who.int/nutgrowthdb/estimates/en/>
- WFP and Nutrition (10 minutes). E-learning. Available from WFP WeLearn: https://wfp.eu.crossknowledge.com/candidat/product_sheet.php?trainingcontent_id=38836&locale=en-US

Chapter 1. Basic nutrition concepts

PURPOSE:

The purpose of this chapter is to provide an overview of basic concepts in nutrition. This chapter will also define the most common forms of malnutrition and their immediate, underlying and basic drivers.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Explain the difference between macronutrients and micronutrients, and give examples of each.
- Understand malnutrition in all its forms, and describe its immediate, underlying and basic causes.

OVERVIEW

Nutrition is the entire process of obtaining food, to consuming that food, to absorbing its nutrients and energy. The intake of food, considered in relation to the body's dietary needs, is one of the foundations of good health throughout a person's lifetime. Nutrition encompasses the process by which people:

- Obtain the types and amounts of food required to meet nutrient needs for body maintenance, growth and activity
- Prepare food for consumption
- Consume the food
- Absorb nutrients and energy from the food that was consumed

Good nutrition is not just about getting enough food, but ensuring the right nutrients *enter* the body (e.g. through breastfeeding infants and young children, and a varied diet throughout life) and *stay in* the body (e.g. anti-diarrheal rehydration treatments).

Nutritional status relates to the balance between nutrient and energy needs and nutrient and energy intake.

- A nutrient is a substance that provides nourishment essential for the maintenance of life and for growth.
- Energy comes from the food we eat, and is most commonly measured in Kilocalories (kcal).

Malnutrition occurs when the diet provides too few nutrients, or an excess of nutrient and/or energy intake. This results in an imbalance that can affect growth and development, and cause disease. Malnutrition can also occur when a person can't process or absorb nutrients because of illness. For example, infectious diseases like malaria can waste nutrients by obstructing their absorption or diverting them to respond to the infection.

NUTRIENTS

All foods are made up of nutrients. The body uses nutrients to:

- Build tissue and repair damaged tissue
- Produce energy
- Perform all other bodily functions needed to remain healthy

For good nutrition, the body needs a combination of nutrients, distinguished into two categories – macronutrients and micronutrients – based on the amount required by the human body. In addition, water is essential for normal body function, though it is not a nutrient.

Macronutrients (carbohydrates, proteins and lipids) are consumed in relatively large quantities (e.g. amounts are expressed in grams). Macronutrients supply all energy needed by the body and form the bulk of the diet.

Micronutrients (vitamins and minerals, including trace elements) are only needed in small amounts (e.g. amounts expressed in milligrams or micrograms), but are used in a wide range of body functions and processes. Some micronutrients are widely available in a range of foods, and deficiencies are unusual. Other micronutrients are only found in a limited range of foods, and deficiencies can be common.

MACRONUTRIENTS

There are three categories of macronutrients.

Carbohydrates provide an important source of energy for vital organ functions (such as breathing and keeping the body warm) and physical activity. Carbohydrates include starches and sugars. Commonly consumed plant foods such as whole grains, tubers and legumes contain carbohydrates.

Sources of carbohydrates include:

- Cereals (e.g. maize, rice and sorghum)
- Roots and tubers (e.g. cassava, sweet potatoes and carrots)
- Legumes (e.g. lentils, chickpeas and kidney beans)
- Vegetables (e.g. leafy greens and broccoli)
- Fruits (e.g. bananas, apples and mangoes)

Lipids (fats and oils) are made up of fatty acids, they provide an important source of energy and help the body absorb fat-soluble vitamins (A, D, E and K). Some fatty acids are also important for brain development, cognition, visual acuity and mood. Most fatty acids can be synthesized by the human body from general sources of fats and oils. However, two essential fatty acids – linoleic and alpha-linolenic acid – which are required for normal foetal growth, and infant growth and development, cannot be synthesized by the human body and have to be directly introduced through the diet. It is of particular importance that pregnant and lactating women consume a diet that includes fish and seafood and plant sources rich in essential fatty acids. The composition of essential fatty acids in the maternal diet is the most important determinant of the amount and types of essential fatty acids secreted in breastmilk, and thus the dietary intake of the breastfed infant.

Sources of fats and oils include:

- Vegetable origin (e.g. nuts, seeds and margarine)
- Animal origin (e.g. butter, ghee, meat and fish)

How to obtain essential fatty acids

Linoleic acid and alpha-linolenic acid are the two essential fatty acids that need to be introduced through dietary sources. Major sources of linoleic acid are oily fish (tuna, sardines, salmon, mackerel, herring, trout). Major food sources of alpha-linolenic acids are oil and nuts (olive oil, canola oil, walnuts, flaxseeds).

Proteins provide the building blocks of body tissue. When in excess, proteins are used for energy. Proteins are composed of amino acids. Essential amino acids must be obtained from food since they cannot be made by the body.

Sources of proteins include:

- Animal origin (e.g. eggs, milk, poultry, fish and other seafood, and meat)
- Vegetable origin (e.g. legumes, nuts and beans)

How to obtain all essential amino acids

While proteins of animal origin contain all amino acids in balanced amounts, proteins of vegetable origin lack some of the essential amino acids. It is therefore necessary to combine different vegetable foods to obtain a balance in essential amino acids, for example, cereals with beans.

MICRONUTRIENTS

There are two categories of micronutrients:

Vitamins are needed for normal body function, including essential metabolic processes. For example, vitamin A is needed for eyesight, immune function and reproduction. Vitamins are either water-soluble (e.g. vitamin C) or fat-soluble (e.g. vitamin A). Fat soluble vitamins can be stored in fat tissues. Conversely, water-soluble vitamins that are consumed in excess to requirements are excreted through urine and other bodily fluids.

Minerals are critical components of hormones, enzymes and other body tissues. For example, iron is necessary to synthesize haemoglobin within red blood cells. Haemoglobin transfers oxygen from the lungs to the tissues, thus without iron, the body cannot use the oxygen we breathe. Trace elements are needed in very minute quantities for proper growth and development, and good health. An example of a trace element is iodine, which is necessary for thyroid function. Though they are needed in extremely small amounts, without trace elements, we cannot survive.

Processing, storage and cooking affect the micronutrient content of food

The way in which foods are processed, stored and prepared can impact their micronutrient content. For example, germinating pulses can increase vitamin C content while fermentation of cereals can increase the availability of iron, zinc, calcium and phosphorous. At the same time, cooking can reduce the nutrient content of water-soluble vitamins

UNDERSTANDING MALNUTRITION

A nutritious diet provides all the nutrients the body needs. Malnutrition can increase people's chances of becoming ill, and hamper their physical and mental development, therefore making it harder for them to be productive members of society.

An average adult requires approximately 2,100 kcal per day to carry out basic body functions. These calories need to come from a varied diet in order to meet all nutrient needs. Energy comes from macronutrients; micronutrients are not a source of energy. Nutritional requirements differ between individuals, change through the life cycle and vary by factors such as age, sex and environmental conditions. Energy and nutrient needs can also increase with heightened physical activity, during illness, during periods of growth, as well as during pregnancy and breastfeeding.

TYPES OF MALNUTRITION

Malnutrition is a general term that refers to a broad range of conditions. Malnutrition occurs when nutrient and energy intake does not meet, or exceeds, an individual's requirements to maintain growth, immunity and organ function. In the context of WFP's work, the terms malnutrition and undernutrition are often incorrectly used synonymously. In reality, undernutrition is a form of malnutrition, as is overnutrition:

- **Undernutrition** occurs when the intake or absorption of energy or one or more nutrients (protein and/or micronutrients) is less than required. Undernutrition can result in chronic malnutrition, acute malnutrition and/or micronutrient deficiencies.
- **Overnutrition** is the overconsumption of nutrients and energy to the point at which health is adversely affected. Overnutrition can result in overweight and obesity, as well as nutrition-related noncommunicable diseases.

UNDERNUTRITION

Undernutrition is the result of insufficient intake of energy, protein and/or micronutrients; or poor absorption or rapid loss of nutrients due to illness or increased energy expenditure. Undernutrition contributes to poor health, mortality, and long term negative impacts. Children who are undernourished are more vulnerable to infection, and face impaired cognitive development. Undernutrition in childhood can have long-term consequences, including reduced school readiness, poor school performance and lower earning as adults – all of which reduce contribution to a country's economy. Ensuring adequate nutrition during the **first 1,000 days** from conception to a child's 2nd birthday – also known as the '**window of opportunity**' – can have particularly high potential for both short- and long-term impact.

When a person consumes less energy than needed, they become thin, start to lose fat and muscle tissue and become more vulnerable to infections and diseases. When a person consumes less of a specific nutrient than needed, they can develop a diverse array of health issues. For example, if an individual consumes too little vitamin A, they can become blind – a condition that is irreversible.

There are three forms of undernutrition:

- **Acute malnutrition** occurs as a result of recent rapid weight loss (or, in children, a failure to gain weight) and is associated with increased morbidity and mortality. Acute malnutrition is further distinguished into moderate acute malnutrition (MAM), and severe acute malnutrition (SAM). The concepts of SAM and MAM and how they can be treated and prevented are discussed in more detail in chapters 6.1 and 7.
- **Chronic malnutrition** develops as a result of inadequate nutrition, repeated infections or both. It is associated with poor cognitive development, poor learning and limited productivity. It accumulates over time, in particular during the first 1,000 days. One indicator of chronic malnutrition is stunting. Some negative outcomes associated with stunting may be irreversible, therefore stunting should be prevented. Stunting is discussed in more detail in chapter 6.2.
- **Micronutrient deficiencies (MNDs)** is a shortage of essential vitamins or minerals. People who suffer from MNDs may not show any signs or symptoms, so it is sometimes referred to as '**hidden hunger**'. MNDs can take many forms depending on the micronutrient/s deficient in the diet.

Worldwide, iron, vitamin A and iodine are the three most common MNDs. Pregnant and lactating women as well as children are often the most at risk for MNDs. MNDs are discussed in more detail in chapter 6.3.

OVERNUTRITION

Overnutrition occurs when intake of one or more nutrients and/or energy is greater than required, to the point at which health is adversely affected. The most common form of overnutrition is when intake of energy is higher than needs, a situation that leads to increased body fat and may result in **overweight** or **obesity**. A person is classified as overweight or obese based on their Body Mass Index (BMI). BMI is defined as body weight divided by the square of body height, expressed in units of kg/m². An adult with a BMI greater than or equal to 25 is considered overweight, while an adult with a BMI greater than or equal to 30 is considered obese¹⁸.

Overweight and obesity makes a person more vulnerable to both immediate and longer-term risks to health, defined as **noncommunicable diseases**. Among the immediate risks of overweight or obesity are metabolic abnormalities including: raised cholesterol, triglycerides and glucose; and high blood pressure. Longer-term risks include: cardiovascular diseases (heart diseases and stroke), type II diabetes and certain types of cancer (such as gastrointestinal cancer). Overweight or obese children are more likely to become overweight or obese adults. As with undernutrition, optimum growth in the first 1,000 days is essential for prevention of overweight.

Other common forms of overnutrition include overconsumption of sodium (most commonly found in salt and many soy and fish sauces), which can cause high blood pressure and cardiovascular diseases; and overconsumption of trans-fatty acids, which is also correlated with cardiovascular diseases. Changes in dietary and physical activity patterns are often the result of environmental and societal changes associated with development, and lack of supportive policies in sectors such as health, agriculture, transport, urban planning, environment, food processing, distribution, marketing and education.

THE CONVERGENCE OF DIFFERENT TYPES OF MALNUTRITION

A growing body of evidence has shown that different types of malnutrition can occur at the same time¹⁹. Wasting, stunting, MNDs and, increasingly, overweight/obesity coexist in the same vulnerable populations, communities, households and, at times, individuals²⁰. This coexistence of undernutrition and overnutrition is termed the double burden of malnutrition.

The double burden of malnutrition can be seen at population level as well as household level, for example, an overweight mother with a stunted child. The double burden can also occur at the individual level. For instance, an overweight or obese person can have iron deficiency anaemia or be deficient in zinc or vitamin A (among other micronutrients). This phenomenon often occurs as a result of unhealthy diets, characterized by consumption of food that is high in energy and/or salt, sugars and fats, but low in vitamins and minerals.

18 WHO Obesity and Overweight Factsheet No. 311 (2014) <http://www.who.int/mediacentre/factsheets/fs311/en/>

19 Bergeron, Gilles and Castleman, Tony. 2012. "Program Responses to Acute and Chronic Malnutrition: Divergences and Convergences." *Advances in Nutrition*. Volume 3, pp. 242-249.

20 WHO. The double burden of malnutrition. Policy brief. Geneva: World Health Organization; 2017.

DRIVERS OF MALNUTRITION

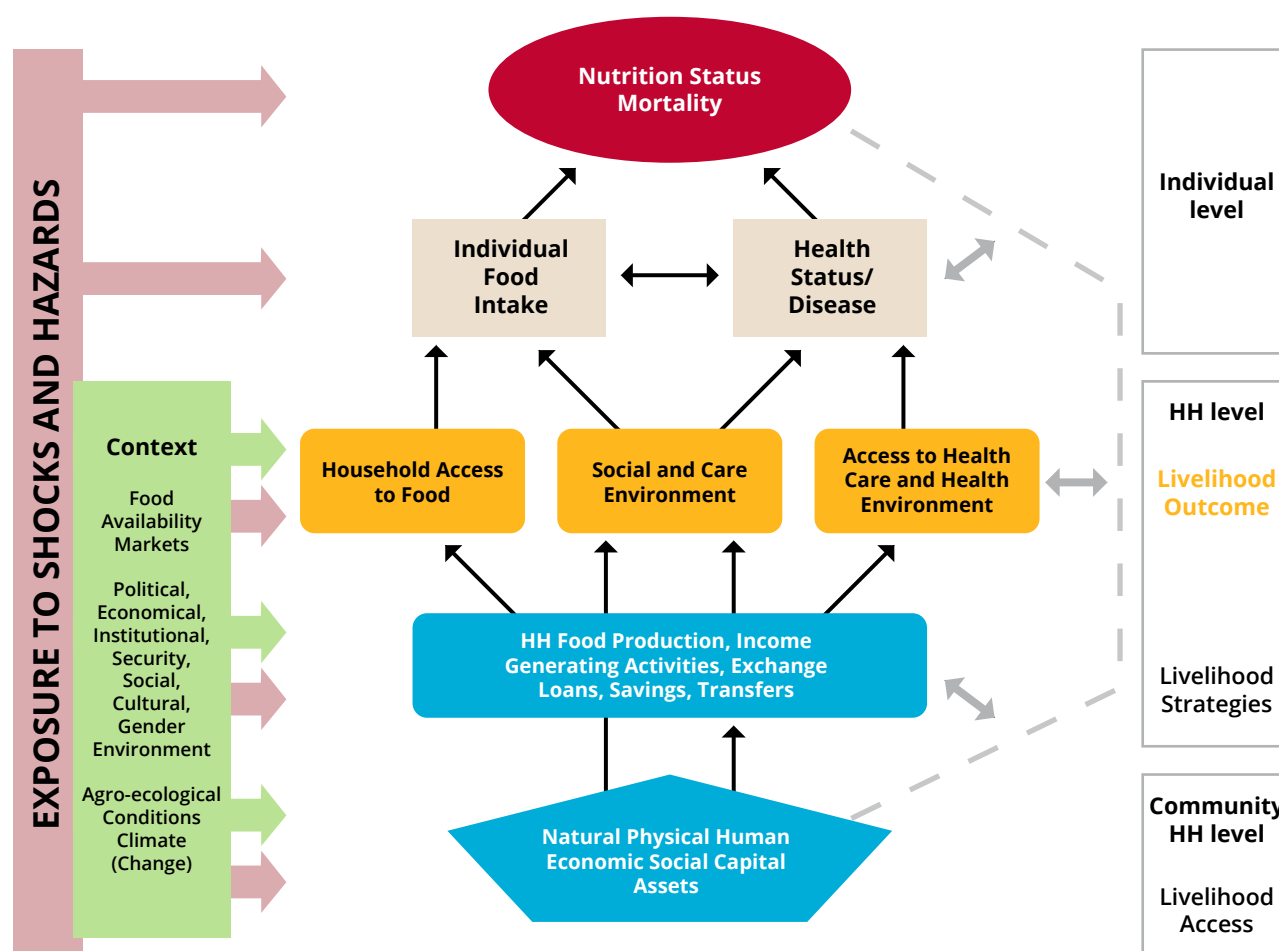
Different types of malnutrition share a number of determinants including: poor diet, poor maternal nutrition, infectious diseases, and inadequate infant/child care and complementary feeding practices.

The nutritional status of an individual is the outcome of a wide range of factors.

- **Immediate determinants** are disease and inadequate diet at the individual level.
- **Underlying determinants** are inadequate food security, care practices, health care and health environment at the household level.
- **Basic determinants** are attributed to social and cultural practices at the community or societal level, due to the socio-political environment, governance, leadership capacity and financial resources, and knowledge and evidence.

In order to understand the drivers of malnutrition, it is useful to use a conceptual framework, such as WFP's Food and Nutrition Security Framework²¹ shown below.

Food and Nutrition Security Conceptual Framework



21 Adapted from the UNICEF conceptual framework. WFP. 2016. Technical Guidance for the Joint Approach to Nutrition and Food Security Assessment (JANFSA) <https://docs.wfp.org/api/documents/WFP-0000021096/download/>

MALNUTRITION-INFECTION CYCLE

The bi-directional relationship between nutrition and infection has been well established and is referred to as the Malnutrition-Infection cycle. Various illnesses can impact nutritional status by reducing appetite and therefore individual food intake, impairing nutrient absorption and metabolism and increasing losses of nutrients. At the same time, a malnourished child often has more severe and frequent episodes of illness due to reduced immunity, which further perpetuates the cycle of malnutrition and infection.

In resource-poor settings, the major causes of death in children under 5 include diarrhoeal diseases, acute respiratory infections, malaria and measles. In both children and adults, tuberculosis (TB) and HIV/AIDS also contribute to mortality. Maternal and child undernutrition are associated with all of these causes of death. In fact, 45 percent of all deaths in children under 5 could be averted if undernutrition did not exist²².

THE INTERGENERATIONAL CYCLE OF MALNUTRITION

In addition, the negative impacts of malnutrition can be linked across generations through an intergenerational cycle of malnutrition. Mothers with malnutrition are more likely to have low birth weight (LBW) infants or an infant that is small for gestational age (SGA), which is equivalent to being stunted at birth, who have less chance of survival and often experience poor health throughout their life. Being born with LBW increases the risk of death and disease in childhood, and noncommunicable diseases in adulthood. If children have malnutrition, their own development and growth can be affected, resulting in adolescents and women of reproductive age who are not physiologically prepared for pregnancy. When women in that state become pregnant, they again are more likely to give birth to an infant with low birth weight and/or is SGA.

SUMMARY

The body needs both macronutrients and micronutrients to be well-nourished. Macronutrients (carbohydrates, proteins and lipids) are consumed in relatively large quantities, supply all energy needs, and form the bulk of the diet. Micronutrients (vitamins and minerals) are needed in small amounts for growth and development, a healthy immune system, and proper functioning of the body. Malnutrition in all its forms includes undernutrition (indicated by wasting, stunting, underweight), inadequate vitamins or minerals, overweight and obesity. Immediate drivers of malnutrition are dietary intake and disease. Underlying drivers are inadequate food security and care practices at the household level, as well as lack of access to health care and water, sanitation and hygiene.

KEY READING AND ADDITIONAL RESOURCES

- Nutrition Basics (10 minutes). E-learning. Available from WFP WeLearn: https://wfp.eu/crossknowledge.com/candidat/product_sheet.php?trainingcontent_id=38831&locale=en-US
- Basic concepts of nutrition (45 minutes). E-learning. Available from WFP WeLearn: https://ckls-cdn-eu.crossknowledge.com/8af5c2278136b36a59c8185541581d4e/learning_objects/E22DD06D-E936-5395-86E3-A47BB392E34D/index_lms.html

22 <http://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality>

Chapter 2. Assessment of individual nutritional status

PURPOSE:

The purpose of this chapter is to provide an overview of basic concepts in nutrition. This chapter will also define the most common forms of malnutrition and their immediate, underlying and basic drivers.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Explain the difference between macronutrients and micronutrients, and give examples of each.
- Understand malnutrition in all its forms, and describe its immediate, underlying and basic causes.

OVERVIEW

A nutritional assessment is an effective way to determine the nutritional status of an individual, and whether their nutritional needs are being met. Individual nutrition assessments can identify if an individual requires care for malnutrition and if healthy growth is eventually achieved. Nutritional assessments across a population group can be used for planning and programme design, setting programming targets, and monitoring and evaluating programmes.

Nutritional status can rarely be observed directly. There are four main methods used to assess an individual's nutritional status and identify malnutrition. These are:

- Anthropometry
- Clinical assessment
- Biochemical assessment
- Dietary intake (which indicates the risk of poor nutritional status)

Anthropometry and clinical assessment are the most commonly used in emergencies and population assessments. Different methods are used to identify different type of malnutrition (Table 2.1).

Table 2.1. Methods to identify different types of malnutrition

Methods	Acute malnutrition	Chronic malnutrition	Micronutrient deficiencies	Overweight & Obesity
Anthropometry	x	x		x
Clinical Assessment	x		x	
Biochemical assessment			x	

MEASURING MALNUTRITION THROUGH ANTHROPOMETRY

Anthropometry is the measurement of physical dimensions of the body. Anthropometric measures are widely and successfully used because body measurements indicate nutritional status and are inexpensive, easy and rapid to collect and use.

The common physical dimensions used for interpreting nutritional status are weight, height or length, and mid-upper arm circumference (MUAC). Other variables that must be measured for correct interpretation of anthropometrics are age, gender, and, in the case of women, status of pregnancy (i.e. pregnant or not) and lactation (i.e. currently breastfeeding or not).

The World Health Organization (WHO) has a series of training manuals to support high quality measurements of the anthropometrics in the field²³. In summary, young infants can be weighed in a number of manners including using special mother-infant scales or hanging measures. Older children can be weighed in the same manner as adults by using standing scales²⁴.

Length and height can be measured in field settings using measuring boards. If a child is less than 24 months of age or under approximately 85cm length/height, her length should be measured. Children, adolescents, and adults should have their height measured standing up. If a child is too young or sick to stand, length rather than height can be measured.

MUAC is measured using special colour-coded tapes crafted for field environments. The tape is used to measure where the midpoint in the arm is, and then the circumference of that point. There is an area of the tape in red that indicates when a child's arm circumference demonstrates severe acute malnutrition and an area in yellow that indicates when a child's arm circumference demonstrates moderate acute malnutrition (see Table 2.3 for cut-offs). The remaining area is in green to indicate no sign of low arm circumference. See UNICEF's e-learning series for precise training on measuring MUAC²⁵.

Age, gender, and status of pregnancy and lactation can be measured through interview. However, be aware that pregnancy status is often times culturally sensitive and questions should be crafted in an appropriate manner based on context. Age is best determined by asking the date of birth and calculating based on the current date. If the date of birth is not known, the WHO anthropometric manuals provide guidance for best determining a child's age²³. Interview techniques, such as asking caregivers if a child was born before or after the rainy season/harvest etc. can help get a more accurate estimate.

23 WHO training modules can be found here: <https://www.who.int/childgrowth/training/en/>

24 See WHO Training Course on Child Growth Standards, page 16 http://www.who.int/childgrowth/training/module_b_measuring_growth.pdf

25 <https://www.unicef.org/nutrition/training/3.1.3/1.html>

DETERMINING NUTRITIONAL STATUS: COMPARE THE INDIVIDUAL TO A REFERENCE HEALTHY POPULATION

The weight and height measurements of individuals obviously vary according to their age and sex. In order to take age and sex differences into account, anthropometric measurements are transformed into **nutritional indices** that describe a person's nutritional or anthropometric status in relation to the statistical norms of a reference, healthy population. The most common nutritional indices used for monitoring healthy growth and demonstrating when a child has fallen into a state of malnutrition are weight-for-age, height-for-age, and weight-for-height. Since 2006, the WHO Growth Standard²⁶ for children under 5 has provided information on the normal distribution of a healthy population for these nutritional indices. The growth standard is divided by gender as boys and girls, on average, are different in both height and weight even in early childhood. The WHO growth standard is applicable to all countries and all children regardless of ethnicity and socioeconomic status.

Each of the collected variables provides one piece of information about a person. When they are used together they can provide important information about a person's nutritional status. When two of these variables are used together they are called nutritional indices.

Prior to 2006, the 1978 National Center for Health Statistics (NCHS) international reference was used as the reference population. To analyse trends over time with nutrition survey results based on the NCHS and WHO growth standard, it is possible to convert the NCHS results to the WHO GS.

HOW TO CONVERT NUTRITIONAL INDICES: STANDARD DEVIATION OR Z-SCORE

The nutritional indices for children can be expressed in relation to the WHO growth standard based on a healthy, reference population by converting those indices to measures of standard deviations, also known as Z-scores. Z-scores are the measure of the distance between the child's nutritional index value and the expected value of the reference population. Ninety-five percent of the reference population have anthropometric Z-scores between -2 and +2; that is, within the normal range. If a child's Z-score falls outside the normal range, this signals a deviation from the norm in their nutritional status. Using weight-for-height as an example, the Z-score allows an estimation of how far a child's weight is from the mean weight of a healthy child at the same height²⁷, and whether that value indicates something outside normal variation between individuals.

The Z-scores for nutrition indices cannot be calculated by hand when using the WHO growth standard, due to the distribution of the data and mathematical complexity. Instead, reference tables should be used to classify status, while computer programmes such as the ENA for SMART or the WHO AnthroPlus can automatically calculate the specific Z-score for an individual.²⁸

See the **WHO Anthro software** module "Nutritional survey" to analyse existing NCHS data sets using WHO standards: <http://www.who.int/childgrowth/software/en/>.

26 World Health Organization Growth Standards: <http://www.who.int/childgrowth/en/>

27 The "**percent of the mean**" might be more widely used in the field than SD scores since percentages are easier to understand. It expresses the child's measurements as a percentage of the expected value for the reference population. Percent of the mean is calculated as: [Actual weight / Reference child's weight] x 100.

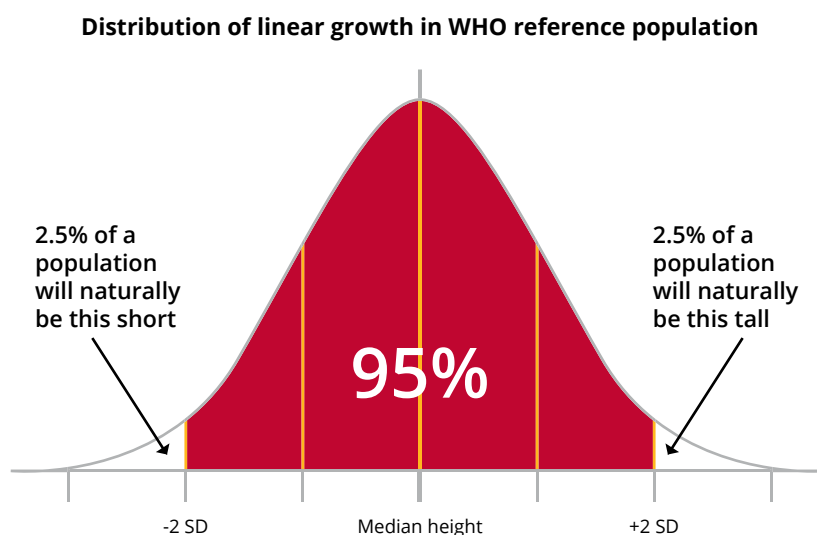
28 WHO Growth Standard reference tables can be found here: <http://www.who.int/childgrowth/en/>
ENA for SMART can be found here: <https://smartmethodology.org/survey-planning-tools/smart-emergency-nutrition-assessment/>
WHO AnthroPlus can be found here: <http://www.who.int/growthref/tools/en/>

EXPLAINING THE STANDARD DEVIATION OR Z-SCORE: AN EXAMPLE USING HEIGHT MEASURES

Figure 2.1 shows the natural variation in the height of the WHO reference population of healthy children. Ninety-five percent of the well-nourished population fall within the red area. Even in well-nourished populations, 2.5 percent of the population are expected to be naturally short and 2.5 percent are expected to be naturally tall. There is some genetic variation in height within populations, but the variation between populations is far smaller. Even for populations that are considered very short, if allowed to reach their genetic potential (through optimal nutrition and optimal living environments), they conform to this statistical curve.

At a population level, if there are more than 2.5 percent of people that are below $-2SD$ (in the left white area), there are stunted children in the population. Furthermore, children who are not classified as stunted will also not be growing to their full potential. The more the curve of a population is shifted to the left, i.e. the higher the prevalence of stunting, the more affected all children are by undernutrition. WFP's goal is to support the optimal growth and development for all: not just focusing on the 'tail' in the diagram but on shifting the distribution of the whole population.

Figure 2.1 Variation in the height of the WHO reference population of healthy children



BODY MEASUREMENTS AND NUTRITIONAL INDICES

The most common nutritional indices used to identify forms of poor nutritional status are:

- Weight-for-height or length Z-score (WHZ/WLZ): is used to detect short-term weight loss or gain, in order to identify wasting in children aged 0-59 months. WHZ/WLZ can also be used to detect if a child has severe acute malnutrition (SAM) or moderate acute malnutrition (MAM). (MAM and SAM are discussed in more detail in chapters 6.1 and 7.)
- Length- or height-for-age Z-score (HAZ): reflects linear growth, and is widely used to determine whether those who are surveyed are chronically malnourished. HAZ is regarded the best indicator for stunting.
- Weight-for-age Z-score (WAZ): indicates the level of underweight, which can reflect a combination of acute and chronic malnutrition. WAZ is generally used in child growth monitoring programmes in order to identify growth faltering at an early stage so that other action can be taken.
- MUAC: MUAC is a measurement that can be used on its own, and does not need to be compared to a population curve. It is a good predictor of mortality risk and is used in assessment of acute malnutrition in children aged 6-59 months. It is also the indicator of choice for use in pregnant and lactating women (PLW). It is a direct measurement and requires no additional calculation; it is often used in screening and admission into nutrition programmes.
- Body Mass Index (BMI): BMI is a calculation using weight and height (Kg/m^2) that is commonly used to measure malnutrition in adult men, and adult non-pregnant, non-lactating women. It indicates underweight, normal weight, overweight or obesity – and is a standalone calculation without the need for comparison with a population curve.
- BMI-for-age Z-score: BMI can be adjusted for age to generate BMI-for-age. This is used for children when measuring overweight and obesity. It is also used for adolescents when measuring acute malnutrition, as well as overweight and obesity, in order to adjust for the changes in height and weight that occur due to puberty and adolescent development. (See Table 2.2 below.)

Calculation of Body mass index (BMI) = Weight (kg) / Height (m) ²

BMI is defined as the weight in kilograms divided by the square of the height in metres (kg/m^2). For example, an adult who weighs 58 kg and whose height is 1.70 m will have a BMI of 20.1: $\text{BMI} = 58 \text{ kg}/(1.70 \text{ m} \times 1.70 \text{ m}) = 20.1$

Note that: BMI measurements must be used with caution in individuals with altered fluid balance, pregnancy, high muscle mass or high visceral fat. In these cases, including for pregnant women, MUAC is the indicator of choice for assessing nutritional status.

USING ANTHROPOMETRY TO DETERMINE NUTRITIONAL STATUS AMONG DIFFERENT GROUPS

Usually, nutritional status assessments focus on children aged 6-59 months, as they are the most vulnerable to nutritional deficiency. However, increasing attention is being paid to assessing malnutrition in school aged children, adolescents, adults (especially PLW) and the elderly. Malnutrition among adults and the elderly has been recorded in some emergencies or in specific contexts (e.g. high prevalence of chronic diseases such as HIV and TB).

Women, especially during pregnancy and lactation, are a nutritionally vulnerable group (a MUAC measurement of less than 230 mm is a simple indicator of malnutrition among PLW). Adolescence, which occurs from around 10 to 18 years of age, is a period of rapid growth. Hence, the anthropometric indices to assess acute malnutrition, which are used for slower growing age groups, are not applicable. WHO recommends that acute malnutrition in school aged children and adolescents is assessed by calculating BMI for age Z-score²⁹.

The elderly are a difficult group to define and a particularly difficult group to assess anthropometrically. In developing countries, a person may be considered elderly from the age of 45 years onwards, whereas in developed countries, old age is considered to start at around 60 years. As the elderly are more likely to be disabled, bedridden, or unable to stand straight, accurately measuring height and, therefore, BMI is difficult. Furthermore, height decline occurs in elderly people at a rate of 1 – 2 cm per decade and even more rapidly in older age. Research suggests that measurements such as armspan (the length from one end of an individual's arms to the other when raised parallel to the ground at shoulder height; measured from the fingertips), halfspan or demispan (the length of the out-stretched arm from the mid sternal notch to the end of the longest finger), and knee height (the distance from the sole of the foot to the anterior surface of the thigh with the ankle and knee each flexed to a 90° angle) can be used to estimate height in the elderly. However, no standard methods of estimating height from these proxy measures has been established. Therefore, at present, BMI based on actual height can only be assessed accurately in the non-stooping elderly.

29 WHO growth charts for school aged children and adolescents can be found here: http://www.who.int/growthref/who2007_bmi_for_age/en/

Table 2.2 Type of anthropometric measures by age groups*

Type of malnutrition	Age group					
	Infants (0-6 months)	Children (6-59 months)	School aged children and adolescents (5-19 years)	PLW	Adults	Elderly
Acute malnutrition	WHZ	WHZ MUAC	BMI-for-age Z-score	MUAC	BMI	BMI
Chronic malnutrition (stunting)	Small for gestational age (SGA)	HAZ				
Underweight (acute/ chronic)	Low Birth Weight (LBW)	WAZ			BMI	BMI
Overnutrition (overweight and obesity)		BMI-for-age Z-score	BMI-for-age Z-score	MUAC	BMI-for-age	

**These indices cannot be used interchangeably*

Low Birth Weight (LBW) as an indicator of mother and infant nutritional status

Children born weighing less than 2.5 kg are defined as LBW. The birth weight of a baby is an important anthropometric indicator, reflecting both the duration of gestation and the rate of foetal growth. It is associated with a child's future health and nutritional status, and is influenced by the mother's nutritional and health status. Therefore, at the population level, birth weight is an important indicator in programmes aimed at PLW and young children, as high prevalence of LBW indicates high risk of poor maternal nutrition and high probability of poor child nutrition in the population in coming months and years. Reliable birth weight data are often scarce. Data collected at hospitals may be skewed towards better-nourished mothers who are more likely to give birth in such institutions. Nevertheless, attempts need to be made in community-based programmes to track birth weights.

INTERPRETATION OF ANTHROPOMETRIC DATA: CUT OFF POINTS

An individual's nutritional status is classified by determining how they compare to a well-nourished individual. The classification is based on cut-off points for each index, according to different age groups.

Table 2.3 Classification of acute malnutrition^{30, 31, 32, 33}

Age groups	Index or Measure	Moderate	Severe
Infants aged 0-6 months	WHZ	<-2 to \geq -3	<-3
Children 6-59 months	HAZ	<-2 to \geq -3	<-3
	WAZ	<-2 to \geq -3	<-3
	WHZ	<-2 to \geq -3	<-3
	MUAC	<125 mm to \geq 115 mm	<115 mm
School aged children and adolescents (5-19 years)	BMI-for-age Z-score	<-2 to \geq -3	<-3
PLW	MUAC	<230 mm	<210 mm
Adults (20 – 59.9) and elderly	BMI	16.0 to 17.0	< 16.0

Children under 5 presenting with bilateral, pitting oedema are classified as severely acute malnourished regardless of their anthropometric measurements. More information on oedema is given below.

Table 2.4 Classification of overweight and obesity

Age groups	Index or Measure	Overweight	Obesity
Children (6-59 months)	BMI-for-age Z-score		=> 95th percentile ⁱ
School aged children and adolescents (5-19 years)	BMI-for-age Z-score	>+1 and <+2 SD	>+2 SD ⁱⁱ
Pregnant women	MUAC		>330 mm ^{iii,iv}
Adults (20 – 59.9) and elderly	BMI	> 250 mm and < 300 mm	> 300 mm ^v

i For World Health Organization Growth Standards see http://www.who.int/childgrowth/standards/weight_for_age/en/

ii World Health Organization. Indicator 13. <http://www.who.int/nmh/ncd-tools/indicator13/en/>

iii South African Medical Journal. July 2017. Cape Town. http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0256-95742017000700020

iv Fakia A, Petro G, Fawcus S, National Center for Biotechnology Information, June 2017. <https://www.ncbi.nlm.nih.gov/pubmed/29025451>

v World Health Organization. Indicator 14. <http://www.who.int/nmh/ncd-tools/indicator14/en/>

30 The Sphere Project (2011). Humanitarian Charter and Minimum Standards in Humanitarian Response, Chapter 3: Minimum Standards in Food Security and Nutrition. Appendix 4. Geneva: The Sphere Project. <http://www.spherehandbook.org/en/appendix-4/>

31 World Health Organization Child Growth Standards <http://www.who.int/childgrowth/en/>

32 World Health Organization Growth Reference Data for Children and Adolescents (5-19 years). <http://www.who.int/growthref/en/>

33 World Health Organization. Global Database on Body Mass Index. <http://www.assessmentpsychology.com/icbmi.htm>

CLINICAL ASSESSMENT

Clinical assessments identify observable signs and symptoms to diagnose malnutrition. This method can help to identify acute malnutrition and some micronutrient deficiencies (MNDs). For example, vitamin A deficiency manifests itself in ocular (eye) problems. A clinical assessment can determine if an individual has a number of ocular problems, from Bitot's spots to severe keratinization of the retina. A trained professional can see these problems in the eye, classify them and thus diagnosis to what extent the individual is affected by vitamin A deficiency. Likewise, the assessment and diagnosis of night blindness can also lead to a diagnosis of vitamin A deficiency. Other clinical manifestations of MNDs include rickets for vitamin D deficiency, goitre for iodine deficiency, angular stomatitis for vitamin B₁₂ and iron deficiency and beriberi for vitamin B₁ deficiency.

Clinical assessments may include examining the condition of hair, mouth, skin, eyes, and nails, as well as swallowing difficulties, dehydration and oedema. Conducting a series of clinical assessments is a relatively inexpensive method of determining nutritional status.

Clinical assessments do have limitations, such as the training required to ensure correct diagnosis. While useful, clinical signs are often non-specific and may arise from a number of different underlying conditions.

MARASMUS AND KWASHIORKOR

Marasmus and kwashiorkor are forms of SAM. Both conditions may be distinguished by their own particular clinical characteristics. Marasmus is identifiable by severe weight loss: the ribs are very prominent, the limbs emaciated and the muscles extremely wasted. Marasmic children often have a good appetite and are quite alert. If treated correctly and in a timely fashion, a child suffering from marasmus has a good prognosis.

The main distinguishing characteristics of kwashiorkor is bilateral, pitting oedema, or fluid accumulation in the body. Loss of appetite is another common feature. Mental changes are also common, resulting in a child who is apathetic and irritable. In addition, the child's hair becomes thinner and, if the natural colour is black, it may turn light brown or red. Cheeks may seem to be swollen, giving a characteristic moonfaced appearance. Any child with kwashiorkor is considered to have SAM regardless of anthropometric indicators, and has a high risk of dying.

Some children present a mixed form of both marasmus and kwashiorkor, known as marasmic kwashiorkor.

OEDEMA

Nutritional oedema is the abnormal effusion of fluid into the cells of tissue spaces or body cavities on both sides of the body (bilateral, pitting oedema) as a result of severe nutritional deficiencies. Oedema in children is the key clinical sign of kwashiorkor.

With nutritional oedema, an individual's weight increases due to the accumulation of fluids. As a result, indices such as WHZ are not representative of his or her true anthropometric status. A Z-score should not be calculated for children with oedema because the weight measurement will not be valid.

A child with nutritional oedema is classified as severely acutely malnourished, regardless of his or her weight-for-height Z-score or MUAC.

Assessment of nutritional oedema

To assess nutritional oedema, exert medium pressure for three seconds on the upper part of both feet (just below the ankle). If the thumb leaves an indentation, known as pitting, on the upper side of both feet, then nutritional oedema is present.



Photo (left):
Oxfam/Geno Teofilo

Photo (right):
The child has marasmic kwashiorkor – bilateral pitting oedema on both hands and feet, and prominent ribs.

BIOCHEMICAL ASSESSMENT

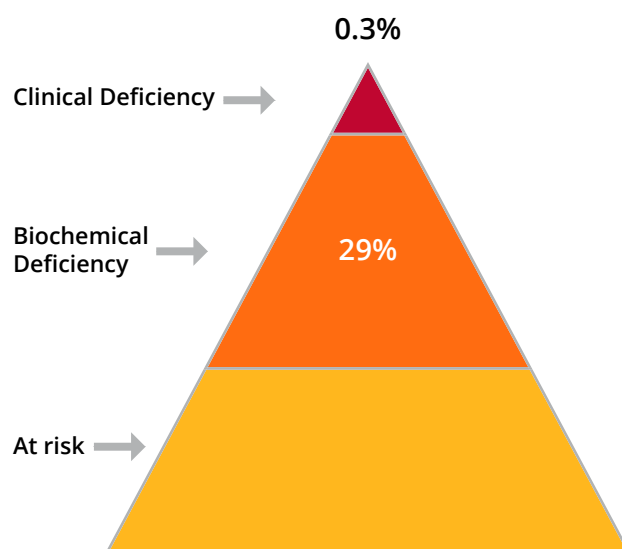
Biochemical assessments refer to the examination of specific metabolites found in body fluids such as blood and urine, in order to determine deficiencies and abnormalities in the metabolism of nutrients. These measures include haemoglobin, albumin, triglyceride, total cholesterol, low-density lipoprotein, iron and biomarkers of micronutrients. Biochemical assessment can identify some types of micronutrient deficiency before clinical signs appear. For example, clinical measures including the visible signs of the deficiency such as Bitot's spots or goitre indicate relatively severe deficiency of vitamin A and iodine respectively. The biochemical measures of low serum retinol or low urinary iodine indicate less severe or sub-clinical deficiency of vitamin A and iodine respectively.

Many of these tests are expensive, and results need to be interpreted by a trained health worker. Where resources are limited, these tests are not essential to nutrition assessments.

MICRONUTRIENT DEFICIENCIES STATUS AND ASSESSMENT

MNDs are often less visible than other forms of malnutrition but are just as critical. The most common MNDs in the world are vitamin A, iron and iodine. Referred to as 'hidden hunger', most MNDs do not show obvious clinical symptoms in the majority of people affected. Figure 2.1 demonstrates how clinical symptoms represent just the 'tip of the iceberg' with regards to the overall breadth of the deficiency in the population. The figure shows the percentage of women affected by pellagra³⁴ and niacin deficiency during a survey in Kuito, Angola (2004).

Figure 2.1. Distribution of MNDs in a population



Biochemical assessment requires body fluid samples such as blood or urine. These samples normally have to be analysed in a laboratory. This may not be feasible or appropriate in field situations and emergencies. Often times, therefore, the recognition of clinical signs remains the primary means of identifying deficiencies.

There is, however, a basic flaw with relying on clinical signs to identify deficiencies: deterioration in micronutrient status prior to the development of clinical signs will be missed, and with it, the opportunity to take preventive action. Table 2.5 shows the steps which WFP staff can take to foresee and prevent the risk of a particular MND disease outbreak in a population.

³⁴ Pellagra is caused by niacin deficiency which affects the skin, gastro-intestinal tract and nervous systems, and is sometimes called the 3Ds: dermatitis, diarrhoea and dementia.

Table 2.5 Steps to prevent the risk of a particular MND disease outbreak in a population

Steps	Source of information
Establish which micronutrients are lacking in the diet or food assistance ration	WFP nutrition division for review of diet content and analysis of ration content
Assess the availability and accessibility of local foods which may be consumed to supplement the ration and establish whether they are rich sources of particular micronutrients (e.g. which fruits and vegetables are commonly consumed and in which seasons they are available)	Local or international nutrition expertise
Determine whether items of the ration are being exchanged or sold and establish how this will alter the micronutrient content of the diet (e.g. is a fortified food item in the ration, such as blended food, being exchanged for a food item lacking in particular micronutrients?)	WFP food monitor and local or international nutrition expertise
Establish what existing MNDs were common in the beneficiary population before the shock, the major driver of the deficiency (i.e. lack of food source or infection) and which population groups were most at risk	Local or international nutrition and health expertise
Assess whether there are existing fortification or supplementation programmes (e.g. health centres frequently provide iron and folic acid tablets to pregnant women, and vitamin A to young children, while agencies such as UNICEF may support routine vitamin A supplementation, or local salt iodization)	Local or international health expertise and programmes of other agencies

DIETARY INTAKE

Dietary intake assessments aim to determine if nutrient and energy intake is adequate for growth and development. Dietary assessments are commonly used to study the vulnerability of beneficiaries regarding food sources, nutritional balance, and the overall nutritional deficiency based on reported intake of certain food items or dietary patterns. This food consumption data can be used to evaluate dietary adequacy, to identify groups who fall short of specific nutrients, determine the most important food source for a particular nutrient, and inform programme choices to address the nutrient gap.

Dietary assessments often look at dietary diversity, which is an important aspect of dietary quality. Consumption of a higher number of food items and food groups is associated with improved nutritional adequacy of the diet.

Dietary intake can be assessed by different methods:

- **Food Records and Diaries:** Food records are written accounts by the respondent that capture, at the time of consumption, all food, beverages, and nutrient supplements consumed during a specific time period. Detailed descriptions of foods and beverages, their method of preparation, and quantity are included. To determine usual dietary intake, 3-10 days is recommended.
- **24-Hour Dietary Recall:** In the 24-hour recall method, respondents are asked by a trained interviewer to recall all food, beverage, and nutrient supplement intake, including preparation

methods, quantity, and brand names, during the previous 24-hour period. Examples of these recalls include Minimum Acceptable Diversity (MAD) for children aged 6-23 months, and Minimum Dietary Diversity for Women (MDD-W) of reproductive age (15-49 years).

- **Food Frequency Questionnaire:** A Food Frequency Questionnaire (FFQ) collects information regarding the frequency of consumption of foods from a food list over a specific time period, which may be a week or months. It is based on an individual's perception of usual intake over time, and may include questions related to portion size. An FFQ can be self or interviewer administered, with multiple choice or open-ended formats. Completing an FFQ is time consuming and requires accurate memory from the respondent.
- **Usual food intake:** An interview through which an interviewer asks respondents to recount the range of food "usually" eaten at various times during the day. Although this method captures more foods than the 24-hour recall, it can be unreliable because of inaccuracies in respondent recall.

The Food Consumption Score (FCS), developed by WFP, has been a reliable and widely used proxy indicator of food insecurity. Remember that while the FCS collects information on household food consumption, the FCS is a proxy indicator of food access as opposed to dietary intake. It is not an indicator of nutritional status. If a household is food insecure, then members of the household are at risk of malnutrition. However, if a household is food secure, vulnerable members may still suffer malnutrition.

KEY READING AND ADDITIONAL RESOURCES

- WHO Growth Standards: <http://www.who.int/childgrowth/standards/en/>
- WFP Individual Nutrition Assessment: <http://newgo.wfp.org/documents/individual-level-nutrition-assessment>
- WFP Nutrition Assessment in Emergencies: <http://newgo.wfp.org/collection/nutrition-assessments-emergencies>
- WFP and CDC, 2005. A Manual: Measuring and Interpreting Malnutrition and Mortality. <https://docs.wfp.org/api/documents/02644dd9223e4532b58db99858c3cc3c/download/>
- The management of nutrition in major emergencies (WHO, 2000). <http://www.who.int/nutrition/publications/emergencies/9241545208/en/>
- More information on biochemical tests and thresholds for interpreting public health significance of these indicators can be found in the Harmonised Training Package Module 4: <https://www.enonline.net/htpv2module4>
- More information on proper protocol and safety considerations for various procedures can be found in Measuring and Interpreting Malnutrition and Mortality. <http://newgo.wfp.org/documents/measuring-and-interpreting-malnutrition-and-mortality>
- Detailed guidance on measuring WFH can be found in the Harmonised Training Package Module 6. <https://www.enonline.net/htpv2module6>
- WFH reference tables can be found on the WHO site. http://www.who.int/childgrowth/standards/weight_for_height/en/
- HFA is regarded the best indicator of stunting; reference tables can be found on the WHO site. http://www.who.int/childgrowth/standards/height_for_age/en/
- WFA reference tables can be on the WHO site. http://www.who.int/childgrowth/standards/weight_for_age/en/
- Growth reference data for adolescents (5-19 years) can be found on the WHO site. <http://www.who.int/growthref/en/>

Chapter 3. Nutrition situational analyses

PURPOSE:

The purpose of this chapter is to provide an overview of the process of conducting nutrition situational analyses, and to highlight their importance for government policies and strategies – as well as for WFP’s nutrition-specific and nutrition-sensitive programming.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Understand the importance of conducting nutrition situational analyses to inform the design and implementation of WFP nutrition programmes, especially in the context of a Country Strategic Plan (CSP).
- Understand how to conduct nutrition situational analyses.
- Understand the purpose and most appropriate timing for conducting a Fill the Nutrient Gap (FNG) analysis, as well as the stakeholder engagement process, to inform both government and WFP priorities for improving nutrition.

OVERVIEW

A nutrition situational analysis assesses the nutritional status of a population, identifies key nutritional problem(s) and their characteristics, describes the drivers of nutritional status, and considers the risks of further nutritional deterioration. This information helps determine whether or not a nutrition programme is necessary and appropriate.

Nutrition situational analyses should be carried out prior to designing and implementing each nutrition programme. Although this could occur at any time, ideally nutrition situational analyses should be conducted before a Country Strategic Plan (CSP) is developed. This ensures that up-to-date information informs the nutrition programming included in the CSP and allows WFP Country Offices to design and implement the most appropriate nutrition programmes according to the country context.

SITUATIONAL ANALYSES IN NUTRITION PROGRAMMING

WHY DOES WFP CONDUCT NUTRITION SITUATIONAL ANALYSES?

A nutrition situational analysis provides the information needed for planning and carrying out appropriate, context-specific nutrition programmes. Nutrition situational analyses are detailed reports, which present and interpret the current and potential future nutritional status of a population. Further, nutrition situational analyses characterize the nature, extent, severity, evolution and distribution of nutritional problem(s). For example, there may be one key nutrition problem (e.g. high wasting prevalence); or a combination of different problems (e.g. high wasting in lean season, high or moderate stunting all year); or it may be that different geographic areas within the same country have different nutritional problems, or different drivers of those problems.

A nutrition situational analysis is conducted to:

- Define problems, needs, constraints, opportunities and priority geographies.
- Understand possible drivers of malnutrition.
- Identify information gaps in nutrition, and help advocate for primary data collection.
- Identify vulnerable groups to be prioritized in a particular context, and possible targeting criteria.
- Inform the selection of appropriate programme responses and modalities.
- Promote collaborative responses through developing a joint understanding of the situation with partners.
- Prioritize resource allocation.
- Guide strategic programming plans and policy formulation.
- Shape monitoring and evaluation efforts.
- Improve programme impact evaluation by providing baseline information related to nutrition.

ZERO HUNGER STRATEGIC REVIEW

Optimally, the first step in a comprehensive nutrition situational analysis is to support the government to conduct a national Zero Hunger Strategic Review (ZHSR). The ZHSR is a government-owned and country-led exercise that determines the collective actions needed to achieve SDG2 by 2030. It includes analyses of a country's specific food security and nutrition challenges through consultations with a wide range of government stakeholders, civil society, private sector, donors and international organizations³⁵. The results inform not only WFP's nutrition programming within its CSP, but also the actions of government and others needed to prioritize Zero Hunger.

The ZHSR provides a baseline for future comparison, and identifies concrete options to achieve SDG2, articulated through a list of priority actions endorsed by all stakeholders.

The Zero Hunger Strategic Review determines gaps in national food security and nutrition response, and provides concrete options to achieve SDG2

35 National Zero Hunger Strategic Review, WFP. <https://docs.wfp.org/api/documents/WFP-0000023337/download/>

Although a ZHSR is not for WFP but the country, it enables WFP to adequately anchor its strategic planning in collectively agreed national outcome targets. Based on the ZHSR, and aligned with the planning processes of government and the United Nations Country Team, WFP identifies the national SDG targets and results that it is well placed to support.

FILL THE NUTRIENT GAP

WFP, together with technical partners, has developed a situational analysis and decision-making process called 'Fill the Nutrient Gap' (FNG) that can be used to specifically assess bottlenecks and opportunities for improving nutrition in the country.

If an FNG analysis is carried out, it is conducted by a dedicated team from WFP-HQ Nutrition Division in close collaboration with Country Office and Regional Bureau colleagues, as well as national stakeholders.

The ideal timing to conduct an FNG analysis is just before or in parallel with the ZHSR, or when national policies are being drafted/revised. It can also be conducted early on in the implementation of a CSP, or to inform specific areas of the national nutrition policy's implementation plan, e.g. the role of markets and the private sector for improving nutrition.

In particular, the FNG identifies the context-specific bottlenecks to having access to nutritious foods, specifically for different vulnerable groups. Based on the situation analysis by FNG, and the process of stakeholder involvement, priorities for policies, strategies and programmes by different sectors and stakeholders, including WFP, are identified. This allows WFP to pinpoint the areas where it can best contribute to supporting the government. For example, through nutrition-specific or nutrition-sensitive programming (or both); in the form of direct implementation or technical assistance (or both); by engaging in public-private initiatives to increase development / production / access to safe, nutritious foods for specific target groups; and/or by ensuring that asset creation initiatives contribute to improving nutrition. This information can then be built into the CSP, or it can further shape specific aspects of an ongoing CSP.

In addition to assessing bottlenecks and opportunities for improving nutrition in the country, the FNG analysis leverages context-specific secondary sources of data and information on factors that directly or indirectly impact whether people can access and consume nutritious foods. These data are identified and provided by stakeholders, and can include as many as 100-200 sources per country.

Another component of the FNG is the Cost of the Diet analysis, which uses data on food prices and household food expenditure to estimate the lowest cost of a diet that meets nutrition needs of the members of the household, and the proportion of households that are able to afford this nutritious diet. (More information on Cost of the Diet is provided later in this chapter.)

The information consolidated by the FNG is reviewed by a multi-sectoral group of stakeholders, at relevant levels, to come to a shared understanding of the issues, context and solutions. Through this consultative process, context-specific, optimal policy and programme actions – including possible entry points for interventions – are jointly identified.

FNG provides a framework for strengthened situational analysis and multi-sectoral decision-making

The FNG brings attention to the fact that the ability of individuals and households to improve their consumption of nutritious foods depends to a large extent on factors that are beyond their control. These include households' physical access to markets, the diversity of the foods produced by the agricultural system, the price of foods relative to income etc. Changing those factors requires changes of systems, including the food system, health system, social protection system – with a specific role for different sectors and constituents (e.g. public sector or private sector). The FNG findings and its process are helpful to come to a shared understanding of the main context-specific challenges that need to be addressed, and in identifying what different sectors and stakeholders can do.

An FNG analysis:

- Brings together secondary information to support formulation of national strategies to address the barriers to adequate nutrient intake, i.e. availability and access to nutritious foods.
- Increases the understanding of nutrient access and affordability of nutritious foods among stakeholders from different sectors.
- Links data analysis to decision-making by modelling different interventions, modalities and platforms to improve purchasing power, lower prices, and increase availability of nutritious foods for key vulnerable groups.
- Highlights the linkage between access and behaviours by also reviewing secondary information on context-specific socio-cultural barriers to adequate dietary intake.
- Reaches a shared understanding of the main context-specific challenges, and what each sector can do to address them.

For more information on FNG, its framework and processes, see the Fill the Nutrient Gap Tool³⁶.

36 WFP.2018. Fill the Nutrition Gap (FNG) Tool. Analyses, Consensus, Decision Making <https://docs.wfp.org/api/documents/WFP-0000023229/download>

METHODS TO CONDUCT NUTRITION SITUATIONAL ANALYSES

A comprehensive nutrition situational analysis uses information from nutrition assessments of individuals; population level assessments; and relevant information on other drivers of malnutrition, including: food security, health care practices, and water and hygiene.

KEY QUESTIONS

There are five key questions that need to be considered in conducting situational analyses:

<p>Who? (is affected by nutritional risks)</p>	<ul style="list-style-type: none"> • Are particular age groups affected, such as children younger than 5 years? • Are people of a particular physiological status affected, such as a pregnant and lactating women (PLW)? • Is malnutrition affecting a specific gender, class or livelihood group? • How many people are affected? • How are different groups and genders affected across the lifecycle?
<p>What? (are the nutritional problems)</p>	<ul style="list-style-type: none"> • Are wasting and stunting prevalent among the population? • Are one or multiple forms of micronutrient deficiencies prevalent? • Are overweight and obesity prevalent among the population? • What proportion of the population is affected by each form of malnutrition? • Based on the WHO thresholds, are the different forms of malnutrition classified as public health concerns in the population? (More information on interpreting prevalence values versus thresholds is given later in the chapter, as well as in chapter 5.)
<p>When? (are nutritional problems evident)</p>	<ul style="list-style-type: none"> • Does malnutrition deteriorate at a certain time of year? • Are there seasonal trends? • Is malnutrition linked to short-term shocks or long-term issues? • Has the nutrition situation been poor for an extended period of time (chronic) or only recently (acute)? • Is the situation expected to improve or worsen?
<p>Where? (are nutritional problems occurring)</p>	<ul style="list-style-type: none"> • What is the geographic region, district, or other area most affected by the malnutrition? • In what context is the situation: development, conflict, post-crisis, natural disaster, etc.? • In what setting: internally displaced, refugee, host population? • In which environment: urban or rural?
<p>Why? (are nutritional problems occurring)</p>	<ul style="list-style-type: none"> • What are the possible direct and indirect drivers of malnutrition? • How may these drivers impact the nutrition situation in future?

WFP'S FOOD AND NUTRITION SECURITY CONCEPTUAL FRAMEWORK

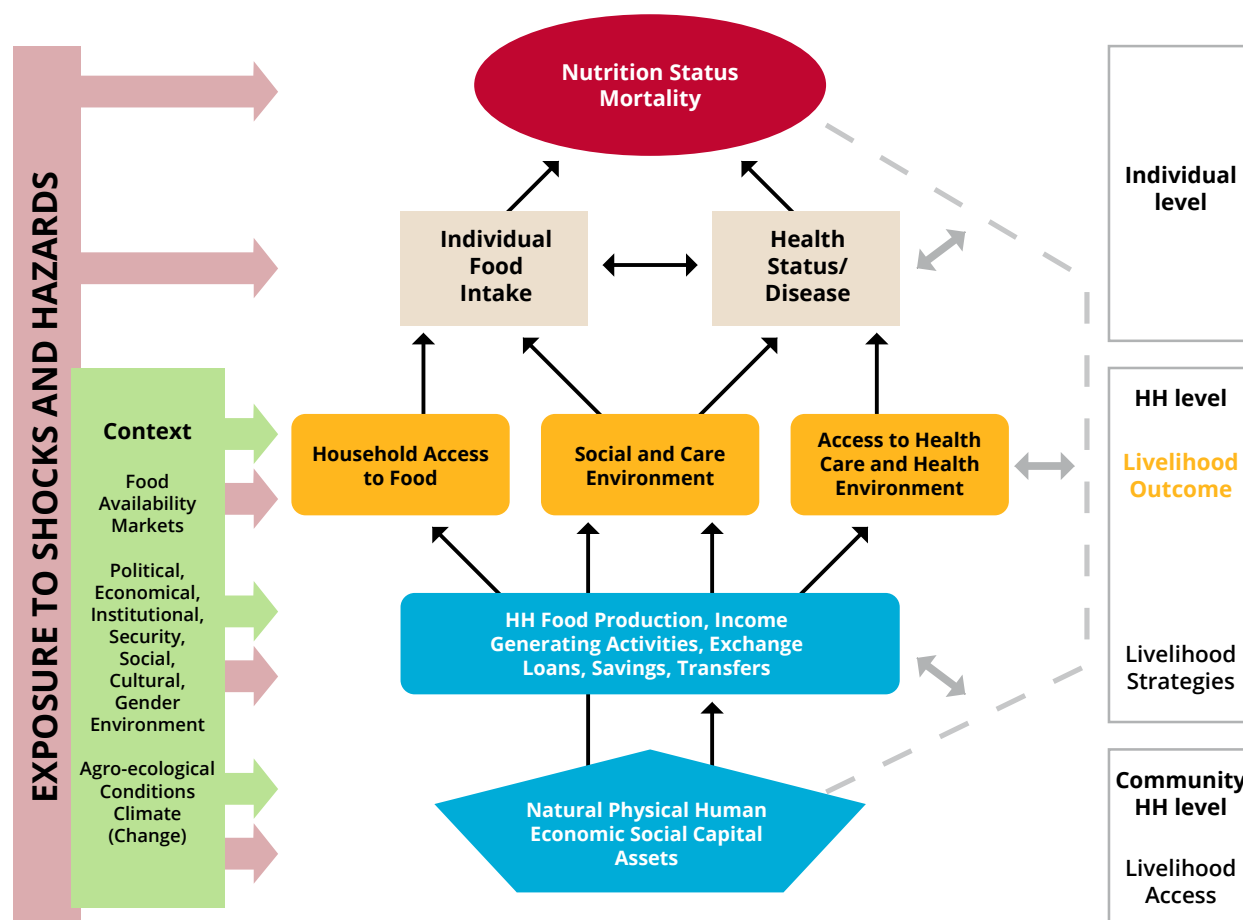
In order to understand the nutrition situation and the drivers of malnutrition, it is useful to refer to WFP's Food and Nutrition Security Conceptual Framework³⁷. This framework builds on the UNICEF conceptual framework for malnutrition, which highlights the importance of understanding the immediate, underlying and basic determinants of malnutrition. WFP's Food and Nutrition Security Conceptual Framework adds the concepts of sustainable livelihoods to the UNICEF framework. It classifies the various factors affecting nutrition status and mortality into three different levels – individual, household and community.

The conceptual framework is used to:

- guide information gathering and analysis
- organize available data
- facilitate identification of possible drivers of the nutrition situation
- understand the relationship between the immediate, underlying and basic determinants of malnutrition.

NOTE: Nutrition-sensitive programming has adapted this conceptual framework further to highlight the enabling environment for nutrition improvement. Please refer to chapter 6.4 for the nutrition sensitive conceptual framework.

Food and Nutrition Security Conceptual Framework



37 Adapted from the UNICEF conceptual framework. WFP. 2016. Technical Guidance for the Joint Approach to Nutrition and Food Security Assessment (JANFSA) <https://docs.wfp.org/api/documents/WFP-0000021096/download/>

The WFP Food and Nutrition Security Conceptual Framework identifies four distinct areas of analysis to understand the determinants of malnutrition:

- **Food related factors:** Food related factors include Individual Food Intake (quantity and quality). Good indicators include: Minimum Acceptable Diet (MAD) for children aged 6-23 months, Minimum Dietary Diversity for Women (MDD-W) of reproductive age, and Household Access to Food. Individual food intake is an immediate driver of malnutrition, which in turn is affected by household access to food.
- **Non-food related factors:** The individual's Health Status/Disease is an immediate driver of malnutrition (as it affects appetite as well as the body's utilization of nutrients, and increases nutrient needs), which in turn is affected by underlying drivers at the household level: Social and Care Environment, and Access to Health Care and Health Environment. These components include many drivers that are not directly related to food consumption, such as the availability and capacity of health services, and access to water, sanitation and hygiene (WASH).
- **Livelihoods:** A livelihoods' perspective aims to understand how food security and nutrition status is related to the way that households meet their basic needs. As part of a comprehensive situational analysis, current livelihoods should be examined to understand how a shock may have changed these activities, and how people are coping with the changes.
- **Context and Risk:** Two factors influencing all levels of the framework are Context and Risk. Contextual factors include Food Availability/Markets; the Political, Economic, Institutional, Security, Social, Cultural, and Gender Environment; and Agro-ecological Conditions/Climate. Risk-related factors include Exposure to Shocks and Hazards, for example drought or floods.

NUTRITIONAL STATUS

The nutritional status of a population can be described using a variety of anthropometric and micronutrient status indicators. Key nutritional status indicators include:

- Stunting in children under 5
- Wasting in children under 5
- Low Body Mass Index (BMI) in adult non-pregnant, non-lactating women
- Overweight and obesity among children under 5; and non-pregnant, non-lactating women
- Anaemia among children under 5; school-aged children; adolescents; and non-pregnant, non-lactating women
- Night blindness among PLW and children under 5
- Low serum retinol among PLW and children under 5
- Low urinary iodine among children aged 6-12 years

SITUATIONAL ANALYSES IN THE CONTEXT OF HUMAN IMMUNODEFICIENCY VIRUS/ACQUIRED IMMUNODEFICIENCIES SYNDROME AND TUBERCULOSIS (HIV/AIDS AND TB)

- Know your epidemic: collect information from UNAIDS³⁸ reports or any other approved national surveillance on HIV and TB epidemiology (prevalence and incidence of HIV and/or TB, HIV/TB co-infection etc.). Distinguish between concentrated and generalised epidemics. Identify and estimate the size of target population, including key populations.³⁹ Estimate the number of orphans and vulnerable children due to HIV/TB in the country, the extent of their vulnerability and how this influences access to education. In addition, define any gender norms, stigma and protection issues that can represent major barriers to effective response to HIV and TB.
- Know your national antiretroviral therapy (ART) and TB treatment outcomes and coverage: describe the ART and TB treatment outcomes and coverage (gather information on adherence, default rate, TB treatment success rate, etc.). In addition, describe the factors that hinder or facilitate ART and TB treatment access and success, in order to identify how WFP can contribute to addressing these bottlenecks and challenges. Information can be collected from UNAIDS country progress reports and any other approved national surveillances.
- Define the critical enablers: critical enablers are defined as “activities that are necessary to support the effectiveness and efficiency of basic programme activities”⁴⁰ Critical enablers overcome major barriers to service uptake, including social exclusion, marginalization, criminalization, stigma, gender norms and inequity.

Epidemiology

Concentrated HIV epidemic: HIV has spread rapidly in one or more defined subpopulations, but is not well established in the general population. Numerical proxy: HIV prevalence is consistently over 5% in at least one defined subpopulation but is less than 1% among pregnant women in urban areas.

Generalized HIV epidemic: HIV is firmly established in the general population. Numerical proxy: HIV prevalence consistently exceeds 1% among pregnant women.

Mixed epidemics: people are acquiring HIV infection in one or more subpopulations and in the general population. Mixed epidemics are therefore one or more concentrated epidemics within a generalized epidemic.

Low-level epidemic: the prevalence of HIV infection has not consistently exceeded 1% in the general population nationally or 5% in any subpopulation.

Hyperendemic: HIV is established in the general population, yet differences in the level, as well as the drivers and risk factors of the epidemic, require additional strategies for effective HIV prevention.

More information on nutrition programming in the context of HIV/AIDS and TB is given in chapter 8.

38 <http://www.unaids.org>

39 The key populations identified by UNAIDS as having the highest risk of contracting and transmitting HIV are female sex workers, men who have sex with men, and injecting drug users.

40 Investing for results. Results for people. Geneva, UNAIDS, 2012 <http://www.unaids.org/>

DATA SOURCES FOR NUTRITION INFORMATION

The data for situational analyses can be obtained from primary data collection or secondary data sources. Below are some examples of data that can be used for nutrition situational analyses:

NUTRITION SURVEYS OR ASSESSMENTS

Frequent nutrition surveys or assessments provide reliable sources of data for analyzing the nutrition situation. These surveys can consist of both primary data (where WFP collects the data) or secondary data (data already available from existing sources).

There are several types of nutrition surveys regularly conducted in most countries, including:

- Demographic and Health Surveys (DHS)⁴¹, which are conducted every five years on average.
- Multiple Indicator Cluster Surveys (MICS)⁴², which are conducted by UNICEF.
- SMART⁴³ surveys that are usually used in crisis situations.
- Standardized Expanded Nutrition Survey (SENS)⁴⁴ that are used by UNHCR in refugee settlements.

WFP regularly conducts:

- Emergency Food Security Assessments (EFSA)⁴⁵.
- Comprehensive Food Security and Vulnerability Assessments (CFSVA)⁴⁶.
- Joint Approach to Nutrition and Food Security Assessments (JANFSAs)⁴⁷ in partnership with UNICEF.

GLOBAL NUTRITION CLUSTER

The Global Nutrition Cluster (GNC) and country-level Nutrition Clusters work together to gather, analyze, and interpret data for situation analyses. WFP is a member of the GNC, a group of 33 organizations working in nutrition. Members of the GNC exchange information on nutrition at the global level, providing access to institutional archives and resources for nutrition programming⁴⁸. At the country level, WFP works where country-level nutrition clusters are active.

MOBILE VULNERABILITY ANALYSIS AND MAPPING (MVAM) FOR NUTRITION

mVAM for nutrition uses mobile technology to track nutrition information in near-real time. This approach is used to provide information on MAD for children aged 6-23 months, and MDD-W for women of reproductive age. mVAM for nutrition has the potential to feed into nutrition surveillance systems for early warning purposes.

41 USAID. 2017. The Demographic Health Survey (DHS), <https://www.dhsprogram.com>

42 UNICEF.2018. Multiple Indicator Cluster Surveys (MIC). <http://mics.unicef.org/>

43 USAID, ACF. 2018. Standardized Monitoring and Assessment of Relief and Transitions (SMART) Methodology. <http://smartmethodology.org/>

44 UNHCR. 2014. Standardised Expanded Nutrition Survey (SENS) <http://sens.unhcr.org/>

45 WFP. 2009. Emergency Food Security Assessment Handbook (EFSA) - Second Edition, 2009 <http://www.wfp.org/content/emergency-food-security-assessment-handbook>

46 WFP.2009. Comprehensive Food Security & Vulnerability Analysis (CFSVA) Guidelines - First Edition, 2009 <http://www.wfp.org/content/comprehensive-food-security-and-vulnerability-analysis-cfsva-guidelines-first-edition>

47 Technical Guidance for the Joint Approach to Nutrition and Food Security Assessment <https://docs.wfp.org/api/documents/WFP-0000021096/download/>

48 <http://nutritioncluster.net>

COST OF THE DIET ANALYSIS

The availability and affordability of an adequate nutritious diet is not often reflected in typical nutrition situational analyses. The Cost of the Diet analysis, combined with existing secondary data on markets (food availability and price), local dietary practices and malnutrition, helps to identify options for a more nutritious diet. Cost of the Diet software (developed by Save the Children, UK⁴⁹) is also used to model different types of interventions through various platforms/systems for their impact on economic access to nutritious foods, for different target groups and households as a whole. The tool is designed to contribute to national policy and programming planning cycles, as well as WFP's own planning and programming, with a myriad of potential entry points for nutrition-related action by different sectors (including both nutrition-specific and nutrition-sensitive).

NUTRITION SURVEILLANCE SYSTEMS

Surveillance systems consist of the ongoing, systematic collection, analysis, interpretation, and dissemination of data regarding a relevant event. Surveillance systems collect a fixed set of data on a regular basis (for example, every month or every quarter). This provides a good overview of the nutritional situation, including seasonality, trends over time, and comparisons of different areas of the country with different geographies and livelihoods. These data are useful as they give a more longitudinal view than nutrition surveys, which are cross-sectional studies providing a point prevalence at a specific period in time.

The relevant data for nutrition surveillance systems are those that can inform ways to reduce morbidity and mortality as a result of poor nutrition, and support the improvement of health. Data disseminated by nutrition surveillance systems can be used for immediate action, programme planning and evaluation, and formulating research hypotheses. The type of data included could be incidence of acute malnutrition; prevalence of global acute malnutrition (GAM), moderate acute malnutrition (MAM), and severe acute malnutrition (SAM); prevalence of stunting; dietary diversity; household food security; and much more. Surveillance systems vary from a simple system collecting data from a single source, to electronic systems that receive data from many sources in multiple formats, to complex surveys.

Global Acute Malnutrition (GAM)

Acute malnutrition at the population level is estimated based on the prevalence of GAM in children aged 6-59 months. The prevalence of GAM refers to children classified with MAM plus children classified with SAM. GAM is often used as a proxy indicator for the severity of a food or nutrition crisis. (See chapter 5 for more information about GAM)

PROGRAMME MONITORING

Programme monitoring data can provide valuable information for the formulation or re-orientation of a programme. This can come in two major forms: i.) admissions and performance data from nutritional centres; and ii.) post-distribution monitoring data.

Consolidations of admissions data to malnutrition treatment programmes can indicate in which season GAM rates peak or when people have less access to food. Admissions can also be monitored as one of a set of 'early warning' indicators for food shortages. However, it is important to understand the limitations of these data. Data from programme monitoring can only be used for analysis when the quality of the data is good.

Post-distribution monitoring data from existing nutrition programmes can provide information on the successes and challenges of those programmes, which may be useful for better understanding the nutrition context. These data can only be extrapolated to the entire geographic area if statistically representative. If they are not representative, the data can be used in qualitative analysis.

ANALYZING NUTRITION INFORMATION

Thresholds for interpreting the prevalence of undernutrition exist, but must be used in context. It is important to understand how the current situation compares to the past in order to understand if the situation is improving, stable or deteriorating. This is done through reviewing trends.

In terms of trend analysis, indicators may differ between one point and another for a number of reasons such as seasonality. It is common for conditions to change throughout the year. For example, GAM prevalence from comparable surveys is best compared between years using data from the same point in the year. Statistical analysis may be required to tell if there is a real difference.

Trend analysis must also take into consideration the time-lag between changes in the situation – such as deterioration of household food security, a cholera episode, a sudden population displacement and family breakdown – and measurable signs of undernutrition.

Undernutrition is not always due to a lack of food but also to poor dietary quality (lack of diversity and hence lack of the nutrients required for growth, health and development) as well as disease

In many contexts in which WFP works, there are also significant seasonal trends in malnutrition rates. Wasting levels, in particular, can change quickly over time and can suddenly increase due to changes in food access, food utilisation, child health, hygiene and water access. For example, a diarrhoea outbreak in the rainy season or less access to food in the lean season can lead to a significant increase in levels of acute malnutrition. Therefore,

when conducting a situational analysis for a possible nutrition intervention, it is important to understand the seasonality of acute malnutrition in the country.

SUMMARY

Quality, in-depth nutrition assessment and analysis is critical for designing and implementing nutrition programmes. In many cases, secondary data can be used and analysed to understand the drivers of malnutrition within a population. Nutrition assessments enable the development of well-designed, context-specific nutrition interventions.

KEY READING AND ADDITIONAL RESOURCES

- WFP. 2016. WFP Strategic Plan (2017-2021). <http://documents.wfp.org/stellent/groups/public/documents/eb/wfp286743.pdf>
- WFP. 2017. National Zero Hunger Strategic Review. Guidelines <https://docs.wfp.org/api/documents/WFP-0000023337/download/>
- WFP. 2016. Policy on Country Strategic Plans. <http://newgo.wfp.org/documents/policy-on-country-strategic-plans-csp>
- WFP. 2018. Fill the Nutrient Gap (FNG). Identifying context-specific solutions to improve nutrition across systems. <http://newgo.wfp.org/collection/fill-nutrient-gap>
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- WFP. 2009. Comprehensive Food Security & Vulnerability Analysis (CFSVA) Guidelines - First Edition, 2009 <http://www.wfp.org/content/comprehensive-food-security-and-vulnerability-analysis-cfsva-guidelines-first-edition>
- WFP Nutrition Monitoring and Evaluation Guidance. <http://newgo.wfp.org/documents/wfp-nutrition-monitoring-and-evaluation>
- WHO. 2018. Global Database on Child Growth and Malnutrition <http://www.who.int/nutgrowthdb/about/introduction/en/index5.html>
- UNHCR. 2014. Standardised Expanded Nutrition Survey (SENS) <http://sens.unhcr.org/>
- Global Nutrition Cluster <http://nutritioncluster.net>
- WFP VAM resource centre – a Food Security knowledge base: <https://resources.vam.wfp.org/mVAM>
- WFP mVAM for Nutrition – revolutionizing collection of nutrition information: https://www.anh-academy.org/sites/default/files/mVAM%20for%20Nutrition%20presentation%20and%20Kenya%20study%20for%20ANH_updated.pdf

Chapter 4. Response capacity analyses

PURPOSE:

The purpose of this chapter is to provide an overview of the process of conducting nutrition response capacity analyses.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Understand the importance of conducting nutrition response capacity analyses to inform the design and implementation of WFP nutrition programmes.
- Understand how to conduct nutrition response capacity analyses.

OVERVIEW

Once a situational analysis is completed, further decision making is based on a response capacity analysis. This is a review of the operational environment, based on the institutional environment; as well as stakeholder analysis, partnership and capacity assessment. Information gathered during the response capacity analysis helps determine the most appropriate nutrition programmes to implement in a given context.

National governments, which have the ultimate responsibility for addressing hunger and malnutrition in a country, are WFP's primary partners. WFP's provision of food assistance and nutrition programming should support and strengthen national efforts, as opposed to replacing them.

WFP programming needs to be in line with the strategic and policy priorities of the national government. Some analysis is required in order to identify what these priorities are, and how WFP can best complement them. The analysis process will, however, vary from country to country in terms of level of formality, consultation and leadership. For example, this analysis may be conducted consultatively through the nutrition coordination mechanism or may be a less formal consolidation of information within WFP.

WFP also has a role in encouraging the government and development partners to include hunger, the role of food and nutrients, food security, market, trade and disaster issues in national policy frameworks and standards. This entails building coalitions of partners through advocacy in order to be able to positively influence the institutional environment.

INSTITUTIONAL ENVIRONMENT

There are many dimensions of the institutional environment, including:

- Policy frameworks, guidelines and legislation
- Human resources capacity
- Ongoing nutrition programming
- Financial commitment

Policy Frameworks, Guidelines and Legislation

Countries often have defined specific standards and priorities for nutrition in the form of policies, technical guidelines, and legislation. The analysis should review:

- the government's development policy or emergency response framework
- sectoral plans for health and nutrition
- technical protocols for nutrition
- food quality and safety standards

Existing standards should be assessed to determine the degree to which they are in line with international standards. Doing so will determine what technical support, if any, is needed from WFP in updating, developing or implementing national standards.

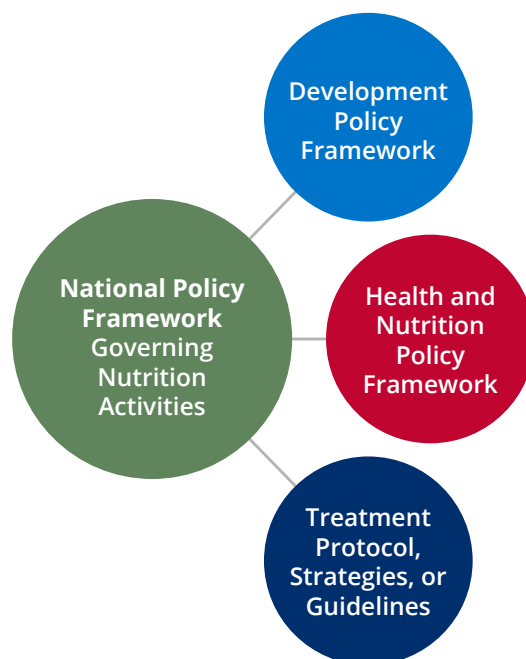
Even when the right policies are in place, they may only be partially implemented. The degree to which the standards are implemented should be assessed in order to identify relevant barriers that may need to be addressed by WFP. This level of analysis is important because it is often the case that institutional and political challenges, rather than lack of technical knowledge, undermine the development and implementation of nutrition policies and programmes. This limitation can be addressed in part by advocacy with stakeholders.

In the case where there are no policies or guidelines directly addressing food and nutrition, nutrition may still be integrated in a number of related policies and guidelines. Standards in other sectors can also influence the nutrition situation and response. For example, food quality control often regulates the import of specialized nutrition food (SNF) products, and labour laws such as maternity rights can influence infant and young child feeding practices.

Government development policy or emergency response framework

Policy frameworks will vary from country to country. However, in many contexts you will find:

- A national Poverty Reduction Strategy Paper (PRSP) – a comprehensive country-based strategy that outlines the policies and programmes that will be pursued over several years to promote growth and reduce poverty, as well as external funding requirements and the associated sources of financing.
- United Nations Development Assistance Framework (UNDAF) – a programme document between a government and the UN Country Team that describes the collective actions, strategies, and responsibilities of the UN agencies towards the achievement of national development priorities.



- Common Humanitarian Action Plan (CHAP) – in emergency contexts, a strategic response plan for the emergency context as a whole. The CHAP includes an analysis of the context; best, worst, and most likely scenarios; strategic priorities; goals and prioritized plans for each cluster; and a framework for monitoring and reviewing the humanitarian situation and cluster plans.

Health and nutrition policy framework

The policy framework will vary from country to country but may include:

- National Nutrition Policy or National Food and Nutrition Policy
- National Food and Nutrition Strategy & Plan
- National Health Development Policy
- National Health Sector Strategic Plan
- National HIV Policy

Some things to think about include:

- To what degree is the role of nutrients and foods in addressing undernutrition clearly outlined?
- Do policies in sectors other than health, public health, or nutrition acknowledge and address their link with nutrition?

Technical guidelines and protocols

The specific guidelines and protocols will vary from country to country, but may include:

- National Protocol for the Treatment of Malnutrition
- National Protocol for the Prevention of Acute Malnutrition
- National Protocol for the Prevention of Stunting
- National Protocol for the Prevention and Treatment of Micronutrient Deficiency Diseases
- HIV strategic plan or HIV and Nutrition Strategy
- Nutrition Guidelines for People Living with HIV
- National Guideline and Strategy on Infant and Young Child Feeding
- Nutrition Information or Nutrition Survey Guidelines

Some things to think about include:

- Are the technical guidelines and protocols in line with international guidance, in particular with regard to the use of SNF products?
- Are these guidelines and protocols being implemented as written? If not, why not?

Food quality and safety standards

SNFs, though used to achieve a nutrition objective, are often regulated as food products. In some country contexts where SNFs have not been used before, existing legislation and standards regulating food quality and production may not be conducive to their production or import. In these contexts, WFP should work with government, and in coordination with other nutrition stakeholders, to implement legislation to facilitate import and use of SNFs. Additionally, WFP should work on innovative options to increase diet quality where locally produced foods are available, safe and nutritious. These options include providing Cash Based Transfers to increase access to local food; implementing Social and Behaviour Change Communication ((SBCC) further information on SBCC is provided in chapter 9) to spread awareness of optimum nutrition; creative efforts to overcome

cultural taboos on the consumption of certain foods; and strengthening the internal supply chain to achieve the availability of greater dietary diversity across geographies and within countries.

Human resources capacity

There are two levels of human resource capacity to consider:

- The institutional level – this includes practical issues, such as whether there is adequate number, type, and distribution of needed staff, supplies and equipment to carry out nutrition programming. It also refers to the types of functions that different units of the institutions perform, such as strategic management, supervision, monitoring and evaluation, etc. It can also include the systems for training and maintaining staff capacity, such as pre-service and in-service training activities.
- The individual level – this refers to the technical capacity of those working in nutrition, and secondarily in nutrition-related fields. This component can include the qualifications required for people to work in nutrition, as well as the number and distribution of staff working in nutrition and nutrition-related areas.

Some things to think about include:

- Who are the staff responsible for nutrition issues in the health and food security sectors?
- What is the distribution of staff at national, subnational and community levels?

Ongoing nutrition programming

This analysis involves:

- understanding what programming is operational in nutrition and nutrition related sectors
- identifying geographic and thematic gaps in coverage, as well as areas of opportunity for collaboration

The first step involves accessing/consolidating information on “who is doing what where?” This type of information is often available through the country specific nutrition coordination mechanism.

Relevant details include:

- the implementing agency
- specific activities and modalities
- target group
- caseloads
- geographic coverage

The second step involves assessing the nutrition programming in order to identify gaps in coverage, gaps in needed types of nutrition programmes, and opportunities for multisectoral programme linkages.

Some things to think about include:

- If the coverage of nutrition programming is not adequate, what are the limiting factors?
- What nutrition-sensitive programming is currently in place (who, what, where)?
- Are there any opportunities for collaboration between programmes or sectors in order to achieve a greater positive impact on nutrition?

Financial investment

Governments often prioritize specific issues or geographic areas in national budgets. In many country contexts, however, nutrition is not prioritized. Governments may also be hesitant to begin some types of nutrition programming if they do not feel that they have the financial capacity to integrate those programmes into their standard services in the longer term.

Some things to think about include:

- What proportion of the national budgets/subnational budgets is allocated to nutrition?
- What is the disbursement schedule, and are there periods when funding is not available?
- How long are budgets planned for?

Understanding what is being prioritized in government budgets, the difference between what is budgeted and what is actually made available for programming, as well as the budgeting process will help in identifying priorities and opportunities to influence decision making for nutrition.

STAKEHOLDER ANALYSES, PARTNERSHIP AND CAPACITY

WFP is committed to working in partnership at country level with governments, NGOs, the private sector, civil society, universities, and other United Nations agencies to respond as one. This necessitates a thorough understanding of what partners are available, their mandates and interests as well as their relative capacity in nutrition. Food and nutrition interventions can have greater impact when partners work in unison to deliver a comprehensive response. As a result, there is a need to identify relevant stakeholders and understand their capacity to engage in nutrition action. This includes understanding:

- which partners are available
- the mandates and interests of those partners, and their relative capacity in nutrition
- which partnerships are appropriate to achieve WFP's objectives
- how these partnerships can be developed
- whose capacity needs to be developed, and in which area, in order to achieve the overall aim of WFP's programme

A stakeholder is any entity with a clear or potential interest in a topic or issue. The range of relevant stakeholders will vary according to the complexity of the situation. Stakeholders can be individuals, organizations, or unorganized groups. In most cases, stakeholders fall into one or more of the following categories:

- government bodies
- international actors (e.g. donors, UN agencies, international NGOs)
- national or political actors (e.g. legislators, governors)
- public sector agencies (e.g. ministries)
- interest groups (e.g. unions, medical associations)
- private sector agencies (e.g. private companies)
- non-profit organizations (national NGOs, foundations)
- civil society members
- the community and beneficiaries

Some stakeholders may be more easily accessible than others. Often it is challenging to include the community and beneficiaries in formal consultation processes. Nevertheless, it is important to the best extent possible, to ensure that all relevant stakeholders are engaged at the appropriate stages in developing and delivering the nutrition response.

Stakeholder analysis will vary from context to context. It may be based on a formal consultation process or informal discussions. It may involve consolidating information for the first time, or updating an existing stakeholder analysis. The analysis can be conducted at the national level, but subnational level analysis can be helpful, depending on the context and range of partners. The stakeholder analysis may be conducted within WFP in relation to its own programming, or may be conducted through the nutrition coordination mechanism and reviewed by WFP in relation to its own programming.

The first step is to consolidate information on agencies and institutions with relevance in nutrition in a matrix, which builds off the “who is doing what where?” information described earlier. Remember that stakeholders are not just potential implementing partners. Key areas of additional information can include:

- What is the agency’s mandate and level of interest in nutrition issues?
- What is their specific area of activity in relation to nutrition, e.g. policy, service delivery, coordination, quality assurance, etc.?
- What is their position in relation to WFP’s work – active or passive support? Active or passive opposition?
- How critical is their participation to ensuring WFP’s ability to deliver on programming?
- What is their level of influence in nutrition issues?

NATIONAL RESPONSE ANALYSES IN THE CONTEXT OF HIV/AIDS AND TB

In order to define where and how WFP can contribute to national HIV and TB responses, it is critical to be aligned with national priorities and with the overall response, including that of other stakeholders.

- **National policy/strategy framework:** describe the national HIV and TB policy context (including the HIV and TB National Strategic Plan) and identify if the nutrition component is captured. Identify to which extent HIV/TB-related issues are represented in national food and nutrition policies, including disaster mitigation and contingency plans. Clarify if nutritional guidelines and protocols exist and clarify if they are integrated with information specifically related to PLHIV and TB clients. Assess if food and nutrition indicators related to HIV and TB activities are integrated into the national health management information system.
- **National capacity:** assess the presence of any national and/or UN HIV and TB coordinating bodies, and determine the roles of key stakeholders in the area of HIV and TB, as well as nutrition. Assess the extent and quality of national programmes implemented in the area of HIV and TB by government and other partners, with particular attention to nutrition activities, and describe details of the financial situation.
- **Partnership:** seek appropriate partners to accelerate the country’s efforts to advocate for a nutrition agenda in the prevention and treatment of HIV and TB.

SUMMARY

Response capacity analyses, which assess stakeholders, the policy framework, and institutional and human resources, complement nutrition situational analyses to enable the development of well-designed, context-specific nutrition interventions.

KEY READING AND ADDITIONAL RESOURCES

- WFP. 2017. National Zero Hunger Strategic Review. Guidelines <https://docs.wfp.org/api/documents/WFP-0000023337/download/>
- WFP. 2016. Policy on Country Strategic Plans. <http://newgo.wfp.org/documents/policy-on-country-strategic-plans-csp>
- WFP Nutrition Monitoring and Evaluation Guidance. <http://newgo.wfp.org/documents/wfp-nutrition-monitoring-and-evaluation>

Chapter 5. Decision tool

PURPOSE:

The purpose of this chapter is to demonstrate how to interpret data collected from situational analysis and other sources to inform decision-making for nutrition programming.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Explicitly incorporate a range of contextual situational factors as well as population level nutritional status into the decision-making process for nutrition programming.
- Identify the most appropriate and feasible programme strategy to address acute malnutrition, chronic malnutrition and/or micronutrient deficiencies.
- Qualify programming decisions with clear evidence.

OVERVIEW

WFP's nutrition programming should be based on a thorough understanding of the nutrition situation in order to deliver the most appropriate response. This entails identifying who is suffering from malnutrition, what type of malnutrition, when malnutrition is occurring, where malnutrition is occurring, and why malnutrition is occurring.

The general objective of a nutrition response is to stabilize the situation and reduce malnutrition prevalence to acceptable levels. WFP nutrition programmes act to treat and/or prevent malnutrition, both in emergency and non-emergency contexts. Specifically, WFP generally responds to one (or more) of the following:

- Acute malnutrition (as indicated by wasting)
- Chronic malnutrition (as indicated by stunting)
- Micronutrient deficiencies (as indicated by one or more deficiencies in certain micronutrients)

Although WFP has historically responded to undernutrition, the rise of the 'double burden' in many countries means overweight and obesity may increasingly play a role in WFP nutrition programming (more details in the sections below).

Table 5.1 outlines some of the key population-level indicators of malnutrition that are used to guide programming decisions. Generally, a severity of 'medium' or above, is an indication that WFP could respond with appropriate programming. Although these are population-level indicators, they may occur at the national, subnational, or localised level (e.g. refugee camps). While these thresholds can serve as a universal guide, national protocols should be considered in partnership with local actors.

Table 5. 1. Classification for assessing severity of malnutrition by population prevalence values

Type of malnutrition	Indicator	Severity of malnutrition by population prevalence values (%)				
		Low	Medium	High	Very high	Reference population
Chronic malnutrition	Stunting	<10	10-19	20-29	>=30	Children 6-59 months
Undernutrition	Underweight	<10	10-19	20-29	>=30	Children 6-59 months
Acute malnutrition	Wasting	<5	5-9	10-14	>=15	Children 6-59 months
Overnutrition	Overweight	<5	5-9	10-14	>=15	Children 6-59 months
Overnutrition	Overweight	<10	10-20	20-30	>=30	Children & adolescents (6-18 years) ^{vi}
Overnutrition	Overweight	<20	20-30	30-40	40+	Adults 18 years + ^{vii}
Iron and other micronutrient deficiencies	Anaemia ^{viii}	<5	5-19	20-39	>=40	Can vary depending on population of interest ^{ix}
Vitamin A deficiency	Night blindness	0	0-1	1-5	>5	Children 24-71 months
Vitamin A deficiency	Night blindness				>=5	PLW ^x
Vitamin A deficiency	Prevalence of low serum retinol (0.70 µmol/l or below)	< 2	2-9	10-19	>=20	Children 6-71 months & PLW ^{viii}

vi For more information about overweight and obesity in this age group see WHO: http://www.who.int/gho/ncd/risk_factors/overweight_obesity/overweight_adolescents/en/

vii For more information about overweight and obesity in adults, see WHO: http://www.who.int/gho/ncd/risk_factors/overweight/en/

viii Note: The prevalence of iron-deficiency disorder is likely to be 2-2.5 times greater than the prevalence of anaemia.

ix For more details on anaemia thresholds by population group, refer to the WHO page: <http://www.who.int/vmnis/indicators/haemoglobin/en/>

x WHO Global Database on Vitamin A Deficiency: http://apps.who.int/iris/bitstream/handle/10665/44110/9789241598019_eng.pdf?sequence=1

Malnutrition rates may vary greatly between population groups. Analysis of information should take into account different vulnerabilities, and therefore potential differences of impact, among women, girls, boys and men, as well as ethnic or livelihoods groups. An understanding of these factors can inform decision-making for targeting specific geographic areas and population groups. The paragraphs below provide more detail for each type of malnutrition.

ACUTE MALNUTRITION

Table 5.2. Classification for assessing severity of acute malnutrition by population prevalence values

Type of malnutrition	Indicator	Severity of malnutrition by population prevalence values (%)				
		Low	Medium	High	Very high	Reference population
Acute malnutrition	Wasting	<5	5-9	10-14	>=15	Children 6-59 months

WFP may implement programming to address acute malnutrition in both emergency and stable contexts, generally focussing on treatment and/or prevention. The guidelines below are consistent with widely-accepted tools, such as the Global Nutrition Cluster’s Community Management of Acute Malnutrition (CMAM) decision tool, which uses a scoring method based on both prevalence data and risk factors to guide programming decisions (i.e. prevention, treatment, both). It may provide a useful additional guide⁵⁰.

Global Acute Malnutrition (GAM) prevalence among children under 5 (as indicated by wasting levels, see Table 5.2.) is a key consideration when deciding whether to implement programming to address acute malnutrition. Trend analysis, including an understanding of seasonality of GAM in the affected population, is also critical in classifying the GAM prevalence as it may not be constant over time.

In the case of poor quality data, GAM prevalence can also be corroborated by the number of children with MAM and SAM in treatment if we have a clear understanding of the coverage, and, therefore the need being met. If data are not available or not recent, older data and available screening data may be used to make a judgement on GAM prevalence.

In addition to GAM prevalence, it is important to be aware of risks of deterioration in the population. Even if GAM levels are low, these factors indicate that populations may be at risk of a spike in wasting levels. These risks include:

- **Increased morbidity:** Diarrhoea, acute respiratory infection, malaria and measles in nonimmune populations are common childhood illnesses that can occur in emergencies and fragile contexts. Baseline information on vaccination coverage, as well as vitamin A supplementation, can provide insight on risks of morbidity and impact on GAM.
- **Access to services:** An assessment of the population’s access to water (quantity and quality), sanitation and hygiene services, as well as crowding, is also an important component in determining risks.
- **Decreased food security (disrupted food availability, access or utilization):** GAM rates are likely to rise if households face decreased access to food (such as in drought or decreased household income). Indicators on household food security, coping strategies and market prices should be used to inform the magnitude, extent, and duration of food insecurity.

50 Global Nutrition Cluster. Moderate Acute Malnutrition: A decision tool for emergencies. Updated March 2017. https://reliefweb.int/sites/reliefweb.int/files/resources/DECISION-TOOL-FOR-MAM_w-exceptional-cicumstances_May-2017-update-final1.pdf

- Significant population displacement: Displaced populations are often more vulnerable to spikes in acute malnutrition, which may occur across borders (refugees) or within one country (internally displaced persons). These patterns may influence the type and frequency of programming.
- Population density: Population density is important for decision making because it influences risk of disease outbreak. In addition, a low prevalence of GAM may still mean high incidence in dense populations, which could place a high burden on health services.

WFP programming options to respond to the above factors are generally: treatment of moderate acute malnutrition (MAM) and/or prevention of acute malnutrition. More details on the various components of these programmes are given in chapters 6 (prevention programming) and 7 (treatment programming).

Programmes to treat MAM aim to reduce mortality, morbidity, and the incidence of severe acute malnutrition (SAM). They are commonly established in countries, provinces or districts where GAM prevalence is at least 10 percent among children aged 6–59 months, or where GAM is 5–9 percent with aggravating factors (as listed above).

Often, it is recommended to implement programming to prevent acute malnutrition in addition to treatment. Prevention of acute malnutrition is particularly recommended when wasting increases seasonally in a predictable manner, usually during the agricultural lean season. Prevention of acute malnutrition can also be considered when access to programmes to treat MAM and SAM is low.

CHRONIC MALNUTRITION

Table 5.3. Classification for assessing severity of chronic malnutrition by population prevalence values

Type of malnutrition	Indicator	Severity of malnutrition by population prevalence values (%)				
		Low	Medium	High	Very high	Reference population
Chronic malnutrition	Stunting	<10	10-19	20-29	>=30	Children 6-59 months

Stunting is the most commonly used indicator of chronic malnutrition. It is assessed through the measure of height-for-age Z-score, according to specific cut-offs (please see chapter 2, Table 2.3. for these cut offs). At the population level, prevalence of stunting usually refers to the proportion of children aged 6-59 months who are classified with moderate and severe stunting. Stunting prevalence is a key factor used as the basis of programming decisions, as it gives an indication of the likelihood that a child under 5 in a given population is not receiving adequate nutrition to reach optimal growth and development.

WFP has committed to initiating programmes to prevent stunting in countries where the prevalence of stunting is at least 20 percent, or at a lower threshold as established in national policies or programmes. In some countries, although national prevalence may be relatively low, certain sub-national or localised areas may still have very high stunting rates. In addition, households of poorer socioeconomic status are likely to face much higher rates of stunting.

Within countries, WFP stunting prevention programmes should be targeted to areas with high stunting rates (> 20%), high poverty and high food insecurity. While prevention of stunting may not be an explicit strategic objective of emergency programming, emergency nutrition programmes need to be developed with the understanding that nutritional needs that are not met during the emergency may have negative impacts on stunting and micronutrient deficiencies.

MICRONUTRIENT DEFICIENCIES

Table 5.4. Classification for assessing severity of micronutrient malnutrition by population prevalence values

Type of malnutrition	Indicator	Severity of malnutrition by population prevalence values (%)				
		Low	Medium	High	Very high	Reference population
Iron and other micronutrient deficiencies	Anaemia ^{xi}	<5	5-19	20-39	>=40	Can vary depending on population of interest ^{xii}
Vitamin A deficiency	Night blindness	0	0-1	1-5	>5	Children 24-71 months
Vitamin A deficiency	Prevalence of low serum retinol (0.70 µmol/l or below)	< 2	2-9	10-19	>=20	Children 6-71 months
Vitamin A deficiency	Night blindness				>=5	PLW

^{xi} Note: The prevalence of iron-deficiency disorder is likely to be 2-2.5 times greater than the prevalence of anaemia.

^{xii} For more details on anaemia thresholds by population group, refer to the WHO page: <http://www.who.int/vmnis/indicators/haemoglobin/en/>

Micronutrient deficiencies (MNDs) of particular concern include vitamin A deficiency, iodine deficiency disorders, iron deficiency anaemia, and zinc deficiency, where even mild to moderate deficiencies can have negative effects on wellbeing. Note that MNDs are unlikely to occur in isolation, therefore, evidence that a particular group is suffering from one MND may indicate that multiple deficiencies exist. Anaemia and vitamin A deficiencies are common indicators of micronutrient malnutrition, and population thresholds are given in Table 5.4.

At the population level, information on the prevalence of MNDs may be assessed through a nutrition survey, though this information is not always available when planning a new intervention. Proxy information should therefore be used to estimate the nutrient gap and the need for micronutrients, including existing data on MND prevalence, stunting prevalence, and on risk factors such as dietary intake, complementary feeding practices and household food insecurity. Key dietary indicators such as Minimum Dietary Diversity for Women (MDD-W), Food Consumption Score Nutrition (FCSN), and Minimum Acceptable Diet (MAD), can indicate whether certain nutrients and/or food groups are lacking in the diet.

There are many different avenues to reach nutrient adequacy – by improving the diversity of food supply; increasing access to more expensive foods that contain essential nutrients; and supporting food fortification, including fortified complementary foods.

Interventions to prevent and/or treat MNDs typically include exclusive breastfeeding during the first six months of life; dietary diversification to include foods with highly absorbable vitamins and minerals; fortification of staple and complementary foods; and provision of specialized nutritious foods (SNFs). Point-of-use fortification with micronutrient powders is recommended where the micronutrient requirements of children aged 6-23 months are not met in the typical diet, i.e. where appropriate complementary foods with sufficient macronutrients is locally available and affordable but lacking in micronutrients.

OVERNUTRITION

Table 5.5. Classification for assessing severity of overnutrition by population prevalence values

Type of malnutrition	Indicator	Severity of malnutrition by population prevalence values (%)				
		Low	Medium	High	Very high	Reference population
Overnutrition	Overweight	<5	5-9	10-14	>=15	Children 6-59 months
Overnutrition	Overweight	<10	10-20	20-30	>=30	Children & adolescents (6-18 years) ^{xiii}
Overnutrition	Overweight	<20	20-30	30-40	40+	Adults 18 years + ^{xiv}

xiii For more information about overweight and obesity in this age group see WHO: http://www.who.int/gho/ncd/risk_factors/overweight_obesity/overweight_adolescents/en/

xiv For more information about overweight and obesity in adults, see WHO: http://www.who.int/gho/ncd/risk_factors/overweight/en/

Although treating and preventing undernutrition remain the core goals of WFP's nutrition programming, WFP cannot ignore the problem of overweight and obesity. The rapid rise of overweight and obesity makes it one of the most significant nutrition problems in some of the countries where WFP works.

As a minimum, WFP must consider unintended negative impacts. It is essential that WFP adopt a 'Do No Harm' approach, ensuring that at the very least, support does not contribute to poor nutrition outcomes. A nutrition situation analysis to understand the nutrition issues and the drivers of these issues is a critical first step in the design of food and nutrition assistance. Where high levels of overweight and obesity are present, action should be taken to adjust food baskets (or vouchers) to account to increased risk in contributing to imbalanced nutrition.

Programmes targeting pregnant and lactating women (PLW) should consider rates of both over- and underweight among women of reproductive age. Where rates of overweight are elevated, rations including sugar and oil should be carefully considered to ensure that the additional energy does not negatively impact the diet. Rations for PLW should always consider micronutrient needs, and avoid prioritizing only macronutrient requirements.

For programmes targeting young children, where wasting is low, stunting is medium, and overweight/obesity is rising, selection of SNFs should consider the specific nutrient gap in the diet. If calorie intake is sufficient, essential micronutrients, including vitamins, minerals and essential fatty acids might be provided with minimal additional calories.

There are several considerations to be adopted in WFP's do no harm approach to programming appropriate food baskets in other programmes, such as:

School Feeding:

School meals should contain fortified foods, fruits, vegetables and/or animal foods when micronutrient deficiencies exist, with balanced intake of carbohydrates, protein and fat. Empty-calorie foods that are high in fat and sugars but low in vitamins, minerals and other healthy micronutrients should be avoided. Furthermore, the provision of high energy bars or date bars (fortified ready-to-eat snacks) should be carefully evaluated as the bars can be high in sugar, and are often used in settings where consumption of sugar is already relatively high. In other cases, oil is sometimes used as a take home ration to increase enrolment. In settings with rising rates of overweight and obesity, diets may already be high in fats, and a more nutritious take-home ration should be considered.

General Food Assistance:

Considering the needs of a population for general food assistance, particularly in protracted emergencies, requires careful planning to avoid potential harmful diets among populations dependent on food assistance. Where food assistance provides the full diet, the ration should be comprised of foods which form a balanced diet – that is, a diet that is approximately 50-60 percent carbohydrates, 15-20 percent protein and 30 percent fats, as well as meeting micronutrient requirements, and provide 2,100 calories on average per family member. In areas with rising rates of overweight and obesity, WFP food baskets should limit the quantity of salt (3 g per day), sugar (20-30 g) and oil provided. These considerations to extend to other foods which may be high in salt, sugar and/or oil such as ground nuts and fruits, which are healthy in moderation. Programmes using vouchers or cash should balance the promotion of healthy diets (positive reinforcement), with any limitations of purchases such as a restriction on buying sweets (negative reinforcement).

KEY READING AND ADDITIONAL RESOURCES

- Global Nutrition Cluster. MAM task Force. 2017. Moderate Acute Malnutrition: decision tool for emergencies. <http://nutritioncluster.net/resources/ma/>
- WFP & UNHCR: Guidelines for selective feeding: The Management of Malnutrition in Emergencies. 2011. <http://www.unhcr.org/4b7421fd20.html>
- WFP, UNICEF, WHO, UNHCR: Food and Nutrition needs in Emergencies. <http://www.unhcr.org/45fa745b2.html>
- WFP 2015. Technical Guidance for WFP's Consolidated Approach for Reporting Indicators of Food Security (CARI). <http://www.wfp.org/content/consolidated-approach-reporting-indicators-food-security-cari-guidelines>

Chapter 6. Prevention programming

PURPOSE:

The purpose of this chapter is to provide an overview of programmes to prevent malnutrition in the context of WFP's nutrition priorities.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Understand the importance of preventing all forms of malnutrition
- Explain the cornerstones of preventing malnutrition
- Describe examples of programmes with the potential to prevent malnutrition, and explain the theoretical underpinning for that potential

OVERVIEW

While reaffirming WFP's commitment to the treatment of moderate acute malnutrition, WFP's Nutrition Policy acknowledges the important role of prevention programming⁵¹ to address malnutrition.

Preventing all forms of malnutrition reduces suffering – malnutrition increases susceptibility to disease and infection; approximately 45 percent of deaths of children under 5 have malnutrition as an underlying cause⁵². Prevention also leads to long term economic and development gains – for every USD 1 invested in preventing malnutrition, a return of USD 16 is gained in lower health care costs⁵³.

A growing body of evidence demonstrates that different types of malnutrition can occur simultaneously, and the presence of one type of malnutrition can increase the risk of another⁵⁴. Of every child under 5 that suffers from undernutrition, 1 in 10 suffers both wasting and stunting; and the risk of death in those children is higher than either condition in isolation, more than 12 times higher than a well-nourished child⁵⁵. Overweight/obesity and undernutrition can coexist in the same vulnerable populations, communities, households and, at times, individuals, making addressing malnutrition even more complex.⁵⁶

51 WFP. 2017. Nutrition Policy. <http://newgo.wfp.org/documents/wfp-nutrition-policy>

52 Black et al. 2013. Maternal and child undernutrition and overweight in low-income and middle-income countries. Series, Maternal and Child Nutrition, Volume 382, ISSUE 9890, P427-451, August 03, 2013. <https://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2813%2960937-X/abstract>

53 International Food Policy Research Institute. 2016. Global Nutrition Report 2016: From Promise to Impact: Ending Malnutrition by 2030. Washington, DC. (Page 28)

54 Bergeron, Gilles and Castleman, Tony. 2012. "Program Responses to Acute and Chronic Malnutrition: Divergences and Convergences." *Advances in Nutrition*. Volume 3, pp. 242-249.

55 Khara T, Mwangome M, Ngari M, Dolan C. Children concurrently wasted and stunted: A meta-analysis of prevalence data of children 6–59 months from 84 countries. *Field Exchange* 57 Feb 2018.

56 WHO. The double burden of malnutrition. Policy brief. Geneva: World Health Organization; 2017.

Different types of malnutrition share many drivers including, but not limited to: poor diet, poor maternal nutrition, infectious disease, and suboptimal infant and young child feeding (IYCF) practices. Therefore, well designed, well targeted, comprehensive interventions, which address multiple drivers of malnutrition, have the potential to prevent multiple forms of malnutrition simultaneously.

CORNERSTONES OF PREVENTING MALNUTRITION

WFP's efforts to prevent malnutrition should be built on three cornerstones: analyse all potential forms and drivers of malnutrition; prioritize those for whom there is the greatest opportunity to prevent malnutrition; and partner across sectors to coordinate action and services that improve diets and address the immediate, underlying and basic determinants of malnutrition.

ANALYSE ALL POTENTIAL DRIVERS AND MANIFESTATIONS OF MALNUTRITION

A preventive approach to addressing malnutrition requires robust, context-specific analysis that identifies drivers of malnutrition. Knowing that more than one type of malnutrition can be, and often is, experienced at the same time, analyses must account for various types of malnutrition, including the potential combination of both under and overnutrition, commonly called the double burden. The analysis must also look at the nutrition issues across a lifespan as they vary with age. Analysis should be done in partnership with national governments and other actors, including communities themselves, to gain an insight on the many factors that influence nutrition. One of WFP's best approaches to analysing the barriers to adequate nutrient intake is the Fill the Nutrient Gap (FNG) tool⁵⁷. More information about FNG, and about what a nutrition analysis should include, can be found in chapter 3.

PRIORITIZE THOSE FOR WHOM THERE IS GREATEST OPPORTUNITY FOR PREVENTING MALNUTRITION

A context-specific analysis reveals the populations groups most in need, and the most vulnerable among them should be prioritized, irrespective of age or gender or other demographic markers. Still, the first 1,000 days (from conception to a child's second birthday) are considered a critical 'window of opportunity' during which poor nutrition causes the biggest problems, but optimum nutrition provides the biggest opportunity for impact⁵⁸. This 'window of opportunity' is a period of rapid development during which maternal and child malnutrition must be prevented to avert life-long consequences. Meeting the nutrient requirements of pregnant and lactating women (PLW) and children under 2 is therefore a prerequisite for eliminating malnutrition. Evidence also shows that ensuring adolescent girls and women of reproductive age meet their nutrition needs is essential to breaking the intergenerational cycle of malnutrition. These groups can benefit from programmes or policies that directly target them, such as blanket supplementary or school feeding programmes, and from population-based interventions, such as fortification of staples.

57 WFP.2018. Fill the Nutrition Gap (FNG) tool. Analyses, Consensus, Decision Making <https://docs.wfp.org/api/documents/WFP-0000023229/download>

58 The 1,000 Day Window of Opportunity, a Technical Guidance Brief. USAID, 2018. <https://www.usaid.gov/what-we-do/global-health/nutrition/1000-day-window-opportunity>

PROVIDE A COMPREHENSIVE PACKAGE OF INTERVENTIONS

Programmes and policies aiming to prevent malnutrition must pair WFP's efforts to improve diets with an integrated package of interventions across sectors that seek to simultaneously address the other drivers of malnutrition. A comprehensive package maximizes all opportunities to improve nutrition by bundling nutrition-specific interventions (that address the immediate determinants of malnutrition) with nutrition-sensitive approaches (that address the underlying and basic determinants of malnutrition) to bring sustainable improvements to the broader nutrition situation. For example, such a combined intervention may involve WFP providing PLW with a specialized nutritious food (SNF) or, if market conditions allow, cash or vouchers that can be redeemed at market for nutritious fresh food. The cash transfer could be provided alongside Social and Behaviour Change Communication (SBCC) activities to encourage improved practices around diet diversity, handwashing, IYCF, etc., as well as complemented by other interventions to improve access to quality health care, education, income-generating opportunities, etc. The extent to which WFP could play a direct role in complementary interventions depends on context and the capacity of both WFP and other partners. To ensure good nutrition can be sustained, WFP should prioritize strengthening national systems and government capacities to coordinate, deliver and monitor such a comprehensive package of interventions.

IMPLEMENT ROBUST MONITORING AND EVALUATION (M&E)

M&E activities assess the appropriateness, efficiency, effectiveness and impact on an intervention. Monitoring is a continuous and systematic assessment of the progress of a programme over time. It is an integral part of day-to-day management, and should enable WFP staff to detect, and act on, problems at any level of nutrition programming. Effective monitoring allows for changes to be implemented, making prevention programmes more effective.

Evaluation is a one-off exercise that may be carried out when the programme is completed, or after an extended period of time in a protracted operation. Evaluations should provide information to improve future programming.

For more information on M&E in nutrition programming, please refer to WFP's Nutrition Monitoring and Evaluation Guidance.⁵⁹

SPECIFIC ACTIONS TO PREVENT MALNUTRITION

Nutrition interventions are often categorized into those that address the immediate determinants of malnutrition (nutrition-specific interventions) and those that address the underlying and basic determinants of malnutrition (nutrition-sensitive interventions). Comprehensive prevention programming should include both types of interventions.

The immediate determinants of malnutrition are poor dietary intake and disease. To address these, prevention programmes should support an appropriate dietary intake and an adequate health status of vulnerable groups.

⁵⁹ WFP Nutrition Monitoring and Evaluation Guidance: <http://newgo.wfp.org/documents/wfp-nutrition-monitoring-and-evaluation>

- Implement context specific strategies to improve access to, availability of, demand for, and consumption of safe and nutritious diets. For the 1,000 days window of opportunity, strategies to improve complementary feeding should include nutrition-specific and nutrition-sensitive interventions to promote the continuation of breastfeeding until the age of 2 years and beyond, and to improve the availability and affordability of local nutrient-rich foods. When families cannot access or afford appropriate foods for children aged 6-23 months, social protection or safety net programmes can provide SNFs such as small quantity lipid-based nutrient supplements (SQ-LNS), medium quantity lipid-based nutrient supplements (MQ-LNS) and fortified blended foods (FBF), as an alternative source of energy and essential nutrients to enhance family diets for proper growth and development.
- Prevent and treat disease. All infectious diseases weaken the immune system. Gastrointestinal infections causing diarrhoea and/or gut inflammation thrive in an environment of poor sanitation and hygiene. These infections limit the absorption of nutrients present in the food consumed. Other infections such as human immunodeficiency virus (HIV), tuberculosis (TB), malaria and respiratory infections can also negatively impact nutritional status by increasing daily nutritional requirements, while limiting nutrient intake, absorption and use. Therefore, reducing the frequency of infectious diseases through treatment and prevention activities such as vaccination, promotion of adequate sanitation and hygiene, individual and environmental protective measures, information on modes of transmission, etc. is necessary to break the vicious cycle malnutrition-disease.

The underlying and basic determinants of malnutrition include food insecurity, inadequate social and care environment, poor access to health care, limited food production, poverty, political instability, and conflict. To address these, prevention programmes could include:

- Agricultural interventions to reduce barriers to the availability of, and access to, safe, nutritious foods. Such interventions might include increasing the production and variety of crops, and support animal husbandry to provide households with meat and animal source derivatives such as eggs, milk, yogurt and cheese.
- Social safety net programmes to reduce barriers to access, through the provision of cash or vouchers, combined with SBCC, to empower individuals to purchase safe and nutritious foods when they are available in local markets.
- Education and women's empowerment interventions to improve women and children's nutrition. Women's education is associated with reduced malnutrition⁶⁰. Furthermore, women's autonomy over their own and their children's health and nutrition, equitable access to resources, and participation in household level decision making also lead to improved nutrition outcomes.
- Other interventions in sectors such as water, sanitation and hygiene (WASH), early child development, child education, and advocacy to policy makers have enormous potential as platforms to scale up programmes designed to reduce malnutrition.

60 Marphatia, A, Cole, J, Grijalva-Eternod, C, Wells, J. Associations of gender inequality with child malnutrition and mortality across 96 countries. March 2016. <https://www.ncbi.nlm.nih.gov/pubmed/29868199>

Due to the complex etiology of malnutrition, and the multiple drivers often working simultaneously, working in partnership is vital to effective prevention programmes. Engagement and commitment from governments, UN agencies, international and national non-governmental organizations, donors and the private sector is required to effect a sustained impact on the prevention of malnutrition.

ENSURING NO ONE SUFFERS FROM MALNUTRITION

In any given context, prevention and treatment programming can be combined to appropriately address the specific needs of a population. While the first approach to addressing malnutrition is prevention, there is also a humanitarian imperative to provide life-saving treatment for acute malnutrition. Therefore, chapter 7 discusses treatment programming while the four sections in this chapter focus on prevention.

KEY READING AND ADDITIONAL RESOURCES

- WFP. 2017. Nutrition Policy. <http://newgo.wfp.org/documents/wfp-nutrition-policy>
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- Global Nutrition Report. 2014.
- De Pee S. Chronic Malnutrition. In: Karakochuk C, Whitfield K, Green T, Kraemer K (eds). *The biology of the first 1000 days*. Taylor & Francis (in press).
- S. Horton, M. Shekar, C. McDonald, A. Mahal and J.K. Brooks, *Scaling Up Nutrition: What Will it Cost?* World Bank, 2009.
- Ruel, Marie T et al. Nutrition-sensitive interventions and programmes: how can they help to accelerate progress in improving maternal and child nutrition? *The Lancet*, Volume 382, Issue 9891, 536 – 551
- WHO. 2017. GUIDELINE : Assessing and managing children at primary health-care facilities to prevent overweight and obesity in the context of the double burden of malnutrition
- WFP. 2018. CRF indicator compendium: <http://newgo.wfp.org/documents/crf-outcome-and-output-indicator-compendium-march-2017>
- WFP Nutrition Monitoring and Evaluation Guidance: <http://newgo.wfp.org/documents/wfp-nutrition-monitoring-and-evaluation>
- WFP 2018 Corporate Monitoring Guidance: <http://monitoring-manuals.wfp.org/en/corporate-monitoring-guidance>

Chapter 6.1. Designing programmes to prevent acute malnutrition

PURPOSE:

The purpose of this chapter is to orient the reader in designing programmes to prevent acute malnutrition.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Explain why WFP supports the prevention of acute malnutrition
- Understand WFP's programming for the prevention of acute malnutrition
- Understand the steps in formulating blanket supplementary feeding programmes to prevent acute malnutrition

OVERVIEW

Acute malnutrition is directly caused by a rapid and significant decrease in food consumption (quality and quantity), by the sudden occurrence of illness, or both. Inappropriate or inadequate childcare, poor water and sanitation, and social and cultural practices – or a combination of these factors – can also be involved. Acute malnutrition can occur in both emergency and non-emergency contexts, and results in rapid weight loss and/or the development of bilateral, pitting oedema. Acute malnutrition impairs physiological and cognitive growth, and reduces resistance to disease – making it a major risk factor for child mortality and morbidity.

Acute malnutrition can occur at any age, but in children under 5 it is defined as a low weight-for-height Z-Score (WHZ), low middle-upper-arm-circumference (MUAC)⁶¹, the presence of bilateral pitting oedema, or a combination of any of these. Wasting is defined as a low WHZ, but does not include children with bilateral pitting oedema.

There are two classifications of acute malnutrition: severe acute malnutrition (SAM) and moderate acute malnutrition (MAM). Wasting can also be moderate or severe.

Chapter 2, Table 2.3 gives anthropometric measurements and cut-offs for all age groups. More information on bilateral, pitting oedema can also be found in chapter 2.

61 MUAC is not measured in children under 6 months old. Acute malnutrition in children aged 0-6 months is measured by WHZ and the presence of bilateral pitting oedema.

WHY DOES WFP SUPPORT THE PREVENTION OF ACUTE MALNUTRITION?

One of the principle determinants of acute malnutrition is an inadequate dietary intake. WFP, as the world's largest humanitarian organization fighting hunger worldwide, supports increased availability, access, demand for, and consumption of safe and nutritious diets. Therefore, WFP has a key role to play in the prevention of acute malnutrition.

Prevention of acute malnutrition is essential because children with moderate wasting are up to three times more likely to die than well-nourished children, and those with severe wasting are between nine and 12 times more likely to die than their healthy counterparts^{62,63}. Additionally, the treatment of SAM requires medical support as well as therapeutic food; and a child suffering acute malnutrition with medical complications, such as severe infection or anorexia, requires extensive inpatient care. Therefore, reaching children before they develop SAM or medical complications can save lives, and reduce individual suffering and the strain on health services. In many contexts⁶⁴, preventing MAM (and, therefore, SAM) is less expensive than treating SAM.

Prevalence of MAM can spike during the lean season in both emergencies and non-emergencies. Prevention can mitigate these increases and the associated risks in mortality, morbidity and overall child development.

Importantly, the treatment of acute malnutrition does not reduce the occurrence of new cases, and therefore prevention is needed to make a sustainable impact on the prevalence of malnutrition.

WHAT IS WFP'S PROGRAMMING TO PREVENT ACUTE MALNUTRITION?

WFP supports comprehensive programming which addresses the immediate, underlying and basic determinants of malnutrition. Nutrition-specific interventions address the immediate determinants of acute malnutrition – inadequate dietary intake and disease. Nutrition-sensitive interventions address the underlying and basic determinants of acute malnutrition, for example, food security; adequate caregiving; access to and use of health services; and a safe, hygienic environment. More information on nutrition-sensitive programming is given in chapter 6.4.

Provision of specialized nutritious foods (SNFs), coupled with community sensitization and outreach activities are the primary components of prevention programming. Cash or voucher programmes are also considered programming options, however, the success of these programmes depends on appropriate foods being available in the marketplace for households to purchase⁶⁵. Prevention programmes should always include advocacy for complementary interventions such as water, sanitation and hygiene (WASH) and health system strengthening.

62 Maternal and child undernutrition: global and regional exposures and health consequences. Black R, Allen L, Bhutta Z, Caulfield L, de Onis M, Ezzati M. et. al. The Lancet, 2017. [https://www.thelancet.com/article/S0140-6736\(07\)61690-0/abstract](https://www.thelancet.com/article/S0140-6736(07)61690-0/abstract)

63 Associations of Suboptimal Growth with All-Cause and Cause-Specific Mortality in Children under Five Years: A Pooled Analysis of Ten Prospective Studies. 2013. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0064636>

64 Scaling Up Nutrition, What will it cost? The World Bank, 2010. <http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/Peer-Reviewed-Publications/ScalingUpNutrition.pdf>

65 Bailey, S and Hedlund, K. The impact of cash transfers on nutrition in emergency and transitional contexts A review of evidence ODI/PHN, January 2012

SOCIAL AND BEHAVIOUR CHANGE COMMUNICATION, AND INFANT AND YOUNG CHILD FEEDING

Social and Behaviour Change Communication (SBCC) and Infant and Young Child Feeding (IYCF) are important elements of prevention programming. IYCF refers to the protection, promotion and support of optimal feeding during the first two years of life. Key components are exclusive breastfeeding for infants under 6 months of age, complementary feeding for children aged 6-23 months while continuing breastfeeding up to the age of 2 years and beyond.

Sub-optimal IYCF practices increase vulnerability to malnutrition, disease and death. In emergency settings, displacement, overcrowding, food insecurity, poor water and sanitation, decreased availability of caregivers, and an overburdened health care system, all negatively impact on a caregiver's capacity to feed the young child⁶⁶.

Optimal nutrition during the first two years of life lowers child morbidity and mortality. Protecting, promoting and supporting optimal IYCF practices is key to saving children's lives.

SBCC can be used to deliver messaging which encourages improved practices around dietary diversity and handwashing, as well as on the use and benefits of SNFs. (SBCC is discussed in detail in chapter 9.). There may be some circumstances where SBCC/IYCF alone is the appropriate response – for instance when markets are functioning, age-appropriate food is available and households have sufficient income to purchase adequate nutritious food⁶⁷.

COMMUNITY SENSITIZATION AND OUTREACH ACTIVITIES

SBCC is an important tool in sensitizing a community to the importance of nutrition, the risks of poor nutrition, and the opportunities available for improving nutrition across the community. Community sensitization is one of the most important considerations when planning a prevention programme. Ensuring a community has buy-in and full understanding of the programme will contribute to its acceptance and, in turn, its success.

Community sensitization starts well before the programme. It includes promoting the involvement and participation of community leaders, as well as communicating widely about the programme to community members through existing networks (religious groups, community elders, women's groups, etc.). Communities should be informed of programme objectives; who will be targeted; what is provided, where and for how long; what feedback mechanisms are in place to handle complaints; and the planned exit strategy. This will help to avoid confusion and potential negative feedback. Working closely with the community also entails using its resources to overcome language barriers and cultural differences. This establishes trust and stimulates community engagement, thus raising the sense of community responsibility and ownership. Additionally, the community should be part of establishing a distribution schedule for SNFs, to ensure attendance (for example focus group discussions can establish women's caretaking demands, market days, and transportation restrictions, which can have an effect on programme attendance). Nutritional screening, including for bilateral pitting oedema, should be included as much as possible within prevention activities, especially those gathering caretakers and children. Regular screening throughout programme implementation allows for effective programme monitoring, and helps to identify those acutely malnourished, and in need of further assistance/referral.

66 WHO. Infant and Young Child Feeding. Key Facts: <http://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding>

67 A decision framework for population-based programmatic options for improving nutrient quality of complementary foods in non-emergency settings may provide some guidance - Programming Guide for IYCF-E, UNICEF New York, May 2011

HEALTH-RELATED INTERVENTIONS

Given that disease and infection can adversely affect nutrition in children and adults, it is important to couple appropriate health interventions with malnutrition prevention programming. Ideally the following activities should be conducted:

- Deworming
- Vaccination campaigns
- Breastfeeding support
- Maternal nutrition and health education
- Family planning promotion
- Hygiene and sanitation promotion
- Malaria prevention

BLANKET SUPPLEMENTARY FEEDING PROGRAMMES

Blanket supplementary feeding programmes (BSFPs) are a core intervention to prevent acute malnutrition in young children, particularly in contexts where high food insecurity (availability and/or access) or high prevalence of chronic undernutrition exist⁶⁸. BSFPs include the provision of SNFs to individuals in a target group, on a regular basis, for a specific period of time. Admission into the programme does not depend on nutritional status but on assessment of risk.

BSFP rations are not intended to replace a normal diet, or General Food Assistance (GFA) if that is being implemented, but are to be consumed in addition to the diet/GFA, and without interrupting breastfeeding in children aged 6-23 months.

The objective of a BSFP is to prevent nutritional deterioration and related mortality in vulnerable populations and high-risk groups (see section on Who? below).

Screening for SAM and MAM cases

Anthropometric screening should be included in the implementation of a BSFP. Screening for oedema should also be included. Regular screening throughout programme implementation allows for effective programme monitoring, and helps to identify those sick, malnourished, and in need of further assistance/referral.

68 WHO defines undernutrition as wasting, stunting, underweight and micronutrient deficiencies <http://www.who.int/news-room/fact-sheets/detail/malnutrition>

FORMULATION OF BLANKET SUPPLEMENTARY FEEDING PROGRAMMES

As part of comprehensive prevention programmes, BSFPs support access to safe and nutritious food to supplement the diet of those at risk. There is a series of decisions to be made when designing a BSFP:

- **Where?** Geographic targeting
- **Who?** Individual targeting criteria
- **How many?** Calculating the estimated number of planned beneficiaries
- **How?** Delivery channels and partners
- **What?** Choosing the right SNF
- **How long?** Duration of the BSFP

Issues for decision-making are presented in this section. Programme design is not always linear, as initial decisions may need to be revised in light of priorities, resources, and capacity.

WHERE? GEOGRAPHIC TARGETING FOR A BSFP

Geographic targeting impacts overall programme design by defining where WFP will work. WFP should engage with the government (national and local authorities) and the Nutrition Cluster (when activated) to identify geographic areas where a BSFP would have the greatest impact. Key factors to consider in identifying geographic areas (district, province, country) for programming include⁶⁹:

- High prevalence of MAM, or risk of nutritional deterioration that could result in increased MAM caseload. Global Acute Malnutrition (GAM) prevalence is considered very high when it is above 15 percent, high when between 10-15 percent and low when it is below 5 percent.⁷⁰
- WFP's capacity and access to reach this population. Assess if the area is accessible by roads; whether WFP already has a presence; or whether there is already a strong non-governmental organization (NGO) presence with whom to partner.
- Government priorities, as well as WFP's capacity in a given area will both influence geographic decision making.
- Indicators of population movement may influence the type and frequency of programming.

Global Acute Malnutrition (GAM)

Acute malnutrition at the population level is estimated based on the prevalence of GAM in children aged 6-59 months. The prevalence of GAM refers to children classified with MAM plus children classified with SAM. GAM is often used as a proxy indicator for the severity of a food or nutrition crisis. (See chapter 5 for more information about GAM)

Please see the Decision Tool (chapter 5) for more information about GAM, morbidity, population density, and displacement.

69 For more information, see: Moderate Acute Malnutrition: A Decision Tool for Emergencies. Global Nutrition Cluster. 2017. <https://reliefweb.int/report/world/moderate-acute-malnutrition-decision-tool-emergencies>

70 Acute malnutrition at the population level is estimated based on the prevalence of GAM in children aged 6-59 months. The prevalence of GAM refers to children classified with MAM plus children classified with SAM. GAM is often used as a proxy indicator for the severity of a crisis. (See chapter 5 for more information about GAM.)

WHO? IDENTIFYING TARGET BENEFICIARY GROUPS

A BSFP admits all individuals in a specified high-risk group based on heightened vulnerability.^{71,72} The target group will depend on context, however, the default target group is children aged 6-23 months. Mortality and prevalence of acute malnutrition are both higher in the 6-23 month age group, and children this age are more likely to deteriorate rapidly. They also have a greater risk of infection, have higher nutrient requirements, and are more vulnerable to developing stunting and cognitive deficiencies. Any child identified as suffering from SAM or MAM will be discharged from the BSFP and referred for SAM or MAM treatment, respectively.

When food insecurity is extremely severe or when coverage and quality of the MAM treatment is compromised, the age group can be extended to 6-59 months.

Where prevalence of low birthweight or prevalence of acute malnutrition among women of reproductive age is high, pregnant and lactating women (PLW) should also be targeted.

If targeting pregnant women is hindered by difficulty in identification, targeting only lactating women with a child 0-6 months of age is an option (feed the mother so she can feed her child). It can also ensure that infants aged 0-6 months are included in the BSFP when they reach 6 months without registering new households.

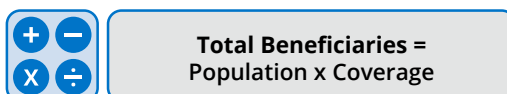
BSFPs should not generally extend beyond children 6-59 months of age or PLW except under very serious circumstances. GFA or equivalent household food security intervention should provide the necessary food/nutrient requirements for other household members.

HOW MANY? CALCULATING THE NUMBER OF PLANNED BENEFICIARIES

The number of planned beneficiaries will define the total resources needed for the intervention including supplies, materials and human resources. This calculation is based on the:

- **Estimated population** of the target group in programme areas, generally taken from government census data or updated estimates. When available population data do not include a breakdown by sex and age, and in the absence of government or cluster/sector recommendations, estimates can be applied
 - Children 6-23 months of age: represent approximately 10 percent of the population
 - Children 6-59 months of age: represent approximately 20 percent of the population
 - PLW: represent approximately 5 percent of the population (2.4 percent pregnant women, 2.6 percent lactating women)
- **Expected coverage** refers to the proportion of individuals that can be reached out of those who are identified as in need. For WFP prevention programming, the target rate for coverage is >70%.

Note: Calculations often include assumptions and best guess estimates, which should be made clear in the nutrition programme documents.



Total Beneficiaries =
Population x Coverage

71 Moderate Acute Malnutrition: A Decision Tool for Emergencies. UNICEF, Nutrition Cluster. 2017. <https://reliefweb.int/report/world/moderate-acute-malnutrition-decision-tool-emergencies>

72 http://www.who.int/nutrition/publications/en/selective_feeding_emergencies.pdf

In addition, **actual coverage**⁷³ of the intervention depends on:

- Context (e.g. level of insecurity and therefore movement of targeted beneficiaries)
- Delivery channels (e.g. refugee camps generally have higher coverage)
- Acceptability of the programme (and SNF) by beneficiaries
- Outreach activities – coverage tends to be higher where there are strong community outreach programmes

As the programme progresses, actual coverage should be assessed to make adjustments, either up or down, to ensure the procurement of SNF is based on actual programmatic needs.

HOW? DELIVERY CHANNELS AND PARTNERS

Delivery channels

Delivery channels will differ in efficiency and effectiveness, and need to be assessed in terms of:

Coverage and access: Coverage and access must be adequate to ensure impact. In emergencies, SPHERE standards state that more than 90 percent of the target population should be within less than a day's return walk of the programme site for take home rations, and no more than one hour's walk for on-site feeding. Population density is an important consideration when determining the number of delivery sites of BSFP. In densely populated areas, it may be necessary to have multiple days a week for programme delivery, whereas in more sparsely populated areas there may be need of a higher number of delivery sites to meet the need.

Perception of the channel by government and the community: The channel should have a traditional or institutional mandated role to carry out activities, or be recognized by traditional channels for its new role. Often, governmental policies require interventions for vulnerable populations be channelled through health or social protection, thus limiting the potential delivery channel options for the programme. It is critical that the community recognizes the validity of the potential delivery channel in order to promote participation.

Capacity: The number and capacity of implementing partners can influence the delivery of SNFs. When capacity is limited, SNFs may need to be added to GFA or other delivery mechanisms.

Partnerships

Strong partnerships with government, local and international NGOs, and community networks are essential for efficient roll out of BSFPs. The government has the overall responsibility for the welfare of its population.

In emergencies, WFP works under the Inter Agency Standing Committee (IASC) Global Nutrition Cluster, and takes a lead role with UNICEF for the nutrition response. In the context of nutrition needs of refugees, asylum seekers, returnees and, in some circumstances, IDPs, WFP coordinates with UNHCR as the lead agency.

WFP also collaborates with a range of UN agencies and NGO partners to ensure that the basic and underlying determinants of undernutrition are addressed, including improvements care practices, access to health services, food security and WASH.




⁷³ The expected and actual coverage of a programme is not necessarily equivalent to the coverage of actual need.

WHAT? CHOOSING THE RIGHT SNF

Information collected during the nutrition situational analysis should inform decision-making around which SNF to select for a given context.

Ultimately, the SNF needs to appropriately fill the potential energy and nutrient gap⁷⁴ of the target population. This is determined by general household food insecurity and dietary diversity; information on the baseline diets of children; and levels of chronic malnutrition and micronutrient deficiencies. During an emergency it is possible that the nutrient gap is not known in detail and therefore some assumptions should be made to cover the gap.

Figure 6.1.1. Daily ration for BSFPs⁷⁵

Preventing Acute Malnutrition			
Product name	Lipid-based Nutrient Supplements—Medium Quantity (LNS-MQ)	Fortified Blended Foods (FBF)	
Examples	E.g. eeZee50™, WawaMum, PlumpyDoz™ 	Super Cereal Plus 	Super Cereal ² 
Primary target group	Children 6-23 months	Children 6-23 months	Children above 5 years ³ and Pregnant and Lactating Women (PLW)
Other target groups	Children 24-59 months	Children 24-59 months	General population
Key Ingredients	Peanuts/chickpeas ⁴ , soy, milk powder, sugar, oil, vitamins and minerals (V&M)	Corn/wheat/rice ⁴ , soy, milk powder, sugar, oil, V&M	Corn/wheat/rice ⁴ , soy, V&M (with/without sugar)
Daily ration	50g sachet	100-200g (200g includes provision for sharing)	Up to 200g (includes provision for sharing)
Nutrient profile	255 kcal, 6-8 g protein (10% en), 13-18g fat (55%en). Contains EFA, provides approx 1 RNI for young children, PDCAAS >70%	410-820 kcal, 16-33g protein (17%en), 10-20g fat (23% en). Contains EFA, 100 g provides approx 1 RNI for young children, PDCAAS >70%	376-752 kcal, 15-31g protein (16%en), 8-16g fat (19%en). Same micronutrient premix as SC+

² Super Cereal may be mixed with oil and sugar prior to distribution in a ratio of 200g: 20g: 20g (estimated energy 1005 kcal, 29g protein (12%en), 35g fat (32%en)).

³ Where other SNFs are not available, SC can be an alternative option for children above 36 months.

⁴ The positive ingredient list may be further expanded to include other ingredients after confirmed acceptability and alignment with food specifications.

Abbreviations: LNS = Lipid-based Nutrient Supplements, RUSF = Ready-to-Use Supplementary Food, FBF = Fortified Blended Food, MNP = Micronutrient Powders, EFA = Essential Fatty Acids, % en = proportional nutrient contribution to the energy content of the food, RNI = Recommended Nutrient Intakes, (FAO/WHO); PDCAAS = Protein Digestibility-Corrected Amino Acid Score (min 70%), V&M = Vitamins and Minerals.

⁷⁴ The energy and nutrient gap is the difference between consumption required for normal growth and optimum health, and what is currently consumed.

⁷⁵ Taken from the “WFP Specialized Nutritious Foods Sheet” April 2018. **PLEASE NOTE: THIS SHEET IS CONTINUALLY UPDATED.** For a comprehensive list of SNF by intervention type, see <https://docs.wfp.org/api/documents/WFP-0000001477/download/>

OTHER CONSIDERATIONS FOR PRODUCT SELECTION INCLUDE:

- Households have the capacity to prepare, use and store the SNF. LNS may be eaten directly from the sachet, but it can also be mixed with porridge; Super Cereal and Super Cereal Plus must be cooked. This requires cooking facilities and the availability of clean, safe water.
- Acceptability studies have been conducted to demonstrate the SNF fits cultural practices and food preferences.
- National standards for SNFs have been considered, and the product has been approved for use in country.
- The product's shelf-life, production, availability and transport lead times are within suitable parameters. The SNF may be sourced internationally or locally as long as the product meets procurement and food quality standards. Procurement and logistics staff need to be consulted on the product choice to identify the feasibility of obtaining it regularly and in adequate quantity⁷⁶.

There are also broader parameters to be considered in programme design, such as systematic risk assessment of nutrition programming and forward planning to promote quality programming. Some key areas to consider include:

Consumption of any nutrient in excessive quantities carries a risk of adverse effects. If SNFs are consumed at recommended doses, they provide no risk of excessive nutrient intake. However, if they are consumed in larger amounts than recommended, or in combination with other fortified foods and supplements, a small but real risk of excessive nutrient intake exists.

This risk needs to be estimated, and if excessive nutrient intake is considered likely, either the SNF should not be used, or its micronutrient formulation should be adjusted (UNHCR, 2011⁷⁷).

- Only use one SNF for each target group in each nutrition-specific programme.
- Children shouldn't be enrolled in more than one nutrition-specific programme at a time, and shouldn't need to have more than one SNF at a time.

The SNF may not be consumed by the intended beneficiary, due to errors in targeting, household level sharing, or resale of the SNF on the market. Appropriate communication, including SBCC targeting the proper use of the SNF, and promotion of IYCF, is necessary to maximize programme impact. Appropriate post

Take home or on-site?

BSFP can provide rations to be consumed at home or on-site. Take-home rations should be provided unless there is a clear rationale for on-site feeding (i.e. extreme security issues or lack of access to cooking materials).

Take home rations (dry feeding): This type of ration keeps responsibility for feeding within the household and is particularly appropriate for dispersed populations who need to travel to participate. The time required for caregivers to participate is less, often contributing to lower default rates and higher participation.

On-site feeding (wet feeding): Daily distribution of cooked meals at feeding centres, where the cooking and eating take place on the same premises. It requires a special centre where hygienic cooking and eating can take place. A minimum of one meal per day should be provided. On-site feeding carries the risk of cross infection due to bringing together numerous vulnerable individuals.

76 For more information on supply chain and food safety and quality measures to consider for specialized nutritious foods, see WFP Supply Chain Guidelines. <http://newgo.wfp.org/documents/managing-supply-chain-of-specialized-nutritious-foods>

77 For more information, see <http://www.unhcr.org/4f1fc3de9.html>


distribution monitoring is also important to understand how products are being used, and to make programmatic adjustments if necessary.

To reduce the risk of food-borne diseases it is important to provide safe water and hygiene facilities during distribution days, and educate beneficiaries on how to prepare, use and store the SNF. WFP should partner and advocate for the provision of safe water and hygiene facilities where they are lacking.

In the event of potential pipeline breaks, WFP has developed a tool to determine the best options for substitution⁷⁸. Potential changes in the SNF distributed should be discussed with local authorities and partners. In addition, communities and beneficiaries themselves need to understand the rationale for any planned changes.

How to calculate overall SNF requirements

Once the number of planned beneficiaries, coverage, type of product to be provided, and the anticipated duration an individual will be in the programme have been ascertained, overall product needs can be calculated as follows:


$$\begin{aligned} &\text{Required tonnage in mt} = \\ &(\text{Estimated total beneficiaries} \\ &\quad \times \\ &\text{Ration size per person per day in grams} \\ &\quad \times \\ &\text{Duration of support in days}) \\ &\hline &1,000,000 \end{aligned}$$

Communication with procurement and logistics colleagues is critical in defining initial estimated needs; and translating initial needs into appropriate ordering cycles that balance programme needs with available resources, as well as other supply chain considerations.

HOW LONG? DURATION OF A BSFP

Length of programme

BSFPs are established for a pre-defined period of time. The duration of a BSFP should be guided by the objectives of the programme, and the scale and severity of the crisis. In many circumstances, a minimum of three months and maximum of six months is envisaged for a BSFP, because it is anticipated that by this time the situation will have improved (e.g. adequate food, epidemics under control, and safe and sufficient water available). However, there are some programmes that may last longer, such as in protracted crises where populations rely entirely on humanitarian assistance.

The nutritional status and food security situation of the population should be assessed throughout implementation to allow for necessary adjustments. This could include programme extension or a

⁷⁸ Interim guidance note Substitution of specialized nutritious foods in situations of temporary commodity shortfalls. WFP, 2018.

scale up of MAM treatment programming in response to an ongoing poor nutrition situation or food security situation and/or a continued risk of deterioration.

IMPLEMENTATION OF A BSFP

In principle, the government is responsible for implementation, and WFP provides advice and assistance as needed. However, where government capacity is limited NGOs often fill that gap, working with WFP as cooperating partners (CPs).

CPs are NGOs who carry out activities on WFP's behalf. After an assessment of an NGO's capabilities to implement programme activities, a Field Level Agreement (FLA) between the NGO and WFP is drawn up. Under the FLA, WFP transfers food or cash resources to the NGO or the NGO otherwise handles WFP resources as part of a WFP programme. In addition to the respective implementation responsibilities, the organizations engage in joint design and information exchange, and a partner contribution toward total cost is expected.

Below is an example of responsibilities between WFP and CPs that may be reflected in the FLA. For detailed information about how to work with an NGO please visit the WFP non-governmental organizations website⁷⁹.

Table 6.1.1 Example of roles and responsibilities between WFP and a CP in an FLA

CPs are expected to...	WFP is expected to...
<ul style="list-style-type: none"> • Be responsible for the reception, storage and handling of SNF at delivery points and distribution of SNF to beneficiaries • Transport or coordination of transport of SNF to the distribution points • Ensure SNF reaches intended beneficiaries • Keep records/accounts of all WFP commodities received • Provide qualified personnel • Monitor field activities and report to WFP on time • Encourage the formation of community groups/committees and sharing of information with beneficiaries • Retain all empty packaging and destroy as agreed when relevant • Display WFP's logo alongside the CP's logo • Adhere to WFP's gender policy on Enhanced Commitments to Women 	<ul style="list-style-type: none"> • Cover costs related to the physical distribution and storage of WFP food as well as other operational direct cost • Ensure procurement of the type and quality of food as agreed • Deliver quantities of food as agreed and at the time agreed • Provide information on the time of arrival of the food and on any anticipated breaks in the pipeline • Provide training as required • Provide qualified personnel • Provide access to WFP communications equipment • Share information on food-security situation • Adhere to WFP's Enhanced Commitments to Women • Collaborate on security issues

79 <http://go.wfp.org/web/ngo/guidancematerial>

HOW DOES A BSFP FIT WITHIN WFP'S WIDER PROGRAMMING?

It is important to remember that WFP's programmes to prevent acute malnutrition are part of a broader WFP response to address malnutrition. The overall impact of programming to prevent acute malnutrition may be limited if household food insecurity is not addressed at the same time.

In relation to nutrition-specific programming: BSFPs are often implemented in the same geographic area as targeted supplementary feeding programmes (TSFPs) to treat MAM, and outpatient therapeutic programmes to treat SAM. To ensure appropriate referrals and treatment of acute malnutrition, where a TSFP and BSFP are being implemented concurrently, there needs to be an established and functional referral mechanism to ensure appropriate access to MAM treatment.

SNFs used in BSFPs are also recommended to improve nutrient intake as one element of comprehensive programmes to prevent chronic malnutrition. Both programmes target an age group as a whole, not nutritional status. These two programme approaches differ in terms of duration as well as other aspects of programme design. (See chapter 6.2 for information about programmes to prevent chronic malnutrition, and chapter 7 for more information on treatment programmes.)

In relation to nutrition-sensitive programming: Food Assistance-for-Assets (FFA) and GFA programmes are large programmes developed to address household food insecurity, and can be used as a platform for the development and implementation of BSFPs. Implementing these programmes together allows the BSFP to benefit from existing FFA/GFA activities in order to register and provide services to the target group, thus facilitating implementation and linking beneficiaries to other services. Joint provision of BSFP with GFA, FFA, in-kind, or cash has a synergistic effect on the reduction of acute malnutrition and morbidity.

KEY READING AND ADDITIONAL RESOURCES

- FANTA, 2008. CMAM Training Guide, <https://www.fantaproject.org/focus-areas/nutrition-emergencies-mam/cmam-training>
- Global Nutrition Cluster. 2014. Moderate Acute Malnutrition: a decision tool for emergencies. <http://nutritioncluster.net/resources/ma/>
- Emergency Nutrition Network, 2011. <https://www.enonline.net/>
- The Sphere Project. 2011. Humanitarian Charter and Minimum Standard in humanitarian response. <http://www.sphereproject.org/>
- WFP.2017. Social Behaviour Change Communication (SBCC). Interim Guidance Manual for WFP Nutrition. <http://newgo.wfp.org/documents/sbcc-guidance-manual-for-wfp-nutrition>
- WFP.2018. WFP Specialized Nutritious Foods Sheet. <https://docs.wfp.org/api/documents/WFP-0000001477/download/>
- WFP. Managing the supply chain of Specialized Nutritious Foods <http://newgo.wfp.org/documents/managing-supply-chain-of-specialized-nutritious-foods>
- UNHCR Guidance on the use of special nutritional products to reduce micronutrient deficiencies and malnutrition in refugee populations <http://www.unhcr.org/4f1fc3de9.html>
- WFP Specialized Nutritious Foods Sheet <https://docs.wfp.org/api/documents/WFP-0000001477/download/>
- WFP Guidance on partnering with non-governmental organizations: <http://go.wfp.org/web/ngo/guidancematerial>

Chapter 6.2. Designing programmes to prevent chronic malnutrition

PURPOSE:

The purpose of this chapter is to orient the reader in designing programmes to prevent chronic malnutrition – the most common indicator of which is stunting.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Explain the causes and consequences of chronic malnutrition
- Explain why WFP supports the prevention of chronic malnutrition
- Understand WFP's programming to prevent chronic malnutrition
- Understand the steps in formulating programmes to prevent chronic malnutrition

OVERVIEW

Chronic malnutrition develops over a long period of time due to inadequate nutrition, repeated infections or both⁸⁰. One indicator of chronic malnutrition is stunting: a child under the age of 5 being too short for their age⁸¹. However, the less visible impacts of chronic malnutrition are far more devastating. Children who are chronically malnourished are more likely to become ill, and have a higher risk of dying. They are more likely to drop out of school, and grow up to be less productive citizens with lower earning potential. Chronic malnutrition leads to poor cognitive development, lower educational achievement and negative behavioural outcomes. Adults who were chronically malnourished as children are at increased risk of nutrition-related diseases, such as diabetes, hypertension and heart disease.

During pregnancy, a woman who is undernourished or ill is more likely to give birth to a low birthweight infant. Low birthweight infants are at increased risk of becoming chronically malnourished as they grow and develop.

During the first six months of life exclusive breastfeeding provides essential nutrition and protection from illness. Young infants who are not exclusively breastfed are more likely to become malnourished and ill (especially with diarrhoea and gut inflammation), and are therefore at an increased risk of becoming chronically malnourished.

During young childhood (age 6-23 months) a diverse diet which includes meat, eggs, fish, fruit, vegetables and staple foods, in combination with breastmilk, is required for healthy growth and

80 Black RE, et al. Maternal and Child undernutrition: global and regional exposures and health consequences, *Lancet*, 2008;371 (9608):243-603
WHO, 2018. Reducing stunting in children. Equity considerations for achieving the Global Nutrition Targets 2025

81 WHO, WHO child growth standards methods and development: Length/height-for-age, weight-for-age, weight-for-length, weight for-height and body mass index-for-age. 2006, Geneva: World Health Organization.

development. Young children are more likely to become chronically malnourished when nutrient intake is insufficient.

The risk of chronic malnutrition increases in the context of poor sanitation and hygiene; food insecurity; limited access to safe water; and inadequate health care, education and social protection services.

WHY DOES WFP SUPPORT THE PREVENTION OF CHRONIC MALNUTRITION?

WFP's Nutrition Policy 2017-2021 details how WFP will work to achieve Sustainable Development Goal (SDG) 2, particularly target 2.2:

- 'by 2030, end all forms of malnutrition including achieving by 2025 the internationally agreed-on targets on stunting and wasting in children under five years of age...'

In 2014, the World Health Organization set a target to reduce stunting by 40 percent by 2025. However, in 2017 22.2 percent of all children under five years of age (155 million children)⁸² suffered from stunting. As the largest humanitarian organization fighting hunger worldwide, WFP's deep field presence and logistical reach, coupled with its collaboration with governments, communities and the private sector, provide a comparative advantage to prevent chronic malnutrition.

WHAT IS WFP'S NUTRITION PROGRAMMING TO PREVENT CHRONIC MALNUTRITION?

The first 1,000 days (from conception to a child's second birthday) are considered a critical 'window of opportunity' during which poor nutrition causes the biggest problems, but optimum nutrition provides the biggest opportunity for impact⁸³. WFP supports programming that targets the 1,000 day window, with a multi-sectoral and comprehensive approach to address the immediate, underlying and basic determinants of malnutrition.

To effectively prevent chronic malnutrition, nutrition interventions must:

Implement context specific strategies to improve the dietary diversity of pregnant and lactating women (PLW) and children aged 6-23 months:

Strategies to improve the dietary diversity of PLW and children aged 6-23 months should include both nutrition-specific and nutrition-sensitive interventions to improve the availability and affordability of locally available nutritious foods; and educate

Nutrition-specific interventions to prevent chronic malnutrition address its immediate determinants – inadequate dietary intake and disease.

Nutrition-sensitive interventions to prevent chronic malnutrition address its underlying and basic determinants. For example, food security, access to education, women's empowerment and social safety nets.

Comprehensive programming involves partnering with government to support nutrition governance, advocate for nutrition, and build the capacity of the health system.

82 WHO, 2018. Fact sheet: Malnutrition. Geneva: WHO.

83 The 1,000 Day Window of Opportunity, a Technical Guidance Brief. USAID, 2018. <https://www.usaid.gov/what-we-do/global-health/nutrition/1000-day-window-opportunity>

caregivers through Social Behaviour Change Communication (SBCC) on healthy and balanced diets, and Infant and Young Child Feeding practices (IYCF). IYCF includes exclusive breastfeeding for the first six months, and continuation of breastfeeding with appropriate complementary feeding for least two years. (More information about SBCC can be found in chapter 9.)

When families cannot access or afford appropriate foods for PLW and children aged 6-23 months, specialized nutritious foods (SNFs) can fill nutrient gaps.

Address the underlying determinants of chronic malnutrition:

Nutrition-sensitive interventions in health, sanitation, hygiene, agriculture, social safety nets, early child development and education have enormous potential to enhance the scale up and effectiveness of programmes designed to prevent chronic malnutrition. (More information about nutrition-sensitive programming can be found in chapter 6.4.)

Utilize multi-sectoral delivery platforms:

Interventions can be delivered through government safety nets, the health system, the private sector, or as community-based initiatives.

Empower women:

Stunting rates decline when women are educated to have autonomy over their own and their children's health and nutrition, have equitable access to resources, and participate in household decision making⁸⁴.

Treat and prevent disease:

Diarrhoea, gut inflammation and parasite infections thrive in an environment of poor sanitation and hygiene. These infections prevent the absorption of nutrients. Therefore, reducing their frequency, both through treatment and through improving sanitation and hygiene, is necessary to prevent chronic malnutrition.

Work in partnership:

Engagement and commitment from governments, UN agencies, international and national non-governmental organizations (I/NGOs), donors and the private sector is required to have a sustained impact on the reduction of chronic malnutrition.

84 Marphatia, A, Cole, J, Grijalva-Eternod, C, Wells, J. Associations of gender inequality with child malnutrition and mortality across 96 countries. March 2016. <https://www.ncbi.nlm.nih.gov/pubmed/29868199>

PROGRAMME FORMULATION

A comprehensive programme to prevent chronic malnutrition consists of three pillars. These are:

- Support to appropriate complementary feeding that may include food assistance to increase the access to, and affordability of, safe and healthy diets. In some context, it may also include the provision of SNFs to PLW and children aged 6-23 months, along with SBCC activities to promote appropriate IYCF practices and hygiene.
- Promotion of activities that can impact nutrition indirectly, most often through addressing the underlying determinants of malnutrition (nutrition-sensitive interventions).
- Strengthening the capacity of national governments and partners to assess, identify, design, deliver, monitor and evaluate intersectoral programming that directly and indirectly prevents chronic malnutrition.

When designing a programme to prevent chronic malnutrition, a series of decisions needs to be made:

- **Where?** Geographic targeting
- **Who?** Individual targeting criteria
- **How many?** Calculating the estimated number of planned beneficiaries
- **How?** Implementing the three pillars of stunting prevention programmes
- **What?** What to provide
- **How long?** Duration of the programme

WHERE? GEOGRAPHIC TARGETING

Programmes to prevent chronic malnutrition should target areas with high stunting rates, high poverty and high food insecurity. WFP should engage with government at national and local level to identify geographic areas where a programme would have the greatest impact. Community perspectives on needs and priority areas should be addressed to encourage sustainability of the intervention. Key considerations in identifying geographic areas (district, province, country) for programming include:

- The geographic areas of highest need in terms of numbers stunted children
- The geographic areas defined as priorities by government
- The geographic areas where there is the potential to partner with other actors working in complementary sectors
- The geographic areas with functioning delivery channels

WHO? IDENTIFYING THE TARGET BENEFICIARY GROUP

As the first 1,000 days is the window of opportunity to address chronic malnutrition, the priority target groups are children aged 6-23 months and PLW. If the programme provides a complementary feeding intervention in the form of an SNF, all young children aged 6-23 months and PLW should be included, irrespective of their nutritional status.

HOW MANY? CALCULATING THE ESTIMATED NUMBER OF PLANNED BENEFICIARIES

The number of planned beneficiaries will define the total resources needed for the intervention – including supplies, materials and human resources. The estimated beneficiary numbers for the complementary feeding component depend on:

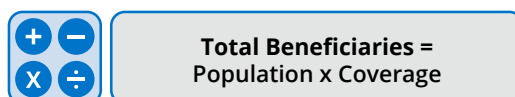
Estimated population of the target group in programme areas, generally taken from government census data or updated estimates. When available population data do not include a breakdown by sex and age, and in the absence of government or cluster/sector recommendations, estimates can be applied:

- Children 6-23 months of age: represent approximately 10 percent of the population
- Children 6-59 months of age: represent approximately 20 percent of the population
- PLW: represent approximately 5 percent of the population (2.4 percent pregnant women, 2.6 percent lactating women)

Expected coverage refers to the proportion of individuals that can be reached out of those who are identified as being in need. For WFP the target for coverage in prevention programming is > 70%.

Note: Calculations often include assumptions and best guess estimates, which should be made clear in programme plan documents. In addition, actual coverage⁸⁵ of the intervention depends on:

- Context (e.g. level of insecurity and therefore movement of targeted beneficiaries)
- Delivery channels (refugee camps generally have higher coverage as they are located closer to services)
- Acceptability of the programme (and SNF) to beneficiaries
- Outreach activities (coverage tends to be higher where there is strong community outreach)



Total Beneficiaries =
Population x Coverage

HOW? IMPLEMENTING THE THREE PILLARS OF STUNTING PREVENTION PROGRAMMES

- 1) Support to complementary feeding, along with SBCC activities to promote appropriate IYCF practices and hygiene, and the provision of SNFs to PLW and children aged 6-23 month when indicated. Where nutrient dense foods are unavailable or inaccessible in the local context, SNFs are recommended for PLW and for all children aged 6-23 months. SNFs with SBCC can be delivered through different channels, including the health sector, social protection programmes, churches or community outreach. The channel should have a traditional or institutional mandated role to carry out activities, or be recognized by traditional channels for a new role. It is critical that the community recognizes the validity of the potential delivery channel in order to promote participation.
- 2) Promotion of activities that can impact nutrition indirectly, most often through addressing the underlying determinants of malnutrition (nutrition-sensitive interventions). For nutrition-sensitive programming, WFP can improve household food security and increase the access and availability of nutritious foods, as well as minimize barriers to optimal nutrition practices and behaviours

⁸⁵ The expected and actual coverage of the programmes are not necessarily equivalent to the coverage of actual needs.

for vulnerable populations through several modalities. These include promotion of livelihoods and livelihood assets, provision of cash or vouchers to purchase nutritious foods where these exist in the marketplace, or promotion of homestead gardens and small-livestock production (in partnership with NGOs working in this sector). More information on nutrition-sensitive programming can be found in chapter 6.4.

- 3) Strengthening the capacity of national governments to assess, identify, design, deliver, monitor and evaluate intersectoral programming that directly and indirectly prevents chronic malnutrition. WFP sometimes has a role in strengthening the technical and managerial capacity of government and partners for nutrition programming targeting for PLW and children aged 6-23 months. WFP should also support advocacy, policy dialogue, local production of foods, and monitoring and evaluation.

WHAT? WHAT TO PROVIDE

WFP's efforts in nutrition are focused on supporting governments to improve availability and access of timely and adequate complementary foods, encouraging continued breastfeeding and improved feeding practices, and promoting the use of nutritious local foods to ensure that the nutrient needs of young children and other vulnerable groups are met. However, as mentioned above, where access and availability issues exist, SNFs may be provided. Choosing an SNF will depend on the nutrient gap in the diet, and the local context and target group. Information collected during the nutrition situational analysis should inform decision making around which SNF to select for a given context.

It is also important that:

- Households have the capacity to prepare, use and store the SNF. LNS may be eaten directly from the sachet, but it can also be mixed with porridge; Super Cereal and Super Cereal Plus must be cooked. This requires cooking facilities and the availability of clean, safe water.
- Acceptability studies have been conducted to demonstrate the SNF fits cultural practices and food preferences.
- National standards for SNFs have been considered, and the product has been approved for use in country.
- The product's shelf-life, production, availability and transport lead times are within suitable parameters. In order to ensure usability of the product, it must arrive in country/district with ample time for distribution to beneficiaries. The SNF may be sourced internationally or locally as long as the product meets procurement and food quality standards. Procurement and logistics staff need to be consulted on the product choice to identify the feasibility of obtaining it regularly, and in adequate quantity⁸⁶.

SNF options for preventing chronic malnutrition

There are a variety of specialized nutritious food options for preventing chronic malnutrition, such as Lipid-based Nutrient Supplements (LNS) and Fortified Blended Foods (FBFs). LNS are usually peanut based, but chickpea-based LNS are available in some areas, and can be consumed without cooking. FBFs are based on corn (maize), wheat or rice, and need to be cooked.

86 For more information see Managing the supply chain of Specialized Nutritious Foods: <http://newgo.wfp.org/documents/managing-supply-chain-of-specialized-nutritious-foods>

Specialized Nutritious Food (SNF) options for stunting prevention:

For children 6-23 months

- Lipid-based Nutrient Supplement Medium Quantity (LNS-MQ)
- Lipid based Nutrient Supplement Small Quantity (LNS-SQ)
- Super Cereal Plus (formerly CSB++)

For pregnant and lactating women

- Super Cereal

* See the "WFP Specialized Nutritious Foods Sheet" for a comprehensive list of SNF by intervention type. on WFPgo <https://docs.wfp.org/api/documents/WFP-0000001477/download/>


Table 6.2.2. Daily ration for preventing chronic malnutrition

Target Group	Daily Ration	Nutrient Profile
PLW	200g Super Cereal Super Cereal may be mixed with oil and sugar prior to distribution in a ratio of 200g: 20g: 20g (estimated energy 1005 kcal, 29g protein, 35g fat)	376-752 kcal, 15-31g protein, 8-16g fat, vitamins and minerals
Children aged 6-23 months and 24-59 months	100-200g Super Cereal Plus (200g includes provision of sharing)	410-820 kcal, 16-33g protein (17% energy), 10-20g fat (23% energy). Contains essential fatty acids, vitamins and minerals 100 g provides approximately 1 RNI for young children
	50g LNS-MQ	255 kcal, 6-8g protein (10% energy), 13-18 g fat (55% energy). Contains essential fatty acids, vitamins and minerals, provides approximately 1 RNI for young children
Children aged 6-23 months	20g LNS-SQ	108 kcal, 2.6g protein (10% energy), 7g fat (59% energy). Contains essential fatty acids, vitamin and minerals, 1 RNI for young children per sachet

IMPORTANT: Only use one SNF for each target group at any given time.

How to calculate overall SNF requirements

Once the number of planned beneficiaries, coverage, type of product to be provided, and the anticipated duration an individual will be in the programme have been ascertained, overall product needs can be calculated as follows:


$$\begin{array}{r} \text{Required tonnage in mt} = \\ (\text{Estimated total beneficiaries} \\ \times \\ \text{Ration size per person per day in grams} \\ \times \\ \text{Duration of support in days}) \\ \hline 1,000,000 \end{array}$$

Communication with procurement and logistics colleagues is critical in defining initial estimated needs; and translating initial needs into appropriate ordering cycles that balance programme needs with available resources, as well as other supply chain considerations.

HOW LONG? DURATION OF THE PROGRAMME

The recommended duration of individual SNF provision is a minimum of six months. Ideally, PLW receive SNF until their child reaches 6 months of age, at which point the child receives SNF until s/he is 23 months of age. The duration of the overall prevention programme should follow the Country Strategic Plan, and the final assessment of the nutritional situation in the programme area.

PROGRAMME IMPLEMENTATION

WFP implements its programmes through partnership, particularly with government at all levels (national, regional, district). However, in most cases, the capacity of the government to support programmatic implementation is limited. Therefore, WFP engages Cooperating Partners (CPs) who, are usually NGOs working on the ground, in a complementary sector.

WFP needs to assess the capacity of the CP to implement the programme, using a selection process involving a Project Review Committee (PRC). Once the partner is selected, a Field Level Agreement (FLA) needs to be developed, clearly defining roles and responsibilities.

Please see chapter 6.1 for an example of responsibilities between WFP and CPs that may be reflected in the FLA. For detailed information about how to work with an NGO, visit WFP's non-governmental organizations website⁸⁷.

87 <http://go.wfp.org/web/ngo/guidancematerial>

HOW DO PROGRAMMES TO PREVENT CHRONIC MALNUTRITION FIT INTO WIDER NUTRITION PROGRAMMING?

In relation to the prevention of acute malnutrition: The provision of SNFs is administered in the same way as a blanket supplementary feeding programme (BSFP), where individuals are included based on a specific criterion, such as age, rather than nutritional status. The similar approach can lead to some confusion between the programmes.

There are a number of similarities:

- Both programmes include individuals regardless of their nutritional status.
- Both are preventive programmes, and are developed to address population level nutritional status as opposed to addressing individual nutritional rehabilitation.
- Both programmes can use the same SNFs.

There are also some important differences:

- The two programmes have very different objectives and different indicators of effectiveness.
- Acute malnutrition prevention programmes are usually implemented with a short duration of 4-6 months. Chronic malnutrition prevention programmes are usually implemented over longer periods. Both programmes, however, should include an SBCC component.

In relation to General Food Assistance (GFA): Programmes to prevent chronic malnutrition can be incorporated into larger WFP programmes, for example alongside a GFA. The two programmes complement each other, and messaging can be synergized to increase community awareness of the risk of all forms of undernutrition, and the importance of breastfeeding and appropriate IYCF.

KEY READING AND ADDITIONAL RESOURCES

- Levels and trends in child malnutrition. UNICEF, WHO, World Bank. 2017. http://www.who.int/nutgrowthdb/jme_brochure2017.pdf
- WHO child growth standards methods and development: Length/height-for-age, weight-for-age, weight-for-length, weight for-height and body mass index-for-age. 2006, Geneva: World Health Organization.
- WHO, 2018. Reducing stunting in children. Equity considerations for achieving the Global Nutrition Targets 2025
- WFP. 2012. Nutrition at the World Food Programme. Programming for Nutrition-Specific Interventions
- WFP.2017. Nutrition Policy <http://newgo.wfp.org/documents/wfp-nutrition-policy>
- WFP.2017.Social Behaviour Change Communication (SBCC). Interim Guidance Manual for WFP nutrition. <http://newgo.wfp.org/documents/sbcc-guidance-manual-for-wfp-nutrition>
- WFP.2018. WFP Specialized Nutritious Foods Sheet. <https://docs.wfp.org/api/documents/WFP-0000001477/download/>
- WFP. Managing the supply chain of Specialized Nutritious Foods (SNFs) <http://newgo.wfp.org/documents/managing-supply-chain-of-specialized-nutritious-foods>
- WFP Specialized Nutritious Foods Sheet <https://docs.wfp.org/api/documents/WFP-0000001477/download/>
- WFP Guidance on partnering with non-governmental organizations: <http://go.wfp.org/web/ngo/guidancematerial>

Chapter 6.3 Designing programmes to prevent micronutrient deficiencies

PURPOSE:

The purpose of this chapter is to assist countries in the design and implementation of appropriate programmes to prevent and reduce micronutrient deficiencies (MNDs).

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Explain the causes and the consequences of MNDs
- Explain why WFP supports the prevention of MNDs
- Understand the programme formulation and implementation to prevent MNDs
- Understand the difference between point-of-use fortification and mass fortification, and their different applications
- Understand the key steps involved in the design and implementation of point-of-use fortification programmes
- Understand the key steps involved in the design and implementation of mass fortification programmes

OVERVIEW

Micronutrients (vitamins and minerals), although only needed in small amounts, are as essential as macronutrients (protein, fat, and carbohydrates) for ensuring the life and health of an individual. Micronutrient deficiencies (MNDs) represent a largely invisible but devastating form of malnutrition, often referred to as “hidden hunger”.

MNDs often result from inadequate dietary consumption, and diseases. Various disease states can decrease the absorption of nutrients, while at the same time increasing individual nutritional requirements. Underlying these direct determinants, inadequate health care and sanitation, poor infant and young child feeding practices (IYCF), and household food insecurity contribute to MNDs, influencing intake and illness at the individual level.

Negative effects of micronutrient deficiencies include:

- Poor intellectual development
- Poor vision
- Sub-optimal growth
- Increased morbidity
- Lessened productivity

Deficiencies of micronutrients have negative effects on wellbeing, such as poor intellectual development, poor vision, sub-optimal growth and morbidity. Zinc deficiency alone has been shown to increase the risk of diarrhoea in young children by 33 percent, pneumonia by 69 percent, and malaria by 56 percent⁸⁸. Iron

88 Caulfield et al.2004. Zinc deficiency. Comparative Quantification of health risks, World Health Organization. Pp.256-79

deficiency anaemia reduces work capacity⁸⁹. Iodine deficiency has a substantial impact on mental development among children under 5⁹⁰. Conversely, adequate intake of vitamin A among children under 5 can reduce mortality due to infectious diseases (most notably measles, diarrhoea and malaria) by 23-35 percent.

WHY DOES WFP SUPPORT THE PREVENTION OF MNDS?

WFP's Nutrition Policy 2017-2021⁹¹ focuses on adequate nutrient intake as a prerequisite to good nutrition and health. Ending malnutrition in all its forms entails increasing the availability, access, consumption of, and demand for, safe and nutritious diets that meet the nutritional requirements of vulnerable groups. Prevention of MNDS is important because:

- Zinc, iron and vitamin A deficiencies are ranked by the World Health Organization as the top ten causes of death through disease in developing countries.
- The 2008 Copenhagen Consensus ranked micronutrient supplements for children as first among all developmental interventions in terms of spending priorities based on cost-benefit ratios.
- With rising food prices, and climate change causing droughts and disasters, it is likely that an increasing proportion of the world's population will develop MNDS.
- WFP has the infrastructure, opportunity and comparative advantage to address MNDS.

WHAT IS WFP'S RESPONSE TO ADDRESSING MNDS?

WFP always supports strategies to improve the dietary diversity of vulnerable populations. This includes interventions to strengthen household availability and affordability of local, nutritious food; Home Grown School Feeding programmes to provide children with the micronutrients that are critical for healthy growth and development; and education on healthy, balanced diets, and optimum Infant and Young Child Feeding (IYCF) practices through Social Behaviour Change Communication (SBCC). (More information on SBCC is given in chapter 9.)

Where access to, and availability of, local nutritious food is compromised, WFP implements programmes to improve the micronutrient status of individuals through point-of-use fortification (formerly referred to as home fortification⁹²) and mass fortification. This chapter discusses point-of-use and mass fortification interventions.

89 Haas, Jere D., and Brownlie, Thomas IV., Iron Deficiency and Reduced Work Capacity: A Critical Review of the Research to Determine a Causal Relationship. *American Society for Nutritional Sciences*. 2001, 131:676S-

90 Bougma et al. Iodine and Mental Development of Children 5 Years Old and Under: A Systematic Review and Meta-Analysis. *nutrients* ISSN 2072-6643 www.mdpi.com/journal/nutrients

91 WFP. 2017. Nutrition Policy: <http://newgo.wfp.org/documents/wfp-nutrition-policy>

92 'Point-of-use fortification is often referred to as "home fortification"; the word "home" has been substituted by "point-of-use", to reflect the variety of settings where this intervention may take place. Comprehensive implementation plan on maternal, infant and young child nutrition. In: Sixty-fifth World Health Assembly, Geneva, 21-26 May 2012. Resolutions and decisions, annexes. Geneva: World Health Organization; 2012:12-13 (WHA65/2012/REC/1; http://apps.who.int/gb/ebwha/pdf_files/WHA65-REC1/A65_REC1-en.pdf

6.3.1 Point-of-use fortification

More than a decade ago, WFP began exploring innovative ways of delivering micronutrients to those most vulnerable to MNDs, particularly infants and young children (6-23 months), and preschool aged and school aged children (2-12 years). Micronutrient powders (MNPs) provide one solution to increase vitamins and minerals in complementary foods and school meals. MNPs contain micronutrients, but they do not contain macronutrients. Lipid-based Nutrient Supplement Small-Quantity (LNS-SQ) is another solution. LNS-SQ is aimed at infants aged 6-23 months, and contains macronutrients and essential fatty acids as well as micronutrients (<20g/d, equivalent to ≤120 kcal/d).⁹³

WHAT ARE MNPs FOR POINT-OF-USE FORTIFICATION?

MNPs are a colourless, odourless combination of vitamins and minerals that are added to food just before it is consumed. When targeted to young children, they come in single serving sachets; when targeted to School Feeding programmes, they come in multi-serving sachets.

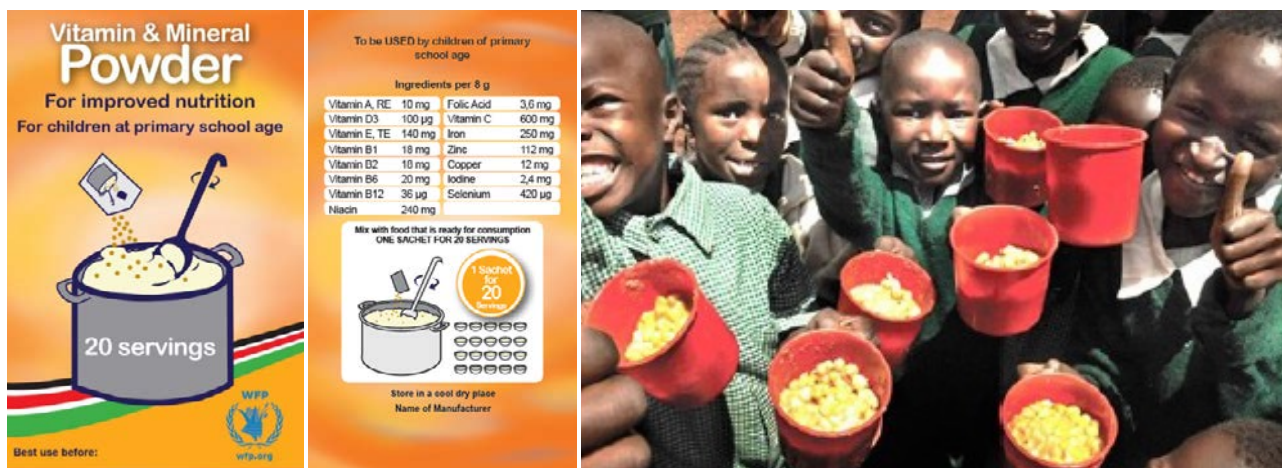
MNP sachet for children aged 6-23 months – an example from Uganda



One sachet of MNP for young children, in the form of 1 g of powder, contains the daily Recommended Nutrient Intake (RNI) of vitamins and minerals for children aged 6–59 months. One generic sachet of MNP for school age children contains 8 g of powder for 20 meals, providing 1 RNI per child⁹⁴ of iron; zinc; iodine; copper; selenium; vitamins A, B1, B2, B3, B6, B12, C, D, E; and folic acid. However, as discussed in the WHAT? section below, combination of vitamins and minerals may be adjusted to accommodate for specific MNDs in the population, and to take into account other nutrition interventions being carried out in country.

93 See the “WFP Specialized Nutritious Foods Sheet” for a comprehensive list of SNF by intervention type on WFPgo <https://docs.wfp.org/api/documents/WFP-0000001477/download/>

94 The MNPs used by WFP have a formula of vitamins and minerals consistent with the WHO/WFP/UNICEF joint statement on providing micronutrients to populations affected by emergencies: http://www.who.int/nutrition/publications/WHO_WFP_UNICEFstatement.pdf, as well as the Home Fortification Technical Advisory Group programmatic guidance: <https://www.wfp.org/content/programmatic-guidance-brief-use-micronutrient-powders-mnp-home-fortification>



WHAT IS LNS-SQ FOR POINT-OF-USE FORTIFICATION?

LNS-SQ is made from peanuts or chickpeas, soy, milk powder and oil. Each 20g sachet contains 108 calories, 2.6g of protein and 7g of fat. The positive ingredient list may be further expanded to include other ingredients after confirmed acceptability with beneficiaries, and alignment with food specifications. LNS-SQ also contains essential fatty acids, vitamins and minerals equivalent to the RNI of a child aged 6-23 months. LNS-SQ can be added to complementary foods at the point of use, or eaten straight from the sachet.

PROGRAMME FORMULATION

There is a series of decisions to be made in formulating a point-of-use fortification programme:

- **Where?** Geographic targeting
- **Who?** Individual targeting criteria
- **How many?** Calculating the estimated number of planned beneficiaries
- **How?** Delivery channels and partners
- **What?** MNPs and LNS-SQ for different age groups
- **How long?** Duration of the point-of-use fortification programme

WHERE? GEOGRAPHIC TARGETING

Point-of-use fortification is one recommended option where complementary foods for infants and young children, and daily diets for preschool and school aged children, do not provide enough essential micronutrients, and dietary diversification opportunities are limited. This occurs where one or more of the following apply⁹⁵:

- dietary diversity is low (due to limited availability or affordability);
- complementary foods prepared for infants and young children have insufficient nutrient content and density (for example, watery porridges and foods with a low micronutrient content);
- the bioavailability of micronutrients is poor due to absorption of inhibitors in the diet (excess fibre, phytate, tannin) which is especially the case in diets which are plant based.

WHO recommends considering point-of-use fortification in areas where the prevalence of anaemia in children under 5 years age is 20 percent or above⁹⁶.

WHO? INDIVIDUAL TARGETING CRITERIA

Children aged 6–23 months are particularly at risk of inadequate micronutrient intake when food variety and quantity are limited. Children aged 24–59 months may also be at high risk of inadequate intake of nutrients. School children who receive school meals with limited micronutrient content (because they consist of staple foods, protein and fat) are potentially at risk of MNDs. Therefore, the main target populations are infants and young children, and preschool and school-aged children.

Point-of-use fortification is a preventive strategy for implementation at population level without screening for any condition or disease. Children diagnosed with anaemia should be treated appropriately, according to WHO and national guidelines⁹⁷.

HOW MANY? CALCULATING THE ESTIMATED NUMBER OF PLANNED BENEFICIARIES

Estimated population of the target group in programme areas, generally taken from government census data or updated estimates. For School Feeding programmes, data on the number of children attending school should be available from the school itself, or the local authority. For younger children, if available population data do not include a breakdown by sex and age, and in the absence of government or cluster/sector recommendations, estimates can be applied:

- Children 6-23 months of age: represent approximately 10 percent of the population
- Children 6-59 months of age: represent approximately 20 percent of the population

Expected coverage refers to the proportion of individuals that can be reached out of those identified as being in need. For WFP the target coverage for prevention programmes is > 70%.

95 HF-TAG. 2011. Programmatic guidance brief on use of micronutrient powders (MNP) for point-of-use fortification

96 WHO. 2016. WHO guideline: Use of multiple micronutrient powders for point-of-use fortification of foods consumed by infants and young children aged 6-23 months and children aged 2-12 years

97 Guideline: Daily iron supplementation in infant and children. Geneva: World Health Organization; 2016

Note: Calculations often include assumptions and best guess estimates, which should be made clear in programme plan documents. In addition, actual coverage⁹⁸ of the intervention depends on:

- Context (e.g. level of insecurity and therefore movement of targeted beneficiaries)
- Delivery channels (refugee camps generally have higher coverage as they are located closer to services)
- Acceptability of the programme to beneficiaries
- Outreach activities (coverage tends to be higher where there are strong community outreach strong programmes)



Total Beneficiaries =
Population x Coverage

HOW? DELIVERY CHANNEL AND PARTNERS

Delivery channels

Point-of-use fortification for infants and young children is best introduced as part of an IYCF strategy. This is because the primary aim is to improve nutrient intake from complementary foods eaten by infants when they reach 6 months of age. Introducing LNS-SQ or MNPs should be combined with providing guidance and counselling on exclusive breastfeeding for the first six months, continued breastfeeding to 24 months and beyond, and optimum complementary feeding practices. Health care facilities or community-based services that bring caretakers together to discuss health, breastfeeding and complementary feeding are appropriate channels for distribution.

MNPs for school aged children are best combined with School Feeding programmes. This is because the purpose is to enrich the quality of school meals by adding vitamins and minerals, in contexts where meals provided at school usually only consist of energy, protein and fat.

Programmes which include point-of-use fortification should incorporate a SBCC strategy to promote awareness and correct use of MNPs or LNS-SQ, good hygienic practices and proper food preparation, optimum complementary feeding for children aged 6-23 months, and a nutritious diet for children over 2 years. Breastfeeding and hand-washing practices, careful attention to fever in malaria settings, measures to manage diarrhoea, and training for health care workers to provide counselling and demonstrate proper use of MNPs or LNS-SQ are also crucial components of programming.

Partnerships

Strong partnerships are essential for efficient roll-out. Key partners in addressing MNDs include national governments, UN agencies, and non-governmental organization (NGO) partners.

- The government has the overall responsibility for the development of a national strategy for the prevention and control of MNDs.
- WFP and UNICEF can collaborate to support the government on the design, implementation and evaluation of point-of-use fortification programmes, as well as jointly advocate for addressing MNDs.
- In refugee settings, UNHCR and WFP jointly implement and monitor MND interventions involving the provision of MNPs.
- WFP has a variety of relationships with NGOs but the most common type of partnership is the cooperating partnership where NGOs are responsible for carrying out activities on behalf of WFP.

⁹⁸ The expected and actual coverage of the programmes are not necessarily equivalent to the coverage of actual needs.

WHAT? MNPS AND LNS-SQ FOR DIFFERENT AGE GROUPS

Micronutrient powders (MNPs) – contain 15 vitamins and minerals. The composition of MNPs for children aged 6-59 months is described in Table 6.3.1.

Table 6.3.1 WFP specifications for 1 gram MNP sachet for children aged 6-59 months

Micronutrient	Children (6-59 months)
Vitamin A µg RE	400
Vitamin D µg	5
Vitamin E mg	5
Vitamin C mg	30
Thiamine (Vitamin B1) mg	0.5
Riboflavin (Vitamin B2) mg	0.5
Niacin (Vitamin B3) mg	6
Vitamin B6 (Pyridoxin) mg	0.5
Vitamin B12 (Cobalamin) µg	0.9
Folate µg	150.0
Iron mg	10.0
Zinc mg	4.1
Copper mg	0.56
Selenium µg	17.0
Iodine µg	90.0

As discussed above, the generic composition of MNPs for children aged 6-12 years contains one RNI vitamins and minerals. However, when planning a School Feeding programme using MNPs, the Country Office should work closely with governments. In cases where they do not want the generic composition, contact among the Country Office, Regional Bureau and HQ will ensure appropriate quality and safety, while also satisfying the needs of national government.

LNS-SQ contains macronutrients (kcal, proteins, essential fatty acids) as well as micronutrients, and is designed for infants aged 6-23 months. The composition of LNS-SQ addresses linear growth (height), infant development and MNDs. More information about LNS-SQ can be found on WFP's Specialized Nutritious Foods Sheet⁹⁹.

99 Available at: <https://docs.wfp.org/api/documents/WFP-000001477/download/>

Packaging and labelling

Specifications for the packaging and labelling of MNPs and LNS-SQ have been developed in line with Codex Guidance^{100, 101, 102}; and, in the case of LNS-SQ, through the consensus of the Interagency Harmonization Working Group. The Codex Committee for Labelling sets international standards for labels to include ingredients, expiry dates, and instructions for use. The Interagency Harmonization Working Group has set standards for the design of LNS-SQ sachets to be white with green typeset and graphics. Within the parameters of these standards, a design based on the local context should be developed to make the product more relevant and acceptable to the local community. The SBCC guidance provides further information on how to develop local packaging based on formative research¹⁰³.

For more information on food safety and quality, please see the guidance on Managing the supply chain of Specialized Nutritious Foods¹⁰⁴.

HOW LONG? DURATION OF A POINT-OF-USE FORTIFICATION PROGRAMME

The duration of the programme should be based on the risk of MNDs and available funds. Generally, the duration of the intervention is 6-18 months for children aged 6-59 months, and one school year for children aged 6-12 years. Education on the use of fortificants, and good health and nutrition practices should be provided in addition to the ration. It is important to note that each individual child should be exposed by the programme for at least 6 months in order to see an impact on micronutrient status.

Rations

The frequency and duration of MNPs should be such that, in combination with the diet, RNI is met. For children aged 6-59 months, the target should be 90 MNP sachets per six month period (equivalent to 15 per month, or 3-4 per week). This provides an average of 50 percent of RNI if the sachet is consumed every other day. No more than 30 MNP sachets should be distributed at a time, in order to maintain frequent contact with beneficiaries. This is especially important during the first few months of MNP distribution after programme initiation.

For school aged children, MNPs are presented in 8 g sachets providing 20 servings per sachet, to be added to the school meal, and consumed every day.

Specialized Nutritious Food (SNF) options for stunting prevention:

MNPs sachets should be made available throughout the year, with the following dosing regimen:

- Infants and children: 90 sachets of 1 g for a 6 month period
- School aged children: an 8-g sachet for 20 meals to be provided every day with the school meal

100 WFP. 2016. Micronutrient Powders - Technical specifications – children aged 6-59 months: https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp284911.pdf

101 Home Fortification with micronutrient powders. Sight and Life, UNICEF, WFP, Home Fortification Technical Advisory Group. http://www.hftag.org/assets/downloads/hftag/Sight%20&%20Life%20supplement%20distributed%20at%20ICN%202013_FULLL.pdf

102 WFP, 2017. 10 minutes to learn about micronutrient powders: <http://newgo.wfp.org/documents/10-minutes-to-learn-about-micronutrient-powders>

103 WFP.2017. Social Behaviour Change Communication (SBCC). Interim Guidance Manual for WFP Nutrition

104 WFP. Managing the supply chain of Specialized Nutritious Foods: <http://newgo.wfp.org/documents/managing-supply-chain-of-specialized-nutritious-foods>

The ration for LNS-SQ is a 20 g sachet, to be consumed every day. Rations should be distributed in such a way that frequent contact and nutrition counselling can be provided to caregivers when they receive the ration, and feedback can be collected to ensure effective monitoring and evaluation, and necessary programme adaptation.

Communication with procurement and logistics colleagues is critical in defining initial estimated needs, translating initial needs into appropriate ordering cycles (that balance programme needs through the year with available resources) as well as other supply chain considerations (see *Managing the supply chain of Specialized Nutritious Foods*¹⁰⁵ for further information).

PROGRAMME IMPLEMENTATION

WFP implements its programmes through partnership, particularly with government at all levels (national, regional, district). However, in most cases, the capacity of the government to support programmatic implementation is limited. Therefore, WFP engages Cooperating Partners (CPs) who, are usually NGOs working on the ground, in a complementary sector.

WFP needs to assess the capacity of the CP to implement the programme, using a selection process involving a Project Review Committee (PRC). Once the partner is selected, a Field Level Agreement (FLA) needs to be developed, clearly defining roles and responsibilities. Under the FLA, WFP transfers SNF for the intervention and cash for associated costs to the CP; some CPs may contribute their resources as well.

Please see chapter 6.1 for an example of responsibilities between WFP and CPs that may be reflected in the FLA. For detailed information about how to work with an NGO, visit [WFP's non-governmental organizations website](#)¹⁰⁶.

HOW DO POINT-OF-USE FORTIFICATION PROGRAMMES FIT WITHIN WFP'S WIDER PROGRAMMING?

In relation to other nutrition specific programmes: The SNFs used in the prevention and treatment of acute malnutrition are designed to provide beneficiaries with all the micronutrients they require. MNPs and LNS-SQ are not distributed under these programmes; however, LNS-SQ may be used as one component of comprehensive programming to prevent chronic malnutrition.

In relation to mass fortification: Mass fortification targets the general population, while point-of-use fortification targets specific groups who typically have limited access to sufficient micronutrient intake. Mass fortification and point-of-use fortification can be used simultaneously within the same population.

In relation to School Feeding programmes: Where the prevalence of MNDs have reached public health significance, and where the nutrient gap analysis shows that it is appropriate, MNPs are used in School Feeding programmes to increase the micronutrient content of school meals.

In relation to Home Grown School Feeding: MNPs can be combined with Home Grown School Feeding to give short term impact while Home Grown School Feeding is being scaled up.

¹⁰⁵ https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp259937.pdf

¹⁰⁶ <http://go.wfp.org/web/ngo/guidancematerial>

6.3.2 Mass fortification

WHAT IS MASS FORTIFICATION?

Mass fortification is the practice of deliberately increasing the content of vitamins and minerals in commonly eaten foods, to provide a public health benefit. The Lancet 2008¹⁰⁷ and 2013¹⁰⁸ Maternal and Child Nutrition Series, the Copenhagen Consensus¹⁰⁹ and the Scaling Up Nutrition (SUN) Movement all recognize and endorse mass fortification as a sustainable, cost-effective intervention with a proven impact on public health and economic development.

Successful mass fortification increases the nutritional quality of the food and provides public health benefits without greatly increasing the food cost, or adversely affecting its taste or general acceptability. Food may be fortified to increase the level of specific nutrient(s) or to restore nutrients lost during food production. The World Health Organization recommends the fortification of rice, wheat flour and maize flour, as these account for 94 percent of total cereal consumption worldwide^{110, 111, 112}.

Mass fortification programmes should contribute to improving the availability, accessibility and consumption of fortified foods as part of a healthy diet. With government support, and private sector capacity, mass fortification is an effective and efficient strategy to improve nutrition at population level and reduce the risk for MNDs. As such, mass fortification can play a critical role breaking the intergenerational cycle of malnutrition¹¹³.

WHY DOES WFP SUPPORT MASS FORTIFICATION?

Fortifying commonly eaten foods is a powerful means to reduce MNDs, enabling people and societies to achieve their full cognitive, physical and productive potential. A good example is the iodization of salt, which is well established in many upper-, middle- and lower-income countries, and has resulted in a dramatic decline in iodine deficiency disorders such as cretinism and goitre.

According to the Copenhagen Consensus 2004, “No other technology offers as large an opportunity to improve lives at such low cost and in such a short time.” In 2008 and 2012, the Copenhagen Consensus ranked fortification with micronutrients

Examples of some direct benefits of food fortification

- Prevent nutritional anaemia
- Prevent birth defects affecting the brain and spine
- Increase productivity
- Improve economic progress

107 Black RE, Allen LH, Bhutta ZA et al. Maternal and Child Undernutrition Study Group. Maternal and child undernutrition: global and regional exposures and health consequences. *Lancet* 2008;371:243–260.

108 Bhutta ZA, Das JK, Rivzi A 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

109 Copenhagen Consensus 2012 available at www.copenhagenconsensus.com/copenhagen-consensus-iii.

110 World Health Organization – fortification of rice: http://www.who.int/elena/titles/rice_fortification/en/

111 World Health Organization – fortification of wheat flour: <http://www.who.int/elena/titles/wheat-flour-fortification/en/>

112 World Health Organization – fortification of maize flour: <http://www.who.int/elena/titles/maize-fortification/en/>

113 Why fortify flour and rice? Food Fortification Initiative: http://www.who.int/elena/titles/rice_fortification/en/

among the top three international development priorities¹¹⁴. Every USD 1 spent on fortification results in USD 9 in benefits to the economy¹¹⁵.

However, even in countries where fortified foods exist, they do not automatically reach remote rural areas nor are they often accessible to the most vulnerable households. To better address nutrition challenges, the first step is to support food fortification efforts, and provide fortified foods in WFP rations.

Examples of some additional benefits of mass fortification

- Fortification can be integrated into existing programmes and partnerships
- With a small upfront cost, fortifying food has a high return on investment in terms of benefits to the local economy and to the people we serve
- Fortification will enhance contribution to national nutrition policies and goals
- Fortified foods can often be procured locally and regionally

PROGRAMME FORMULATION

There is a series of decisions to be made in formulating a mass fortification programme:

- **Where?** Geographic targeting
- **Who?** Target populations
- **How many?** Calculating the reach of fortified food
- **How?** Delivery channels
- **What?** Choosing the right food and fortificant
- Other essential components of a mass fortification programme

WHERE? GEOGRAPHIC TARGETING FOR A MASS FORTIFICATION PROGRAMME

Consider MNDs

The geographic targeting for mass fortification can be any country where the majority of the population has a risk of being or becoming deficient in one or more specific micronutrients. In certain cases, MNDs are demonstrable, as evidenced by unacceptably low intakes and/or biochemical signs of deficiency. In others, the population may not show outward visible signs of deficiency, but are likely to benefit from fortification.

In circumstances where risk of MNDs is demonstrable, and where it is industrially feasible, **mass fortification** can provide a large public health benefit; in such cases, WFP can provide an advisory role to government initiatives. Anaemia, neural tube defects, vitamin A and zinc deficiencies are the most common health concerns addressed by fortification. One example of mass fortification is the addition of folic acid to wheat flour to lower the risk of birth defects, which has been introduced in Canada, the United States and many Latin American countries.

114 Copenhagen Consensus 2012 available at www.copenhagenconsensus.com/copenhagen-consensus-iii.

115 http://www.copenhagenconsensus.com/sites/default/files/Copenhagen_Consensus_2008_Results_Press_Release.pdf

Consider the food industry sector

Another important factor when considering the geographic target of a mass fortification programme is the food industry sector. This includes the number, capacity and geographical distribution of producers, as well as the presence of any government support or control, and the prevailing commercial environment.

A mass fortification programme is more likely to succeed when the industry sector in question is either relatively centralized (i.e. confined to a handful of major producers), well organized, or both. If there are numerous, small, widely dispersed producers, fortification will be more difficult to achieve, unless these small units have some form of collective arrangement in place, such as an established industry association.

WHO? TARGET POPULATIONS

The target population for mass fortification programmes includes all individuals expected to consume the fortified food. This includes those usually at risk of MNDs, such as pregnant and lactating women, children and adolescents, chronically ill people, the elderly, impoverished populations, populations with poor sanitation and hygiene, and displaced populations.

Fortification levels are set per each specific fortificant, so that even those who consume large amounts of the fortified food will not exceed the tolerable upper limit of intake.

The potential for individuals to benefit from mass food fortification varies across the life-cycle depending on:

- micronutrient requirements
- the level of fortification
- the amount of the fortified food consumed
- the dietary gap in meeting micronutrient requirements

For example:

- Pregnant and lactating women have high micronutrient needs, and are likely to consume a sufficient amount of fortified food to make a significant contribution to meeting micronutrient needs. However, since micronutrient requirements are high, when the dietary gap is large, often additional supplementation is necessary to fill the nutrient gap.
- Children aged 6–23 months also have very high micronutrient needs. However, given their small stomach size, mass fortification has a low potential to completely fill a nutrient gap¹¹⁶. Point-of-use fortification in combination with mass fortification can help to fill this gap.
- Women of reproductive age, adolescents and adults (men and non pregnant, non lactating women) also have great potential to benefit from mass food fortification given their nutrient needs and the amount of food consumed.

116 Codex Alimentarius Commission. (2006). & Codex standard for processed cereal-based foods for infants and young children. Rome, Italy: CODEX STAN, 074-1981.

HOW MANY? CALCULATING REACH OF FORTIFIED FOOD

Mass fortification is intended to reach the whole population. The estimated reach of the programme will depend on the consumption pattern of the fortified food across the population, for example: food commonly eaten by most individuals as against food eaten only by adults or specific subgroups. Surveys either conducted as part of a national surveillance programme or through independent data collection can be used to assess consumption patterns on which to base an estimate of number of individuals reached.

HOW? DELIVERY CHANNELS AND PARTNERS

Delivery Channels

The huge diversity in national circumstances and public health goals worldwide has resulted in the development of many different approaches to the regulation of food fortification. In most middle- and upper-income countries, food fortification parameters are established by law, or through cooperative arrangements. Elsewhere, fortified foods are produced without any form of governmental guidance or control. Since it is the role of government to protect public health, it is generally recommended that all forms of food fortification be appropriately regulated in order to ensure the safety of all consumers and the maximum benefit to target groups. WFP can be a technical partner to support governments to develop regulations and policies for mass fortification.

Within the legal context, fortification can be categorized as either mandatory or voluntary. These terms refer to the level of obligation required of food producers to comply with government intentions expressed in law:

- Mandatory fortification occurs when governments legally oblige food producers (of both domestic and of imported food) to fortify particular foods with specific micronutrients. Mandatory fortification should be implemented when the majority of the population has a significant public health need, or is at risk becoming deficient in specific micronutrients. In some circumstances, a demonstrated public health benefit of increased consumption of a given micronutrient might be considered sufficient grounds to warrant mandatory fortification, even if the population is not considered to be seriously at risk.
- When fortification is not mandatory, foods can still be fortified voluntarily by the private sector. Voluntary fortification occurs when food manufacturers take the initiative to add one or more micronutrients to certain foods. This still requires standards, regulation and monitoring. Governments should exercise an appropriate degree of control over voluntary fortification through food laws or other cooperative arrangements, such as industry codes of practice. Note that in the case of voluntary fortification, the level of industry uptake is generally influenced by prevailing market conditions.

The fundamental distinction between mandatory and voluntary regulation is the level of certainty over time that a particular food will contain a pre-determined amount of a micronutrient. By providing a higher level of certainty, mandatory fortification is more likely to deliver a sustained a public health benefit. Voluntary fortification is less likely to deliver guaranteed, increased intakes of micronutrients across the population.

The distribution of fortified foods can also occur through social safety nets and protection programmes. This can be implemented in parallel with mandatory and voluntary food fortification.

Distribution of fortified foods through social safety nets allows the targeting of those who are most vulnerable to MNDs. For example, fortified flour, or fortified rice through social protection/social safety nets can be either distributed directly or made available through vouchers. Depending on the context, WFP's role could include direct distribution of these products, or an advisory role to government to strengthen national programmes.

Partnerships

Sustaining access, availability and demand for fortified foods is feasible only with partnership between the public and private sector. Working in partnership with government, the private sector, and non-governmental organizations can foster an enabling environment for food fortification. While the opportunity is great, challenges must also be addressed. For example, different goals and objectives of public and private sector partners.

In multiple countries, WFP is a strategic partner in working groups to advocate for, and support, food fortification. One example of this is the Egyptian National Wheat Flour Fortification Programme¹¹⁷, which began in 2008, and was managed by WFP until 2011 when the programme was handed over to Government. WFP catalysed the creation of the National Fortification Alliance, consisting of all partners and stakeholders. Members included the National Nutrition Institute, Ministry of Supply and Internal Trade, Ministry of Health and Population, Ministry of Agriculture, Ministry of Education, the National Academy of Scientific Research, the National Research Centre, Ministry of Finance, Faculty of Medicine, Faculty of Agriculture, Egyptian nutrition researchers and the Food Industry Holding Company (which manages nationally-owned mills). The Alliance was a key success factor in the Wheat Flour Fortification Programme, which ultimately provided fortified flour to over 60 million Egyptians.

WHAT? CHOOSING THE RIGHT FOOD AND FORTIFICANT

Decisions about which commodity to fortify and which fortificant to add, as well as the appropriate amounts, are based on a series of factors.

Choosing the right food

Comprehensive fortification programmes should consider which foods or combination of foods have the potential to reach the largest number of people with the least cost. Note that although fortification is well suited to increasing levels of micronutrients in the population, it is not advisable to rely on a single food vehicle to eradicate deficiencies of all micronutrients. A range of foods should be fortified with different types and levels of micronutrients. Furthermore, while fortification represents an important tool to combat micronutrient deficiencies and improve micronutrient status, other approaches (such as promotion of diverse diets, nutrition education, and optimum infant and young child feeding practices) are always required and desirable.

Choosing the right fortificant

Each country should set standards regarding fortificants, based on its population's needs. WFP aligns with regional and national standards where they exist. Where national standards are below WFP standards or global recommendations (e.g. WHO/FAO Guidelines¹¹⁸) WFP makes efforts to negotiate for alignment.

117 For more information on this programme, please access the Case Study at: https://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp274581.pdf?_ga=2.76172434.600777093.1540992532-1635615786.1487855650

118 World Health Organization Guidelines on food fortification with micronutrients. http://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf

Iron, folic acid, vitamin B12, vitamin A and zinc, are the five micronutrients most commonly used for fortification, as they are recognized to be of public health significance in developing countries^{119,120}.

Food fortification programmes should include appropriate Quality Assurance and Quality Control measures at mills, as well as regulatory and public health monitoring of the nutrient content of fortified foods, and assessment of the nutritional/health impacts of the fortification strategies.

WFP's efforts to scale up food fortification

Since 2004, WFP has sourced and provided fortified foods, such as cereals, oils and salt, for programmes and food distributions. Data from 2016 indicate that 90 percent of the wheat flour, 58 percent of the maize meal, and more than 99 percent of the vegetable oil procured by WFP was fortified.

WFP also plays a facilitating role in connecting and supporting governments and private sector actors to fortify foods locally, as well as advocating for fortification in national and international policy.

Until recently, rice has largely been neglected in global fortification efforts. However, as rice is a staple for half the world's population, and can contribute up to 70 percent of daily energy intake in lower- and middle-income countries, rice fortification has enormous potential to help fight MNDs on a large scale.

In 2018, WFP distributed 330,000 metric tonnes of rice through its programmes. With this extensive distribution, WFP is focussing on increasing the amount of fortified rice in its programmes. Examples of this include:

- India: WFP is working with the government to provide fortified rice to children in school meals, and to 800 million people through a national safety net programme.
- Bangladesh: In partnership with the government and private sector actors, WFP has established a fortified rice supply chain with distribution through national safety nets and the garment sector's corporate social responsibility programmes.

OTHER ESSENTIAL COMPONENTS OF A MASS FORTIFICATION PROGRAMME

Special attention to small-scale processors

Where markets are not consolidated, achieving a widespread public health impact can be challenging. In the context of small scale processors, cooperation with the private sector and other partners is key to identifying innovative and sustainable solutions across the supply chain, including the supply of premix (the blend of vitamins and minerals – i.e. the fortificants – added to the food).

119 World Health Organization recommendations on wheat and maize flour fortification. http://www.who.int/nutrition/publications/micronutrients/wheat_maize_fort.pdf

120 World Health Organization recommendations on rice fortification. http://www.who.int/elena/titles/guidance_summaries/rice-fortification/en/

Consumer knowledge about fortified foods

Voluntary fortification generally relies on consumer interest and/or demand for fortified foods. Although consumer behaviour is influenced by many factors, it could be generated by commercial promotion or specific nutrition education programmes. Targeted SBCC programmes might be valuable (see chapter 9).

Mandatory fortification is likely to be more effective when consumer knowledge is poor, consumer demand for fortified products is low, and there are few opportunities for community nutrition education.

Table 6.3.2 Considerations when planning a food fortification programme

	WFP principles to enable fortification
Nutrition	Analyse data on nutrition deficiencies in the country, and determine which deficiencies can be addressed with fortification.
Intake	Consider commonly consumed foods, and clarify which foods to fortify to create the desired health impact. All cereal flours, cereal based processed foods, rice, edible oil, and salt, whether procured or received as in-kind donations, are good vehicles for potential fortification. Exceptions will only be made where fortification is cost prohibitive, or unavailable in the required timeframe.
Industry and distribution	Determine the number of large mills in the country, and identify the equipment and training they need to begin and sustain fortification. Expand public-private partnerships to increase availability and affordability of fortified foods through social safety net and social protection programmes, and find market based solutions in both food secure and food insecure contexts. This should include the use of cash based transfers and vouchers as a means to improve access to fortified foods.
Partnership	Partnerships among the government, the private sector, and non-governmental organizations can foster an enabling environment for food fortification. International fora, workshops, and related advocacy events are also important.
Standards and legislation	The national goal should be to establish country standards, in alignment with global fortification recommendations and standards. Country standards should specify what and nutrients to add, as well as and how much of each nutrient. Countries that import/export should take into consideration standards with trading partners. WFP can support governments to enact and enforce food fortification policies, standards, and regulations through the provision of technical assistance, capacity development, and being a key partner in multi-stakeholder fora at national and sub-national levels.
Support and Monitoring	WFP can provide technical assistance for quality local production of fortified foods. If quality measures are followed routinely, results are analysed, and problems are corrected, fortification will have the maximum health impact. The process includes food control and programme monitoring. Indicators may be developed to track the progress and impact of fortification. The World Health Organization has a list of indicators that can be adapted and adopted by countries for their fortification programs.
Communication	Contribute to the global evidence base for the further scale up of food fortification – especially rice fortification. Research should focus on effective programme delivery, beyond only product delivery, including identification of key success factors for effective, scalable, and sustainable approaches to making fortified foods accessible and available for those who can most benefit from their consumption.
Education	Contribute to increasing the demand for healthy diets, that includes fortified foods – especially among populations who can most benefit. Consider SBCC programmes.

PROGRAMME IMPLEMENTATION

Maintaining a successful fortification programme requires strong partnerships. Cooperation from different sectors is key, as each is responsible for a different aspect of the process. A variety of players can create effective fortification programmes:

- An influential individual to catalyse an advocacy agenda
- An institution with research capacity to monitor impact
- The food industry to produce fortified food
- Policy makers who ensure regulations are in place
- Other agencies to monitor compliance

Creating and maintaining effective partnerships is a high-maintenance activity. The first recommendation to any country considering fortification is to form a national alliance. Seek participation and commitment from national leaders representing public, private, and civic sectors. Be sure each stakeholder understands the health and economic benefits for fortification. Involving all sectors early in the process prevents overlooking key information. It also builds commitment from each group to work toward success.

How to scale-up mass fortification

- Advocate to local donors and the government about the importance of fortification.
- Assess the national environment for fortification; offer support to the government to develop or improve legislation, standards and regulatory monitoring systems for fortification.
- Convene meetings between private sector actors and government around fortification. The Scaling Up Nutrition (SUN) Business Network could potentially provide support.
- Offer training to the private sector to strengthen the capacity to fortify staples locally.
- Contact Regional Bureaux and Headquarters for technical support.

HOW DOES MASS FORTIFICATION FIT WITHIN WFP'S WIDER PROGRAMMING?

Reducing MNDs is an important strategy in achieving the Sustainable Development Goals. Improving access to, availability of and the demand for the consumption of fortified foods are critical strategies to address MNDs and contribute to achieve SDG target 2.2.

WFP recognizes that food fortification must not be a stand-alone intervention or strategy. Rather, its effectiveness depends on an integrated, comprehensive and context-specific approach that includes diet diversification, improved IYCF practices (including optimal breastfeeding and complementary feeding practices), disease control, and improved water, sanitation, and hygiene.

KEY READING AND ADDITIONAL RESOURCES

- Caulfield et al.2004. Zinc deficiency. Comparative Quantification of health risks, World Health Organization. Pp.256-79
- Haas, Jere D., and Brownlie, Thomas IV., Iron Deficiency and Reduced Work Capacity: A Critical Review of the Research to Determine a Causal Relationship. American Society for Nutritional Sciences. 2001, 131:676S-
- Bougma et al. Iodine and Mental Development of Children 5 Years Old and Under: A Systematic Review and Meta-Analysis. nutrients ISSN 2072–6643 www.mdpi.com/journal/nutrients
- HF-TAG, 2011. Programmatic guidance brief on use of micronutrient powders (MNP) for home fortification
- WHO. WHO guideline: Use of multiple micronutrient powders for point-of-use fortification of foods consumed by infants and young children aged 6-23 months and children aged 2-12 years
- WFP.2017. 10 minutes to learn about Micronutrient Powders (MNPs) for point-of-use fortification of foods. <http://newgo.wfp.org/documents/10-minutes-to-learn-about-micronutrient-powders>
- WHO. 2016. Guideline: daily iron supplementation in infant and children. Geneva.
- WFP.2017. Social Behaviour Change Communication (SBCC). Interim Guidance Manuals for WFP nutrition,
- WFP. Managing the supply chain of Specialized Nutritious Foods <http://newgo.wfp.org/documents/managing-supply-chain-of-specialized-nutritious-foods>
- Global Fortification Data Exchange: <https://www.fortificationdata.org/>
- Food Fortification Initiative: http://www.ffinetwork.org/why_fortify/index.html
- Scaling up rice fortification in Sight and Life. Available at www.issuu.com/sight_and_life
- WHO guidelines on food fortification with micronutrients. Available at <http://apps.who.int/iris/handle/10665/43412>

Chapter 6.4. Nutrition-sensitive programming

PURPOSE:

The purpose of this chapter is to provide an overview of how WFP can support nutrition outcomes across its portfolio. This chapter will help the reader to facilitate conversations among WFP programming staff and partners about how to accelerate nutrition gains through nutrition-sensitive programming.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- List the five minimum requirements for nutrition-sensitive programmes
- Identify the seven opportunities for building nutrition-sensitivity into programmes across WFP's portfolio
- Explain the importance of joint planning and outlining a Programme Impact Pathway for nutrition outcomes
- Identify potential indicators for monitoring nutrition-sensitive programmes

OVERVIEW

Nutrition-sensitive programmes address the underlying and basic determinants of nutrition, such as food security, adequate caregiving, access to and use of health services, and a safe, hygienic environment. A nutrition-sensitive programme can also be used to scale up nutrition-specific interventions, which address dietary intake and disease – the immediate determinants of malnutrition.

Nutrition-sensitive programmes are carried out in a wide variety of sectors, and while their primary objective is not necessarily nutrition-related, they articulate specific nutrition goals, actions and indicators.

WHAT IS NUTRITION-SENSITIVE PROGRAMMING?

- Nutrition-sensitive programmes take place in sectors complementary to nutrition, such as social safety nets; agriculture; water, sanitation and hygiene (WASH); and education.
- Nutrition-sensitive programmes include a nutrition objective, outcomes and indicators that are measurable.
- Nutrition-sensitive situation analyses explore synergies among nutrition and other programmes across WFP's portfolio, as well as those implemented by government and partners. There

are several nutrition-sensitive opportunities and actions for each programme type, however, addressing gender equality and nutrition knowledge are two factors that must be considered in any programme. Within WFP, the situation analysis should be a joint effort within the country office amongst the nutrition, gender, vulnerability analysis and mapping (VAM) and monitoring and evaluation (M&E) units.

- Multi-sector and multi-year interventions significantly increase the likelihood of improving nutrition outcomes. Therefore, nutrition-sensitive action includes advocacy to government for joint planning and multi-sector solutions.

WFP has identified four key programme areas that could become more nutrition-sensitive: General Food Assistance (GFA), School Feeding, Smallholder Agricultural Market Support (SAMS) and Food Assistance for Assets (FFA). The additional effort to make programmes nutrition-sensitive does not just help achieve nutrition outcomes, but also to make those programmes reach their own goals. For more information, please see WFP's Nutrition-Sensitive Guidance¹²¹.

WHY DOES WFP WORK TOWARDS NUTRITION-SENSITIVE PROGRAMMING?

As malnutrition is caused by a complex set of drivers, its prevention requires a similarly comprehensive approach. For example, the 2013 Lancet Series estimated that scaling up the recommended package of nutrition-specific interventions to 90 percent population coverage in the 34 countries with the highest burden of malnutrition would only reduce child stunting by 20 percent¹²². However, combining nutrition-specific with nutrition-sensitive actions allows for a multi-dimensional approach which addresses the immediate, basic and underlying determinants of malnutrition. Working comprehensively across sectors through both nutrition-specific and nutrition-sensitive actions, WFP has a powerful platform to end all forms of malnutrition.

PROGRAMME FORMULATION

There is a series of considerations when designing a nutrition-sensitive programme:

- Where? Across WFP's portfolio and with technical assistance to government
- Who? Vulnerable groups
- What? Minimum requirements for nutrition-sensitive programming
- How? The programme impact pathway, and seven opportunities for nutrition-sensitive programming
- Other considerations: Including joint planning

121 Unlocking WFP's potential – Guidance for nutrition-sensitive programming. World Food Programme. March 2017. <http://nutrition-sensitive.manuals.wfp.org/en>

122 Bhutta, Z.A. et al., 2013. Evidence-based interventions for improvement of maternal and child nutrition: What can be done and at what cost? The Lancet, 382(9890), pp.452–477.

Issues for decision-making are presented in this section. Programme design is not always linear, as initial decisions may need to be revised in light of priorities, resources, and capacity.

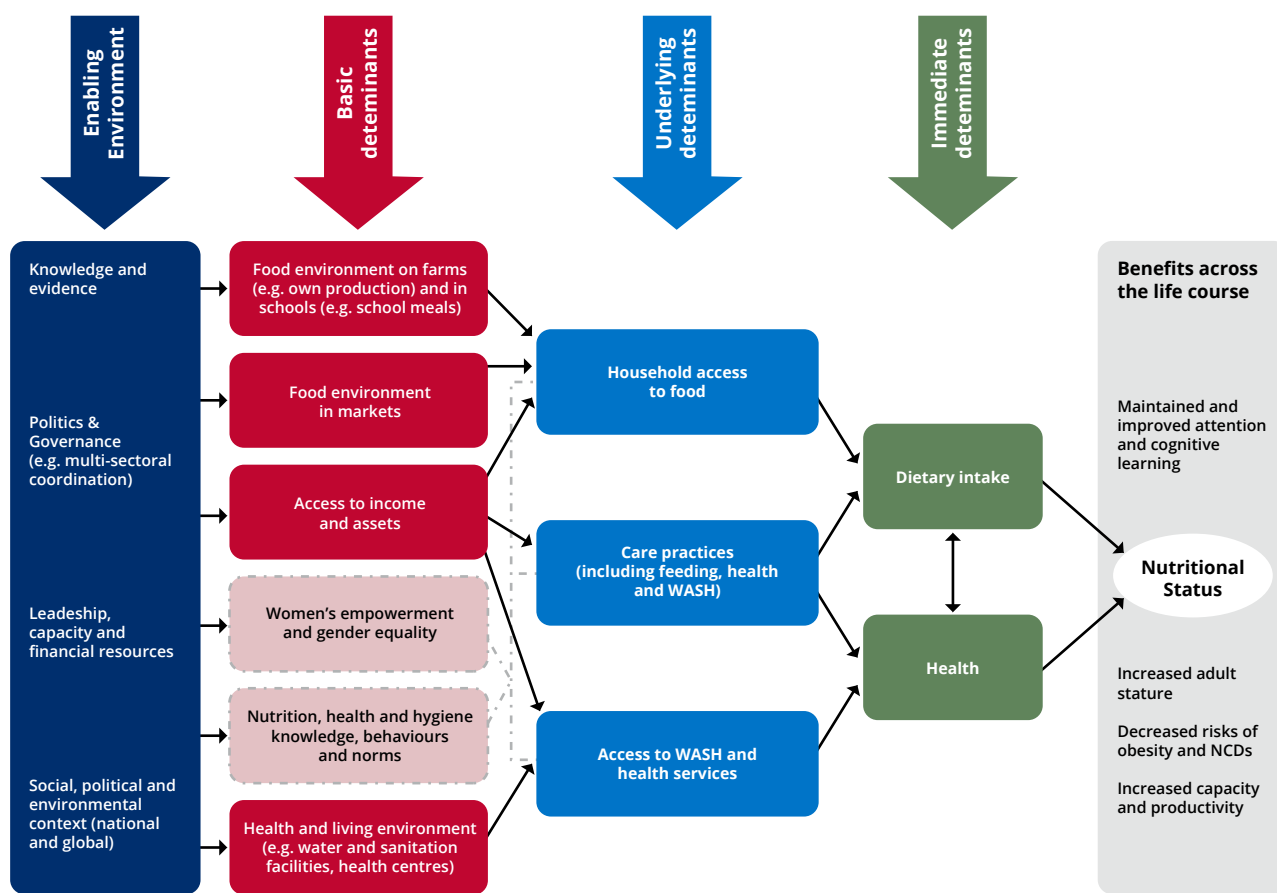
WHERE? NUTRITION-SENSITIVE ACROSS WFP PROGRAMMES

Many of WFP's programmes already work to address either the immediate or underlying determinants of malnutrition. Almost all programmes, with a few changes, have the capacity to effectively address at least one underlying and/or basic determinant of malnutrition.

WFP also works to address the enabling environment determinants of malnutrition through its technical assistance to governments, including advising on policies that are sensitive to nutrition.

Figure 6.4.1. introduces a conceptual framework for nutrition which highlights opportunities for nutrition-sensitive actions. This conceptual framework has been adapted to include the enabling environment, as well as the immediate, underlying and basic determinants for nutrition improvements.

Figure 6.4.1. A conceptual framework for nutrition¹²³



Main mediating factors

Adopted from the UNICEF conceptual framework (2013), Global Nutrition Report (2016) and FAO Compendium of Nutrition-Sensitive Agriculture Indicators (2016)

123 Adapted from the UNICEF conceptual framework (2013), Global Nutrition Report (2016) and FAO Compendium of Nutrition-Sensitive Indicators (2016).

WHO? TARGETING NUTRITIONALLY VULNERABLE GROUPS

Nutrition-sensitive programmes can target anyone targeted by WFP programmes, making their potential enormous.

Three options should be considered depending on the needs, context and nature of the intervention:

- Change targeting criteria of the programme to focus entirely on nutritionally vulnerable groups
- Add an additional nutritionally vulnerable group if the programme already targets a nutritionally vulnerable group as the primary target group.
- Add a nutritionally vulnerable group as a secondary target group in programmes whose targeting criteria are not based on nutrition.

See 'Opportunity 1' in Table 6.4.2 for more information about targeting.

Do No Harm: Using a malnourished child within the household as a criterion for targeting needs to be addressed with caution as it may send conflicting messages to the communities WFP serves (for example, that malnutrition is rewarded). Instead, combine several criteria, such as the number of children under 2 years of age in food insecure households; or look into the possibility of targeting a positive action, such as growth monitoring.

WHAT? MINIMUM REQUIREMENTS TO BE NUTRITION-SENSITIVE

When designing and planning nutrition-sensitive programmes, five minimum requirements should be met. These requirements are outlined in Table 6.4.1.

Table 6.4.1. Five minimum requirements and two highly recommended requirements for nutrition-sensitive programming

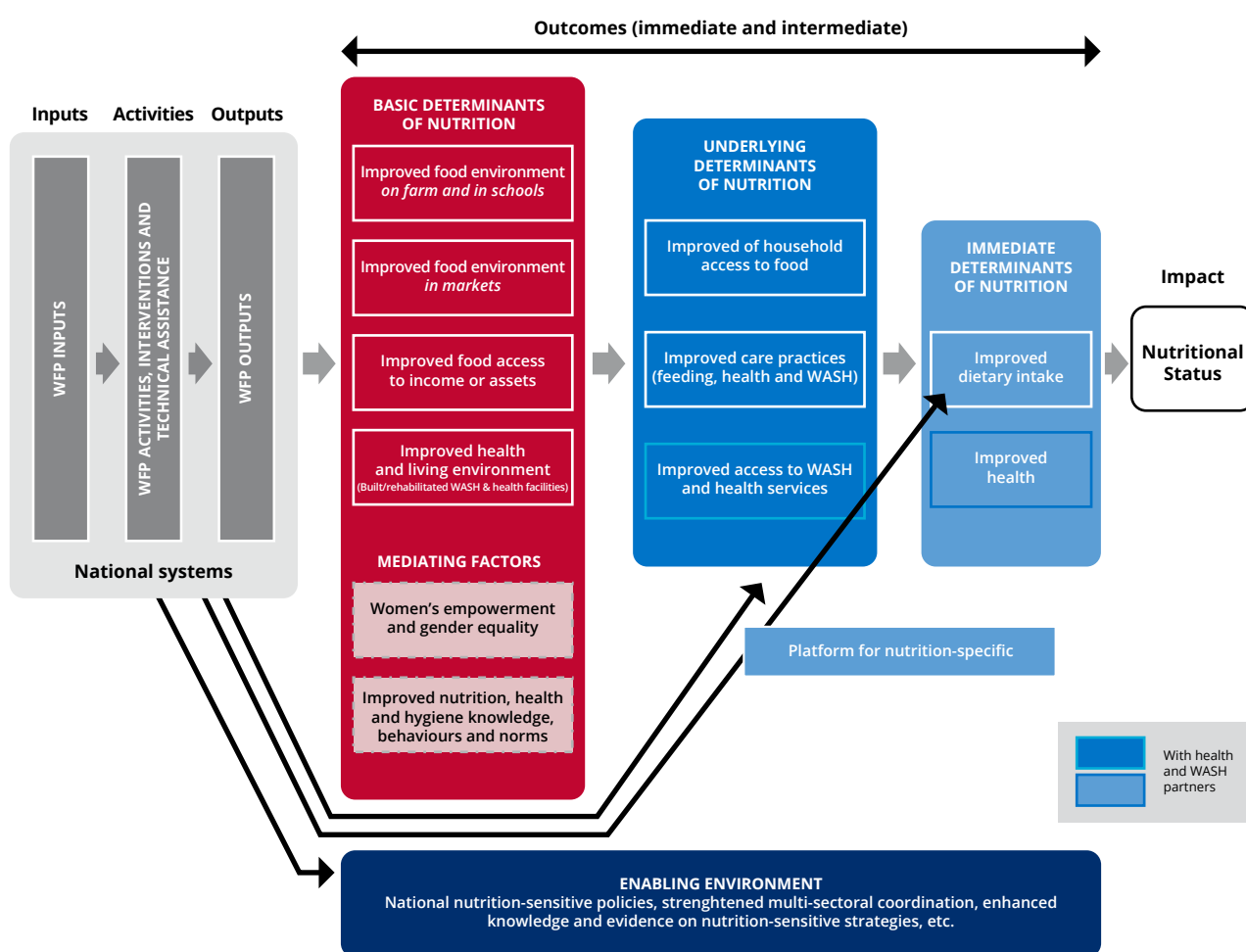
REQUIREMENT	CONSIDERATIONS
<ul style="list-style-type: none"> Programmes must incorporate a nutrition objective, outcomes and indicators. 	<p>A nutrition objective (although not necessarily the primary objective) is clearly stated in the programme design.</p> <p>Indicators must be aligned with the Corporate Results Framework 2017–2021^{xv}. Additional indicators can also be used depending on programme context and objectives.</p>
<ul style="list-style-type: none"> Programmes must be informed by a comprehensive gender and nutrition situational analysis. 	<p>The nutrition analysis ideally looks at the nutrient gap – especially for nutritionally vulnerable groups across the life cycle, including: pregnant and lactating women, children 6–23 months, pre-primary and school-age children, adolescents (especially girls), women of childbearing age and the elderly. This is carried out in collaboration among nutrition and gender colleagues</p>
<ul style="list-style-type: none"> Programmes must include deliberate nutrition actions and/or provide appropriate delivery platforms. 	<p>WFP programmes provide platforms to reach and meet the needs of different vulnerable groups. Nutrition actions in each area of programming are taken to maximize the chance of influencing the nutrition outcome.</p>
<ul style="list-style-type: none"> Programmes must tackle gender inequality and lack of nutrition knowledge. * 	<p>Progress towards improved nutrition is often limited by gender inequality and lack of nutrition knowledge. Both must be systematically considered in programme planning.</p>
<ul style="list-style-type: none"> Programmes must be aligned with national nutrition plans. Partnerships and policy engagement must be supported. 	<p>WFP’s technical assistance and national capacity strengthening should contribute to a more sustainable and nutrition-sensitive enabling environment.</p> <p>Partnerships for multi-sectoral coordination need to be nurtured and enhanced.</p>
Highly Recommended Requirements	
<ul style="list-style-type: none"> Trace programme impact pathways through different programming inputs, activities and outputs to improve nutrition outcomes. 	<p>Each programme’s design is grounded in a Theory of Change, which may include one or multiple pathways. Programmes are implemented and monitored in a systematic way following the pathway.</p>
<ul style="list-style-type: none"> Programmes should identify enabling and constraining factors along the pathway, and the means of addressing them. 	<p>Context, seasonality, length of the intervention and quality/size of the transfer in different settings are considered. Mediating factors, constraints and enablers are defined along the pathway.</p> <p>Programmes should also track potential for unintended negative impacts and put in place mitigating measures.</p>
xv	WFP’s Corporate Results Framework 2017-2021 https://documents.wfp.org/stellent/groups/public/documents/eb/wfp286745.pdf
*	Nutrition knowledge refers to an individual’s understanding of food and nutrition-related terminology and information, which, when remembered, assimilated and put into practice, helps contribute to good nutritional status. More information can be found in chapter 9: Social and Behaviour Change Communication.

HOW? TRACING A PROGRAMME IMPACT PATHWAY (PIP), AND SEVEN OPPORTUNITIES FOR NUTRITION-SENSITIVE PROGRAMMING

The Programme Impact Pathway (PIP) is a useful tool to map out the expected or plausible pathways from programme activities to improved nutrition. These pathways should be context specific, address the drivers of nutritional barriers, and outline the outcomes that programmes are seeking to create through their inputs, activities and outputs.

Figure 6.4.2. provides a simplified visual representation of the linkages between inputs, activities, outputs, outcomes and impact across WFP programmes. It emphasizes two critical mediating factors (nutrition education and gender empowerment) and the enabling environment for sustainable progress.

Figure 6.4.2. WFP simplified programme impact pathway



SELECT A MEASURABLE NUTRITION OBJECTIVE FOR THE PIP

The nutrition objective should address the target groups' needs (identified during the situational analysis) and be tied to the immediate, underlying and basic determinants that may be contributing to those needs. The nutrition objective should not replace the primary aim of the nutrition-sensitive programme. To maximize the impact on nutrition, nutrition-specific interventions addressing the immediate causes of malnutrition can be incorporated into the intervention.

It is recommended that all programmes (even those not directly impacting nutritional status) work to improve the dietary diversity of participants as an intermediate step to improving nutrition. For example, a nutrition objective for a SAMS programme might be to improve consumption of iron-rich foods for children under 2 years of age in targeted smallholder families.

SEVEN OPPORTUNITIES FOR NUTRITION-SENSITIVE PROGRAMMING ACROSS THE PORTFOLIO

Table 6.4.2 presents the generic key opportunities for nutrition-sensitive programming. These opportunities can be combined or used as stand-alone approaches, but each has the potential to make a difference. Note that the feasibility of their inclusion and potential for impact on nutrition outcomes vary across the different programmes.

Table 6.4.2: Nutrition-sensitive opportunities

Nutrition-Sensitive Opportunities	Explanations
<p>OPPORTUNITY 1</p> <p>Target nutritionally vulnerable groups</p>	<p>There are a few options for nutrition-sensitive targeting:</p> <ul style="list-style-type: none"> • Select a nutritionally vulnerable group as the primary target group. • Add an additional nutritionally vulnerable group if the programme already targets a nutritionally vulnerable group as the primary target group. • Add a nutritionally vulnerable group as a secondary target group in programmes whose targeting criteria are not based on nutrition. <p>The third option is often used in combination with Opportunity 2; for example, food assistance for assets (FFA) programmes that are targeted to food insecure households can add a nutrition education or social and behaviour change communication (SBCC) component that target caregivers of children 6–23 months.</p>
<p>OPPORTUNITY 2</p> <p>Add or link to nutritionally relevant complementary activities (through integration or co-location)</p>	<p>These activities can include nutrition-specific and/or nutrition-sensitive interventions. Approaches to delivering these interventions to include:</p> <ul style="list-style-type: none"> • Integration – Adding interventions to existing programmes that are delivered or supported by WFP to address the nutritional needs of specific groups as well as the multiple drivers of malnutrition. • Co-location – Link WFP beneficiaries to other nutrition, health, WASH or education-related programmes delivered by partners, or between WFP's programmes. <p>Linking can involve raising beneficiaries' awareness of services offered by partners or build a formal referral mechanism, with the objective of increasing uptake of these other services. To achieve this, joint planning with partners is essential.</p>
<p>OPPORTUNITY 3</p> <p>Ensure adequate quantity and nutritional quality of the food, commodity voucher or cash transfer</p>	<p>Improving transfers in terms of their nutritional quality, while ensuring adequate size, is an opportunity utilized by a wide variety of WFP programmes, and government social protection and safety net programmes.</p> <p>This involves introducing nutrient-rich foods to in-kind transfers or voucher programmes, or ensuring the value of cash-based transfers is sufficient to afford nutritious foods that are available in the market.</p> <p>A situation analysis (including market and security considerations) should inform the selection of additional nutritious foods. Fortified foods, micronutrient powders and specialized nutritious foods can be added to improve the nutritional value. It is recommended that these be targeted and delivered to specific vulnerable groups.</p>

<p>OPPORTUNITY 4</p> <p>Make transfers conditional</p>	<p>Transfers to beneficiaries can be made conditional upon taking certain actions that would benefit their nutrition, for example, participating in a nutrition education session or attending a health centre for prenatal care.</p> <p>Carefully consider the feasibility of conditionalities in the context. WFP school feeding programmes are often thought of as an in-kind transfer that is conditional upon school attendance, and FFA programmes are conditional upon participation in asset creation activities. GFA programmes are unconditional transfers.</p>
<p>OPPORTUNITY 5</p> <p>Contribute to community, household or school assets that are nutritionally relevant; ensure adequate scale, quantity and quality of the asset</p>	<p>Asset creation can be used to address various drivers of malnutrition in a community. There are two basic pathways through which assets can lead to nutrition improvements:</p> <ul style="list-style-type: none"> • Improving food environments for households and communities by increasing or stabilizing the availability of nutritious foods. For example, FFA programmes may include construction of home or community gardens, assets that improve availability of water for irrigation, or also livestock production. • Improving health and living environments for households and communities through construction of WASH facilities, such as improved, safe water sources and latrines, or renovation of health centres. These can be part of FFA programmes or school-based programming and are best combined with WASH and health-related activities of partners. <p>Adequate maintenance and management of assets to ensure their quality over time is a requirement to improve the likelihood that they will generate nutrition improvements.</p>
<p>OPPORTUNITY 6</p> <p>Align with national nutrition action plans and strategies, and advocate for nutrition*</p>	<p>National coordination mechanisms provide an important platform for multi-sectoral, multi-stakeholder coordination, and support alignment with national actions plans and strategies.</p> <p>WFP’s technical assistance to national social protection systems is an important entry point to advocate for nutrition-sensitive policies.</p> <p><i>*This opportunity is mandatory for all programmes, in line with WFP’s Country Strategic Plan Policy, 2016.</i></p>
<p>OPPORTUNITY 7</p> <p>Apply a gender lens and protection lens*</p>	<p>Gender equality and women’s empowerment are key mediating factors that contribute to making WFP programmes nutrition-sensitive: they determine the magnitude of nutrition improvements for women, girls, men and boys throughout the entire impact pathway.</p> <p>Likewise, a protection lens can prevent unintended negative consequences from programmes that may be harmful for nutrition and gender equality.</p> <p><i>*This opportunity is mandatory for all programmes, in line with WFP’s Gender Policy 2015–2020 and Humanitarian Protection Policy, 2012.</i></p>

Adapted from Olney, Gelli and Bliznashka, 2017.

OTHER CONSIDERATIONS: JOINT PLANNING AND RESOURCE ALLOCATION

JOINTLY PLAN THE PROGRAMME STRATEGY WITHIN WFP AND WITH KEY STAKEHOLDERS

Programme strategy is a collaborative endeavour involving WFP country offices, government partners, United Nations organizations, civil society, and other international stakeholders. Joint planning should be carried out on a regular basis (at least once a year) as this allows for alignment of the whole team behind a common goal and priorities. Good joint planning will allow for consensus and buy-in on an integrated programme, priority areas, target groups, a set of actions, and delineated roles and responsibilities.

ALLOCATE ADEQUATE RESOURCES

When designing a nutrition-sensitive budget, it is important to allocate enough resources to cover:

- Nutrition education materials and sessions
- SBCC campaigns
- Nutrition staff/focal point to provide technical support to the programme
- M&E resources
- Nutrition-sensitive inputs, such as equipment to improve school kitchens and hand washing facilities.
- Collaboration costs such as meeting venue rental, travel and stationery needed when bringing diverse actors together.

PROGRAMME IMPLEMENTATION

Each of the nutrition-sensitive opportunities listed in Table 6.4.2. has the potential to make a change, although the feasibility of their inclusion and potential for impact on nutrition outcomes vary across the different programmes. Please refer to WFP's Nutrition-Sensitive Guidance¹²⁴ for specific opportunities by programme type.

COORDINATION AND COLLABORATION THROUGHOUT THE PROGRAMME CYCLE

Government: It is important to work with the relevant ministry (often the Ministry of Health) to define nutrition strategies and advocate for the inclusion of nutrition-sensitive actions. However, collaboration with line ministries and government bodies is essential to increase the capacity and effectiveness of nutrition-sensitive programming.

UN agencies: WFP has strategic partnerships with several UN agencies for nutrition actions: UNICEF, UNHCR, FAO, UNPF, WHO, UNDP, and UN Women. For food systems-based strategies, collaboration with the Rome-based agencies, FAO and IFAD is key.

The UN Network for Scaling Up Nutrition (SUN) brings together all United Nations agencies working in nutrition to support the SUN countries (60 as of September 2018¹²⁵) to break the cycle of malnutrition across generations, and is an excellent platform to advance the case of nutrition-sensitive programming.

124 Unlocking WFP's potential – Guidance for nutrition-sensitive programming. World Food Programme. March, 2017. <http://nutrition-sensitive.manuals.wfp.org/en>

125 A list of SUN countries can be found at <http://scalingupnutrition.org/sun-countries/about-sun-countries/>

Communities: Community engagement is not always prioritized, but is an essential element for programmatic success, and especially important where actions target specific groups in the community.

Strategic partners: Academic and research institutes, may be able support operational research, contribute to the evidence base for effectiveness, or raise awareness.

Internal collaboration: This is one of the most important aspects of high-quality nutrition-sensitive programming, and requires innovative thinking between different programmatic areas. Final oversight remains with individual programmes, but the nutrition unit should provide support for the integration of nutrition-sensitive actions.

MONITORING AND DOCUMENTING NUTRITION-SENSITIVE PROGRAMMING

Measuring nutrition-sensitive programming is relatively new, and the most appropriate indicators to select, as well as frequency of collection and methodology, are still under development. The selection of indicators will be determined by the programme type, and informed by the identified nutrition objective, the type and length of interventions implemented, the anticipated intermediary outcomes and nutritional outcomes, as well as the seasonality and feasibility of data collection. That said, measuring dietary diversity at the individual level for nutritionally vulnerable groups is strongly recommended, i.e.

- Minimum Dietary Diversity for Women aged 15-49 years old (MDD-W); and
- Minimum Acceptable Diet for children under 2 (MAD)

In addition, track unintended effects where these may occur. Include the Do No Harm approach.

When a nutrition-sensitive programme is used as a platform to scale up a nutrition-specific intervention, measuring the change in nutritional status is recommended, depending on the programme. For example, a school feeding programme used to reach adolescent girls with iron supplementation should measure a change in iron-deficiency anaemia among that target group.

GOOD PRACTICES AND LESSONS LEARNED

Documenting and sharing good practices and lessons learned in nutrition-sensitive programming, as well as challenges and failures, is crucial to enhance internal learning and WFP's ability to deliver effective programming. Regional Bureaux and country teams are encouraged to voice these experiences through film, picture and written documents.

More information on monitoring and documenting nutrition-sensitive programming is provided in WFP's Nutrition-Sensitive Guidance¹²⁶.

126 Unlocking WFP's potential – Guidance for nutrition-sensitive programming. World Food Programme. March, 2017. <http://nutrition-sensitive.manuals.wfp.org/en>

HOW DOES NUTRITION-SENSITIVE FIT INTO WIDER WFP PROGRAMMING?

Nutrition-sensitive programming is not a programme in itself, but an approach intended to be incorporated into programmes in an effort to reduce malnutrition. Programmers do not require any specific nutrition technical skills (although a basic knowledge of nutrition is strongly recommended) as nutrition teams will support conversations between programming staff in WFP and partners about how to accelerate nutrition gains through nutrition-sensitive programming.

Nutrition-sensitive programming entails seeking linkages and connections across different sectors. Although little is known about what combination of programmes is the most effective for improving nutrition, health and well-being outcomes, multi-sectoral programming and policies are the way forward if sustainable nutrition progress is to be achieved.

WFP is committed to generating evidence on the implementation, uptake, effectiveness and cost-effectiveness of nutrition-sensitive programming through lessons learned, process evaluations and impact evaluations as part of its collaboration with the International Food Policy and Research Institute (IFPRI).

KEY READING AND ADDITIONAL RESOURCES

For more on nutrition-sensitive at WFP:

- Unlocking WFPs potential: guidance for nutrition-sensitive programming
- WFP nutrition-sensitive learning journey on WeLearn
- WFP Guidance on Social Behavior Change Communication
- FFA Programme Guidance Manual
- WFP Gender Toolkit
- VAM Site on Gender Analysis and FNG

For more on conducting a nutrition situation analysis:

- Demographic and Health Surveys (DHS) <https://dhsprogram.com>
- Multiple Indicator Cluster Surveys (MICS) <http://mics.unicef.org>
- SMART <http://smartmethodology.org/about-smart>
- Nutrition Landscape Information System www.who.int/nutrition/nlis/en
- Nutritional Causal Analysis <http://linknca.org>
- Food and Nutrition Technical Assistance (FANTA) www.fantaproject.org

For more on nutrition-sensitive programming across the portfolio:

- Designing Nutrition-Sensitive Agriculture Investments. Checklist and Guidance (FAO)
- Leveraging Social Protection for Improved Nutrition: Summary of Evidence (World Bank)
- Gender Analytical Framework for Assessing Value Chains

Chapter 7. Designing programmes to treat moderate acute malnutrition

PURPOSE:

The purpose of this chapter is to orient the reader in designing programmes to treat moderate acute malnutrition (MAM).

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Explain why WFP supports the treatment of MAM
- Understand WFP's programming to treat MAM
- Understand the steps in formulating targeted supplementary feeding programmes to treat MAM

OVERVIEW

Acute malnutrition can occur at any age, but in children under 5 it is defined as a low weight-for-height Z-Score (WHZ), low middle-upper-arm-circumference (MUAC)¹²⁷, the presence of bilateral, pitting oedema, or a combination of any of these. Wasting is defined as a low WHZ, but does not include children with bilateral pitting oedema or those with low MUAC values.

There are two classifications of acute malnutrition: severe acute malnutrition (SAM) and moderate acute malnutrition (MAM). Wasting can also be moderate or severe¹²⁸. Within the UN agency framework, WFP is the UN agency responsible for treating MAM, while UNICEF is the UN agency responsible for treating SAM.

At the population level, rates of acute malnutrition are estimated based on the prevalence of global acute malnutrition (GAM) in children aged 6-59 months. The prevalence of GAM refers to children classified with MAM plus children classified with SAM. GAM prevalence is considered high when it is above 15 percent, medium when between 10-15 percent and low when it is below 10 percent. In addition to children aged 6-59 months, other members of the household may be affected by acute malnutrition. Prevalence of GAM should always be interpreted in line with the broader context, taking into account aggravating and risk factors, such as high morbidity and heightened food insecurity during the lean season¹²⁹.

127 MUAC is not measured in children under 6 months old. Acute malnutrition in children aged 0-6 months is measured by WHZ and the presence of bilateral pitting oedema.

128 Chapter 2, Table 2.3 gives anthropometric measurements and cut-offs for all age groups. More information on bilateral, pitting oedema can also be found in chapter 2.

129 Global Nutrition Cluster. 2017. Moderate Acute Malnutrition: a decision tool for emergencies

Community-based management of acute malnutrition (CMAM) is currently the most commonly used approach to address acute malnutrition¹³⁰. The model has been endorsed and used since 2007. CMAM refers to the management of acute malnutrition through^{131, 132}:

- Inpatient care in stabilization centres for children aged 6-59 months with SAM plus medical complications
- Inpatient care in stabilization centres for infants under 6 months with SAM
- Outpatient therapeutic programmes for children with SAM without medical complications
- Outpatient care for children with MAM, and pregnant and lactating women (PLW) with acute malnutrition
- Community outreach (including nutrition counselling, promotion of optimum infant and young child feeding practices (IYCF), nutrition screening, and follow-up with children previously treated as part of inpatient care)

WHY DOES WFP TREAT MAM?

Treatment of MAM is essential because:

- Children with moderate wasting are up to three times more likely to die than well-nourished children, and those with severe wasting are between nine and 12 times more likely to die^{133, 134}.
- Treatment of MAM helps to prevent deterioration into SAM, a condition which requires extensive medical support. Without MAM treatment programmes in an emergency, the prevalence of SAM is likely to increase, straining and often completely overwhelming available health systems.
- Acute malnutrition in pregnant women contributes to foetal growth restriction, which increases the risk of neonatal death. Acute malnutrition in pregnant women is also associated with all-cause maternal mortality up to 42 days post-partum¹³⁵.
- Addressing acute malnutrition helps prevent chronic malnutrition. Frequent periods of acute malnutrition in the first 1,000 days of life (from conception to a child's second birthday) can

130 At time of writing, other approaches to addressing acute malnutrition are being tested and modelled by the International Rescue Committee, Action Against Hunger, Médecins Sans Frontiers, Concern Worldwide and the Alliance for International Medical Action - however, CMAM is the only endorsed approach.

131 CMAM Training Guide, FANTA 2008

132 WFP, UNICEF and the Global Nutrition Cluster have endorsed an interim operational guidance for CMAM programming in exceptional circumstances to support life-saving measures in emergencies. It provides temporary options, in the absence of outpatient therapeutic centres or targeted supplementary feeding programmes, for combining treatment of SAM and MAM children using expanded admission criteria based on MUAC, and the utilization of one single specialized nutritious food (RUTF or RUSF). The interim operational guidance is not intended to replace the standard CMAM approach, nor national protocols, and its implementation should be agreed and coordinated through the Country Nutrition Cluster. The interim operational guidance is encompassed in MAM: a decision tool for emergencies, appendix D: <http://nutritioncluster.net/resources/ma/>

133 Maternal and child undernutrition: global and regional exposures and health consequences. Black R, Allen L, Bhutta Z, Caulfield L, de Onis M, Ezzati M, et al. The Lancet, 2017. [https://www.thelancet.com/article/S0140-6736\(07\)61690-0/abstract](https://www.thelancet.com/article/S0140-6736(07)61690-0/abstract)

134 Associations of Suboptimal Growth with All-Cause and Cause-Specific Mortality in Children under Five Years: A Pooled Analysis of Ten Prospective Studies. 2013. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0064636>

135 Black et al. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries.

contribute to chronic malnutrition¹³⁶, which has serious implications for the long-term health and productivity of the child. (More information on chronic malnutrition is given in chapter 6.2.)

- Acute malnutrition is a major risk factor for HIV-disease progression and mortality, especially in the early months of treatment. Treating acute malnutrition in people living with HIV reduces these risks, and can improve adherence to treatment, while mitigating the side-effects of antiretroviral therapy (ART) medications¹³⁷.

WHAT IS WFP'S PROGRAMMING TO TREAT MAM?

Treatment for MAM includes dietary support, nutrition counselling, complementary interventions and medical interventions in line with the integrated management of childhood illnesses (IMCI).

DIETARY SUPPORT

Children with MAM, and PLW with acute malnutrition, need to consume a diet consisting of nutrient-dense foods to meet their extra needs for nutritional and functional recovery. Ideally, this should come in the form of local nutritious foods where such foods are available and affordable. Nutrient-dense foods are those high in nutrients relative to their calorific content, i.e. they have a relatively high content of vitamins, minerals, essential amino acids and healthy fats. Examples of nutrient dense foods include animal source foods, beans, nuts, and many fruits and vegetables.

Dietary support may also include the provision of a specialized nutritious food (SNF) (see Targeted Supplementary Feeding Programmes, below).

NUTRITION COUNSELLING

Social and Behaviour Change Communication (SBCC) should be used to provide caregivers and family members with nutrition counselling on increasing the nutrient intake of children suffering MAM. This includes exclusive breastfeeding for infants under 6 months of age, appropriate complementary feeding for children aged 6-23 months, and continued breastfeeding up to 2 years and beyond. SBCC should also include key messages on early child development; water, sanitation and hygiene (WASH); danger signs for more serious conditions requiring medical attention; healthy diets; and the use of SNFs where these are part of the dietary support. More information about SBCC is provided in chapter 9.

COMPLEMENTARY INTERVENTIONS

After treatment for MAM, children living in high risk environments are more likely to deteriorate and require treatment once again¹³⁸. Therefore, treatment programmes should integrate actions to address the basic and underlying drivers of malnutrition, such as food security, livelihoods, water and hygiene.

136 Khara, T., & Dolan, C. (2014). Technical Briefing Paper: Associations between Wasting and Stunting, policy, programming and research implications. Emergency Nutrition Network (ENN) June 2014

137 De Pee, S. & Semba, R.D. (2010). Role of nutrition in HIV infection: Review of evidence for more effective programming in resource-limited settings. Food and Nutrition Bulletin, vol. 31, no 4 (supplement).

138 Chang CY, Trehan I, Wang RJ, Thakwalakwa C, Maleta K, Deitchler M, Manary MJ (2012). Children Successfully Treated for Moderate Acute Malnutrition Remain at Risk for Malnutrition and Death in the Subsequent Year after Recovery <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3735907/>

MEDICAL TREATMENT TO ADDRESS ILLNESS ACCORDING TO IMCI

Every year, almost 11 million children under the age of five in low- and middle-income countries die from readily preventable and treatable illnesses, such as diarrhoeal dehydration, acute respiratory infections, measles, and malaria. In half of the cases, illness is complicated by malnutrition¹³⁹. IMCI is a strategy to address the most common diseases that affect young children¹⁴⁰, and has three main areas of focus: improving health worker skills, improving health systems and improving family and community practices. Supporting child health at household and community levels is at the core of the approach, as most child deaths occur at home before the child has reached a health facility.

Programmes to treat MAM also include screening for medical conditions that may need further treatment, as well as routine health interventions, such as deworming.

TARGETED SUPPLEMENTARY FEEDING PROGRAMMES

Targeted supplementary feeding programmes (TSFPs) provide an SNF to children with MAM and PLW with acute malnutrition, according to specific admission and discharge criteria based on nutritional status (see Table 7.1).

The SNF provided in TSFPs is not intended to replace the normal diet, but to be consumed in addition to it. For children under 2, this includes the continuation of breastfeeding. More information about formulating and implementing TSFPs is given below.

MAXIMIZING THE EFFECTIVENESS OF PROGRAMMES TO TREAT MAM

To maximize effectiveness of MAM treatment programmes, they should be part of a multi-sectoral response to nutrition, rather than carried out in isolation. The following are essential:

- Coordination with nutrition-sensitive activities to address the underlying drivers of acute malnutrition. A sustained recovery from MAM requires adequate household food security, which might include a general food ration. Linkages with interventions that improve the accessibility, availability and usability of safe and nutritious food are critical for preventing recurring nutritional deterioration in the long-term. WFP should partner with organizations addressing drivers not directly related to food security (such as sufficient health services and a healthy environment) as well as advocate to governments to strengthen such systems and provide clean water and sanitation.
- Coordination with interventions to manage SAM to ensure beneficiaries receive the appropriate treatment based on their changing nutritional status (i.e. referrals to SAM treatment when nutritional status deteriorates and follow up through MAM treatment when nutritional status improves). Cost-effectiveness is an added benefit of coordination.
- Country capacity strengthening to identify and sustainably address acute malnutrition.
- Robust Monitoring & Evaluation (M&E) to improve the quality of activities; improve management-orientated decision making; improve accountability to donors, partners, host governments and beneficiary communities; and improve WFP and partners' ability to conduct evidence-based advocacy. M&E processes for WFP's programmes are largely covered through the Standard

139 Integrated management of childhood illness, UNICEF: https://www.unicef.org/health/index_imcd.html

140 For more information, visit the World Health Organization site: https://www.who.int/maternal_child_adolescent/documents/imci/en/

Operating Procedure for Country Strategic Plan Monitoring¹⁴¹. For further information on M&E in nutrition programming, please see WFP Nutrition Monitoring and Evaluation Guidance¹⁴².

FORMULATION OF A TSFP

A series of questions needs to be answered when designing a TSFP:

- **Where?** Geographic targeting
- **Who?** Individual targeting criteria
- **How?** Delivery channels and partners
- **How many?** Calculating the estimated number of planned beneficiaries
- **What?** Choosing the right SNF
- **How long?** Duration of the TSFP
- **Other essential components** of a TSFP

WHERE? GEOGRAPHIC TARGETING FOR A TSFP

TSFPs are commonly established in countries, provinces and districts where GAM prevalence among children aged 6-59 months is more than 10 percent, or between 5-9 percent with aggravating factors (see chapter 5 'Decision tool'). Some countries have different policies guiding when TSFPs should be implemented. WFP works in accordance with national policies when available.

WHO? IDENTIFYING TARGET BENEFICIARY GROUPS

The primary target groups for TSFPs within WFP are:

- Children aged 6-59 months with MAM
- PLW with acute malnutrition

Infants under 6 months

Infants under 6 months are never enrolled in TSFPs. The child can be enrolled in the TSFP once s/he reaches 6 months if s/he has MAM or is referred from an outpatient therapeutic programme.

If an infant has SAM or medical complications (dehydration, diarrhoea, pneumonia, malaria, etc.) or if the mother has problems with breastfeeding, the infant should be referred to a stabilization centre so that the mother can receive breastfeeding support; and the infant can receive medical screening, medical treatment, and nutritional rehabilitation as needed.

141 WFP 2017. Standard Operating Procedures for CSP Monitoring: <http://newgo.wfp.org/documents/standard-operating-procedures-for-csp-monitoring-sop>

142 WFP Nutrition Monitoring and Evaluation Guidance: <http://newgo.wfp.org/documents/wfp-nutrition-monitoring-and-evaluation>

ADMISSION AND DISCHARGE CRITERIA FOR TSFPs

Individuals may come directly to the TSFP in order to be assessed for admission (self-referral), or may be referred to the TSFP through community outreach screening.

TSFPs treat children with MAM and PLW with acute malnutrition based on pre-defined admission and discharge criteria, in accordance with national protocols. Where national protocols are not available, the following criteria should be used:

Table 7.1: Admission and discharge criteria for TSFPs

Admission and discharge criteria for TSFPs		
Primary Target Group	Admission	Discharge
Children aged 6-59 months with MAM	WHZ <-2 and ≥-3 of WHO growth standards AND/OR MUAC ≥ 115mm and <125mm AND Appetite, clinically well ^a	WHZ ≥-2 for two consecutive visits AND/OR MUAC ≥ 125mm for two consecutive visits AND Minimum 2 months of treatment in the TSFP
PLW with acute malnutrition	MUAC <230mm (or <210 mm depending on context) ^b	MUAC ≥230mm (or ≥ 210mm depending on context) ^b OR 6 months after delivery
Other Groups	Admission	Discharge
Children 5-19 years of age	BMI-for-age Z-score ≥ -3 and <-2	BMI-for-age Z-score ≥ 2
Individuals on ART, prevention of mother-to-child-transmission (PMTCT) medication and/ or tuberculosis directly observed short course (TB-DOTS) medication – sometimes even pre-ART clients	Individuals on ARM, PMTCT and TB-DOTS are assessed using the same criteria as individuals without these conditions; please refer to the age-specific criteria in this table. NOTE: In some cases, children on ART who have MAM are referred to SAM treatment because of their HIV status.	
Adults men and non PLW	BMI ≥ 16 and < 18.5	BMI ≥ 18.5
^a i.e. children with poor appetite or anorexia, and/or with malaria or other medical conditions, should be referred for immediate medical care ^b 'context' in this case refers to an emergency where numbers are so great that focus and resources need to be concentrated on PLW with MUAC<210		

HOW MANY? CALCULATING THE NUMBER OF PLANNED BENEFICIARIES

The calculation of beneficiaries in the primary target group is based on the following:

Estimated population of the target group in programme areas, generally taken from census data. Estimates can be based on:

- Children 6-59 months of age: represent approximately 20 percent of the total population
- PLW: represent approximately 5 percent of the total population

AND

Prevalence of MAM/acute malnutrition in the target groups, found in recent nutrition surveys. Prevalence of MAM for children aged 6-59 months can be estimated by WHZ and/or MUAC. To reduce discrepancies between the estimated and actual caseload, the prevalence of MAM should be calculated based on the anthropometric parameters used for programme admission. Prevalence estimates for PLW should be based on MUAC.

AND

Incidence i.e. the estimated number of new cases of acute malnutrition in the target group over the duration of the programme. Incidence figures are rarely available, so a Correction Factor is used to estimate the caseload when only prevalence is known. The Correction Factor is based on the duration of the planning period and the average duration of untreated MAM episode before the individual either dies, recovers or develops SAM. It follows that the values vary from area to area. However, on average, the Correction Factor for MAM in children is estimated to range from 1.5 – 3 percent per year. This may be higher in emergencies and lower in a more stable context. For precise Correction Factor values, data need to align among government and other partners (such as UNICEF and, in the case of emergencies, UNHCR).

AND

Expected coverage refers to the proportion of individuals that can be reached out of those who are in need of the treatment, and is based on context and the capacity of partners to scale up the programme. In emergencies, Sphere standards recommend TSFP coverage of >50 percent in rural areas, >70 percent in urban areas, and >90 percent in camps.


$$\text{Total beneficiaries} = (\text{Population} \times \text{Prevalence} \times \text{Correction factor} \times \text{Expected coverage})^*$$

* If the national protocol includes admission of outpatient therapeutic treatment patients once they improve from SAM to MAM status into MAM treatment programmes, the caseload of those programmes should also be added to the calculation.

Note: Calculations often include assumptions and best guess estimates, which should be made clear in programme plan documents. In addition, actual coverage¹⁴³ of the intervention depends on:

- Context (e.g. level of insecurity and therefore movement of targeted beneficiaries)
- Delivery channels (refugee camps generally have higher coverage as they are located closer to services)
- Acceptability of the programme to beneficiaries
- Outreach activities (coverage tends to be higher where there are strong community outreach strong programmes)

HOW? DELIVERY CHANNELS AND PARTNERS

DELIVERY CHANNELS

TSFPs typically utilize the public health system as a channel. In most cases, the capacity of the health facility to implement the programme is limited (this is especially true when the programme is just being started) and therefore WFP partners with non-governmental organizations (NGOs). See Implementation of a TSFP below.

TSFPs should be closely aligned with the delivery of SAM treatment implemented through the outpatient therapeutic programmes and stabilization centres. Community sensitisation and mobilisation, community screening and referral systems should be established jointly between MAM and SAM programming, and TSFP sites should be set up adjacent to outpatient therapeutic programmes, and near to stabilization centres when possible.

PARTNERS

The government has the overall responsibility for the welfare of its population and, as such, is a key partner in the treatment of MAM and acute malnutrition.

When governmental response mechanisms are overwhelmed, WFP works under the Inter-Agency Standing Committee Global Nutrition Cluster.

In the context of refugees and internally displaced persons, WFP coordinates with UNHCR.

WFP works with a variety of NGO partners in distribution and monitoring activities. In addition, WFP collaborates with other UN Agencies and NGO partners to ensure that underlying drivers of malnutrition are addressed, including improvement in care practices, IYCF, water and sanitation, and food security.

¹⁴³ The expected and actual coverage of the programmes are not necessarily equivalent to the coverage of actual needs.

WHAT? CHOOSING THE RIGHT SNF

Table 7.2 SNF rations in a TSFP

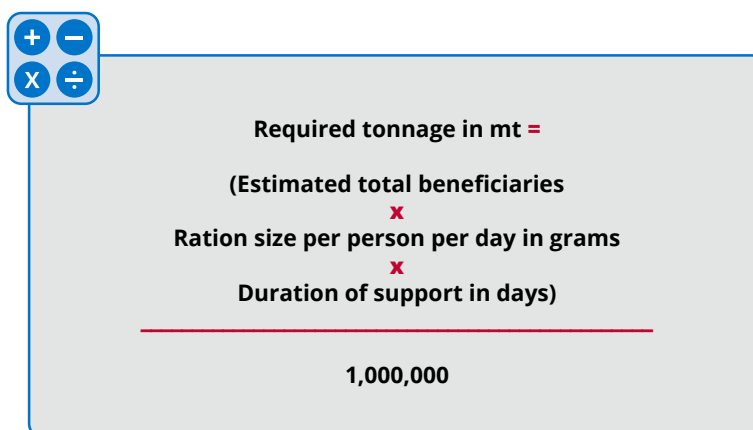
Target Group	Daily Ration	Nutrient Profile
Children 6-59 months	<ul style="list-style-type: none"> 200g (includes provision for sharing) Super Cereal Plus <p>or</p> <ul style="list-style-type: none"> 100g LNS-LQ 	<ul style="list-style-type: none"> 820 kcal, 33g protein (17% energy), 20g fat (23% energy). Contains essential fatty acids (EFA). 510 kcal, 13g protein (10% energy), 31g fat (55% energy). Contains EFA.
PLW ^a	<ul style="list-style-type: none"> 200-250g Super Cereal (includes provision for sharing) <p>Super Cereal may be mixed with oil and sugar prior to distribution in a ratio of 200g: 20g: 20g (estimated energy 1005 kcal, 29g protein, 35g fat).</p>	<ul style="list-style-type: none"> 752-939 kcal, 31-38g protein (16% energy), 16-20g fat (19% energy). Contains EFA.

^a Other beneficiary groups as listed in Table 7.1 should receive the same ration as PLW.

For a comprehensive list of SNF by intervention type, see WFP's Specialized Nutritious Foods Sheet¹⁴⁴. In situations of temporary commodity shortfalls, refer to WFP's guidance for the Substitution of Specialized Nutritious Foods¹⁴⁵.

HOW TO CALCULATE OVERALL SNF REQUIREMENTS

Once the number of planned beneficiaries, coverage, type of product to be provided, and the anticipated duration an individual will be in the programme have been ascertained, overall product needs can be calculated as follows:



$$\begin{aligned}
 & \text{Required tonnage in mt} = \\
 & \text{(Estimated total beneficiaries} \\
 & \quad \times \\
 & \text{Ration size per person per day in grams} \\
 & \quad \times \\
 & \text{Duration of support in days)} \\
 & \hline
 & 1,000,000
 \end{aligned}$$

Communication with procurement and logistics colleagues is critical in defining initial estimated needs; and translating initial needs into appropriate ordering cycles that balance programme needs with available resources, as well as other supply chain considerations.

144 <http://newgo.wfp.org/documents/wfp-specialized-nutritious-foods-sheet>

145 <http://newgo.wfp.org/documents/snf-substitution-interim-guidance-note>

HOW LONG? DURATION OF A TSFP

LENGTH OF PROGRAMME

The criteria for opening and closing a TSFP should be based on the context, and in consultation with government and partners. National policy and protocol should be followed where these exist. In emergencies, or where national protocols are lacking, Moderate Acute Malnutrition: a decision tool for emergencies¹⁴⁶ can be used to support decision making. Closure of a TSFP can be considered when GAM rates fall below 5 percent, and no aggravating factors exist. Low numbers of beneficiaries in MAM and SAM treatment can be also considered when making a decision to phase out. Governments should be part of the discussion in closing a TSFP.

LENGTH OF TIME IN PROGRAMME

Malnourished individuals are admitted to a TSFP until they recover nutritionally. Individuals are discharged when they meet specific criteria that indicate they have recovered. See Table 7.1 for admission and discharge criteria.

In some cases, national protocol establishes minimum and/or maximum duration for treatment. In cases where treatment duration limits do not exist, a 90-day treatment period is implemented for children aged 6-59 months, and a six month treatment period post-partum for PLW. If a child has not recovery within a 90-day treatment period, they should be referred for medical evaluation and appropriate treatment.

IMPLEMENTATION OF A TSFP

WFP implements its programmes through partnership, particularly with government at all levels (national, regional, district). However, in most cases, the capacity of the government to support programmatic implementation is limited, and therefore WFP needs to engage a Cooperating Partner (CP) who is usually an NGO with capacity to support the work.

WFP needs to assess the capacity of the CP to implement the programme, using a selection process involving a Project Review Committee (PRC). Once the partner is selected, a Field Level Agreement (FLA) needs to be developed, clearly defining roles and responsibilities. Under the FLA, WFP transfers SNF for the intervention and cash for associated costs to the CP; some CPs may contribute their resources as well.

Please see chapter 6.1 for an example of responsibilities between WFP and CPs that may be reflected in the FLA. For detailed information about how to work with an NGO, visit WFP's non-governmental organizations website¹⁴⁷.

146 Global Nutrition Cluster. 2017. Moderate Acute Malnutrition: a decision tool for emergencies. Available at: https://reliefweb.int/sites/reliefweb.int/files/resources/DECISION-TOOL-FOR-MAM_w-exceptional-cicumstances_-May-2017-update-final1.pdf

147 <http://go.wfp.org/web/ngo/guidancematerial>

HOW DO TSFPS FIT INTO WIDER NUTRITION PROGRAMMING?

Treatment programmes cannot prevent the occurrence of new cases, nor the risk of relapse after recovery. Therefore, a multisectoral approach which integrates treatment with prevention is key to reducing acute malnutrition. This includes nutrition-sensitive actions to address the basic and underlying determinants of malnutrition; programmes to build household food security; and interventions to strengthen access to, and demand for, locally available nutritious food.

In relation to addressing micronutrient deficiencies: The SNFs used in the treatment of MAM contain adequate micronutrients, therefore, individuals treated with these products will not need additional supplementation to address micronutrient deficiencies.

In relation to General Food Assistance (GFA): Depending on the context, TSFPs may take place where GFAs or other food security interventions are being provided to food-insecure households. Overall impact of the TSFP may be improved if household food insecurity is addressed at the same time.

KEY READING AND ADDITIONAL RESOURCES

- WHO. Global database on child growth and malnutrition <http://www.who.int/nutgrowthdb/about/introduction/en/index1.html>
- Global Nutrition Cluster. 2017. Moderate Acute Malnutrition: a decision tool for emergencies
- Black RE, et al. Maternal and Child Undernutrition: Global and Regional exposures and health consequences. *The Lancet* 2008; 371:243-260
- Pelletier DL, et al. Epidemiological Evidence for a Potentiating Effect of Malnutrition on Child Mortality. *American Journal of Public Health* 1993; 83:1130-1133
- Habicht JP, et al. Malnutrition Kills Directly, Not Indirectly. *The Lancet* 2008;371:1749-1750
- De Pee, S. & Semba, R.D. (2010). Role of nutrition in HIV infection: Review of evidence for more effective programming in resource-limited settings. *Food and Nutrition Bulletin*, vol. 31, no. 4 (supplement)
- Black et al. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries.

Chapter 8: Food and nutrition programming in the context of HIV/AIDS and TB

PURPOSE:

The purpose of this chapter is to provide a description of nutrition programming in the context of Human Immunodeficiency Virus/Acquired Immunodeficiencies Syndrome and Tuberculosis (HIV/AIDS and TB).

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Understand how WFP's role in the context of HIV/AIDS and TB is linked to preventing all forms of malnutrition
- Understand how nutrition support is an integral part of HIV/AIDS and TB care and treatment.
- Identify entry points for implementing nutrition programming in the context of HIV/AIDS and TB.
- Identify strategies to support the nutritional status of people living with HIV/AIDS and TB; and the food security of affected households

OVERVIEW

Human Immunodeficiency Virus/Acquired Immunodeficiencies Syndrome and Tuberculosis (HIV/AIDS and TB) negatively impact both the nutritional status of affected individuals, and the food security of those individuals and their households. WFP's Nutrition Policy 2017 – 2021 commits to leaving no one behind in the fight against malnutrition and acknowledges that to do so will require reaching the most vulnerable, 'with special attention to people... affected by HIV and tuberculosis'. Further, the Nutrition Policy enhances linkages with WFP's HIV and AIDS Policy^{148, 149}.

An important component of the HIV and AIDS Policy is the inclusion of TB, the main opportunistic infection when the immune systems of people living with HIV deteriorate. A quarter of the global population has latent TB, which often develops into active infection when the immune system weakens, for example because of HIV infection or malnutrition¹⁵⁰.

Improving the nutritional status and food security of people living with, and affected by, HIV/AIDS and TB is a way to address several of the Sustainable Development Goals (SDGs) – on poverty, health, hunger, education and gender equality¹⁵¹. WFP addresses HIV/AIDS and TB through context-specific

148 WFP. 2017. Nutrition Policy: <http://newgo.wfp.org/documents/wfp-nutrition-policy>

149 WFP. 2010. HIV and AIDS Policy: <https://www.wfp.org/content/wfp-hiv-and-aids-policy>.

150 For more information see: <http://www.who.int/news-room/fact-sheets/detail/tuberculosis>

151 <https://sustainabledevelopment.un.org/sdgs>

entry points and partnerships that are consistent with the SDGs. WFP maintains a holistic approach to HIV/AIDS and TB programming by:

- providing food and nutrition support to people living with HIV/AIDS and TB including in humanitarian emergencies
- supporting pregnant women receiving prevention of mother-to-child transmission services (PMTCT)
- implementing school feeding and other activities for addressing the needs of children and adolescents while promoting school attendance and reducing risk-taking behaviour
- supporting HIV-sensitive social protection, including safety nets
- providing technical support to governments and national partners, including work with national HIV/AIDS councils
- supporting supply chains to prevent stock outs of HIV/AIDS and TB treatment and prevention commodities in humanitarian settings and fragile contexts.

WHY DOES WFP SUPPORT FOOD AND NUTRITION PROGRAMMING IN THE CONTEXT OF HIV/AIDS AND TB?

Nutrition is important at all stages of HIV/AIDS and TB infection. People living with HIV/AIDS and TB require more macro and micronutrients than people who do not have these infections. At the same time, HIV/AIDS and TB, and associated opportunistic infections, increase the risk of malnutrition by inhibiting both appetite and the body's capacity to absorb and use essential nutrients.

Undernutrition may weaken the immune system even further, which increases susceptibility to infections, lowers quality of life and increases morbidity and mortality. HIV/AIDS and TB infections increase vulnerability to undernutrition by exacerbating poverty and food insecurity. This is a result of additional expenditure on medical care, and the often-simultaneous loss of income caused by prolonged illness and stigma.

Food insecurity is a critical barrier to adherence to antiretroviral therapy (ART) and retention in care among HIV- and TB-infected adults, HIV-infected pregnant women and their HIV-exposed infants.

There is growing evidence that links food security and good nutritional status with:

- increased health seeking behaviour
- adherence to HIV and TB treatment
- reduced morbidity
- prevention of transmission among adolescent girls
- reduced mortality among people living with HIV/AIDS¹⁵².

152 WFP, WHO, UNAIDS Policy Brief, 2008. HIV, Food Security and Nutrition. http://www.unaids.org/sites/default/files/media_asset/jc1565_policy_brief_nutrition_long_en_0.pdf.

WFP is one of 11 Cosponsoring Organizations of the Joint United Nations Programme on HIV/AIDS (UNAIDS) and guided by the UNAIDS Strategy¹⁵³. WFP ensures that food and nutrition is integrated into all HIV response efforts and co-convenes work on HIV-sensitive social protection with the International Labour Organization and on addressing HIV in humanitarian settings with the Office of the United Nations High Commissioner for Refugees (UNHCR).

In 2014, WFP and the Global Fund signed a memorandum of understanding (MoU) for a logistics partnership that aims to improve access to commodities for the HIV/TB response, especially during emergencies, through WFP's supply chain networks in the deep field. A core component of the MoU tasks WFP with building the capacity of Global Fund recipients to strengthen distribution systems and prevent stockouts.

WHAT IS WFP'S PROGRAMMING IN THE CONTEXT OF HIV/AIDS AND TB?

WFP's 2010 HIV and AIDS Policy has two main objectives:

- Ensuring nutritional recovery and treatment success through nutrition and/or food support.
- Mitigating the effects of HIV/AIDS and TB on individuals and households through social protection, including sustainable safety nets.

WFP works with governments and partners to ensure that prevention and treatment services for HIV/AIDS and TB are accompanied by assessments of nutritional status; counselling on nutrition to maintain body weight and health, as well as to mitigate side-effects of treatment; and, when necessary, providing specialized nutritious foods (SNFs) to treat acute malnutrition. The provision of safety nets to people living with, and affected by, HIV can also provide access to health services and thus contribute to increased uptake and adherence of treatment, reduced mortality, and increased retention in care.

WFP contributes to strengthening national capacity to improve HIV/AIDS and TB responses through advocacy and communication; partnerships; and technical support in the implementation of food and nutrition programmes for people living with HIV/AIDS, TB patients and their families.

Whenever necessary, WFP is also responsible for providing direct support – including food and cash-based transfers (CBTs) – at the individual and household levels to facilitate improved access and adherence to treatment, both through HIV/AIDS and TB-specific and HIV/AIDS and TB-sensitive strategies. WFP also supports HIV and TB prevention and care, including during humanitarian emergencies.

153 UNAIDS 2016-2021 strategy http://www.unaids.org/sites/default/files/media_asset/20151027_UNAIDS_PCB37_15_18_EN_rev1.pdf

WHAT IS WFP'S HIV/AIDS AND TB-SPECIFIC PROGRAMMING?

WFP's HIV/AIDS and TB-specific programme activities focus exclusively on people living with, and households affected by, HIV and TB. Under this category fall two programme pillars, which are aligned with the WFP's HIV and AIDS Policy objectives:

- Nutrition programmes: WFP supports the integration of nutritional rehabilitation as a standard component of HIV and TB comprehensive treatment packages. Nutrition programmes comprise Nutrition Analysis Counselling as well as Support in the form of the provision of SNFs. These programmes are also known as NACS.
- Safety net programmes: WFP supports food insecure households affected by HIV/AIDS and TB in order to mitigate the immediate consequences of these diseases, and to prevent the household from adopting negative coping strategies.

WHAT IS WFP'S HIV/AIDS AND TB-SENSITIVE PROGRAMMING?

WFP's HIV/AIDS and TB-sensitive programme activities are not set up with HIV or TB as a primary focus, but they take into account specific HIV/AIDS and TB-linked vulnerabilities. General Food Assistance, School Feeding, Food Assistance for Assets and Smallholder Agricultural Market Support programmes, amongst others¹⁵⁴, are included under this category. These WFP programmes are meant to support vulnerable populations generally, and can be tailored to meet the needs of those living with, and affected by, HIV/AIDS and TB.

WHAT IS WFP'S HIV/AIDS AND TB PROGRAMMING IN EMERGENCIES?

During humanitarian emergencies, forced displacement, food insecurity, poverty, sexual violence, breakdown of rule of law and the collapse of health systems may lead to increased vulnerability to HIV/AIDS and TB, or the interruption of treatment. Given the scale and scope of humanitarian emergencies around the world and in UNAIDS Fast Track countries,¹⁵⁵ the number of people who are vulnerable to HIV/AIDS and TB could increase if not properly managed.

To ensure that HIV/AIDS and TB, as well as food and nutrition, are adequately addressed in the overall response, it is important that the following actions are taken:

GENERAL ACTIONS:

- Needs assessment and information management to determine the scale, gaps and the type of assistance needed (this must be done in a confidential/sensitive manner to avoid stigma and accidental disclosure of HIV/TB status).
- Mitigating vulnerabilities faced by women and girls during emergency responses.
- Preparedness, contingency planning and early recovery with a focus on building robust food, nutrition and health systems that are able to withstand emergency-related shocks.
- Resource mobilization from the UN Central Emergency Response Fund (CERF), bilateral donors

¹⁵⁴ HIV and TB should be included as vulnerability criteria into WFP programming.

¹⁵⁵ The UNAIDS Fast-Track countries are Angola, Botswana, Brazil, Cameroon, Chad, China, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, Haiti, India, Indonesia, Islamic Republic of Iran, Jamaica, Kenya, Lesotho, Malawi, Mali, Mozambique, Myanmar, Namibia, Nigeria, Pakistan, Russian Federation, South Africa, South Sudan, Swaziland, Uganda, Ukraine, United Republic of Tanzania, United States of America, Viet Nam, Zambia and Zimbabwe.

such as The President's Emergency Plan For AIDS Relief (PEPFAR) and the Global Fund, so that HIV/AIDS and TB is included in emergency flash appeals.

- Multi-sectoral coordination efforts among actors involved in emergency responses, to ensure inclusion of HIV/AIDS and TB services.
- National Policies and Guidelines, which should be the cornerstone of how HIV/AIDS and TB is integrated with nutrition at country level.

PROGRAMMING ACTIONS: when needed, WFP should provide food and nutrition support to people living with HIV/AIDS and TB, and their families. In emergency contexts, HIV/AIDS and TB interventions normally fall under one of the following categories:

HIV/AIDS AND TB-SPECIFIC INTERVENTIONS

- NACS designed to treat malnutrition in people living with HIV/AIDS and TB, and prevent treatment default.
- Conditional cash-based transfer programming to ensure food security, encourage adherence to HIV/AIDS and TB treatment, and prevent malnutrition (can include cash or vouchers received at or through health facility, contingent on adherence or attending regular clinical visits).

HIV/AIDS AND TB-SENSITIVE INTERVENTIONS

- In-kind food, cash-based transfer and nutrition assistance in high-HIV prevalence countries or refugee/IDP settings.
- Referring malnourished beneficiaries in high-prevalence settings (especially important for pregnant and lactating women (PLW), orphans and vulnerable children, and sexual and gender-based violence survivors) to HIV and TB testing, treatment and counselling services.

WHEN IS FOOD AND NUTRITION PROGRAMMING IN THE CONTEXT OF HIV/AIDS AND TB APPROPRIATE?

Within WFP programming, HIV/AIDS and TB interventions (both specific and sensitive) can be implemented in emergency as well as developing contexts. In known areas of high prevalence, situational analyses should incorporate indicators of HIV/AIDS and TB disease status. (See chapter 3 for more information on situational analyses in the context of HIV/AIDS and TB).

PROGRAMME FORMULATION AND IMPLEMENTATION

Based on analysis of the context and WFP's comparative advantages, it is possible to define WFP's niche in the HIV/AIDS and TB response, as well as its contribution to collaborative programming and support to partners' initiatives (government, UN agencies, NGOs, etc.).

There is a series of decisions to be made when designing a nutrition programme in the context of HIV/AIDS and TB.

- **Where?** Geographic targeting
- **Who?** Individual targeting criteria
- **What?** What to provide
- **How?** Delivery channels and partners
- **How long?** Duration of the programme
- **National capacity strengthening**

WHERE? GEOGRAPHIC TARGETING

Geographic targeting impacts overall programme design by defining where WFP will work¹⁵⁶. WFP should engage with the government (national and local authorities) to identify geographic areas where HIV prevalence is highest and where WFP could have the greatest impact. Local perspectives on needs and priority areas should be addressed to encourage support of the intervention. Key considerations in identifying geographic areas (district, province, country) for programming include:

- The geographic areas of highest need in terms of prevalence of HIV or risk of nutritional deterioration that could result in HIV.
- The geographic areas defined as priorities (both by government and WFP, as these might not be the same)
- The geographic areas where there is the potential to partner with other actors working in complementary sectors
- The geographic areas with the greatest capacity and access to reach the population

WHO? IDENTIFYING TARGET BENEFICIARY GROUPS

Nutrition programmes are targeted at the individual level across geographical and food security zones, responding to the occurrence of disease-related nutritional deficiencies. Through this programme pillar, WFP supports the integration of nutritional rehabilitation as a standard component of HIV/AIDS and TB comprehensive treatment packages.

- The target population is people with HIV, including PLW (up to six months after giving birth) and children 6-59 months on PMTCT, and TB clients.

¹⁵⁶ Also consider HIV donor prioritized districts for example, in RBJ, PEPFAR has identified and prioritized some districts based on highest prevalence and other indicators.

Safety net programmes are targeted at the household level responding to the food insecurity condition of clients and their families. These programmes are designed to mitigate the immediate consequences of HIV/AIDS and/or TB on both individuals and households.

- The target population is food insecure households containing ART, PMTCT and TB-DOTS (Directly Observed Treatment, Short Course) clients, and households and institutions hosting orphans and vulnerable children.

Nutritional needs of people living with HIV

A 10% increase in energy intake is recommended during asymptomatic HIV infection (World Health Organization 2003) to support the increased resting energy expenditure. However, it is important to note that weight loss during HIV infection is mainly a result of reduced food intake as a consequence of reduced appetite. During periods of symptomatic infection, energy expenditure goes up by 20%–30%, and therefore the recommendation is to increase energy intake by 20%–30% during and shortly after symptomatic infection (convalescence period). Energy requirements of people living with HIV on ART are not well known and are likely to vary according to the severity of their clinical condition. In adolescence, requirements for energy are highest during the period of peak growth, particularly in boys who gain a greater amount of height and lean body mass than girls (Robinson 2001). Monitoring weight is the best way to ascertain whether energy intake meets requirements.

Protein intake: The percentage of energy intake from protein should remain the same for people living with HIV as for HIV-negative people, but when energy intake is increased, the total amount of protein will also be higher. Additionally, in order to treat malnutrition, it is important that the protein sources provide enough essential amino acids. This means that there should be different sources of protein in the diet, including some with a high quality protein, such as soybeans or animal source foods.

Fat intake: Recommendations for fat intake are the same for people living with HIV as for HIV-negative people: 15%–30% of energy intake (WHO 2014). In order to increase energy intake during convalescence, eating energy-dense foods, such as fatty foods and foods with a higher sugar content (e.g. fruit), may help to keep bulk relatively low so that energy intake can increase. It is important to note that people living with HIV should consume unsaturated rather than saturated fats; as well as foods that are dense in a range of nutrients, not only sugar or fat but also micronutrients.

Micronutrient intake: Because micronutrients are important for the immune system and other bodily functions, maintaining an adequate intake is very important for people living with HIV. At time of writing (2018) there is no conclusive evidence on whether people living with HIV should increase (or reduce) their micronutrient intake in comparison to HIV-negative people, or whether there are any specific micronutrients that should be consumed in different quantities (de Pee and Semba 2010; Forrester and Sztam 2011). WHO recommends consumption of the full FAO/WHO recommended nutrient intake healthy people per day (RNI/day). The South African Academy of Science recommends an intake of 1–2 RNI/day because of higher needs during infection, and the likelihood of preexisting deficiencies (Karsegard et al. 2004). Many people are unlikely to meet RNI/day, especially when their diets lack diversity and contain only small amounts of animal source foods, fortified foods, fruits, or vegetables. Micronutrient supplements may therefore be required to ensure an adequate intake.

WHAT? WHAT TO PROVIDE

In a nutrition programme:

- NAC, during which a client's nutritional status and dietary practices are measured and reviewed. Counselling, which includes education, can be provided to individuals one-on-one or in group sessions, and includes information on simple lifestyle changes on diets, exercise and healthy living, in order to manage common treatment side-effects, as well as improve nutritional status.
- SNF as an individual ration to supplement the local diet and treat acute malnutrition amongst HIV/AIDS and TB clients. While NAC is for all, SNFs are only used to treat those with moderate acute malnutrition (MAM) and, in cases where no other partner is responsible, to treat severe acute malnutrition (SAM). The SNF provides the nutrients required for rebuilding lost tissues, in particular muscle and fat stores:

For children 6-59 months: lipid-based nutrient supplement large quantity (LNS-LQ) and fortified blended food (FBF) such as Super Cereal Plus, as per general MAM treatment programmes. (See chapter 7 for a full list of SNFs to treat MAM, and appropriate rations.)

For PLW and adults: there are no established guidelines, but normally, Super Cereal is used. Oil and sugar may be added for energy density and palatability; however, oil might not be appropriate in cases of diarrhoea and vomiting, and sugar might not be well tolerated in patients with oral thrush. Additionally, if sugar and oil are already provided to patients through the household ration, they should not be included in the individual ration.

In certain cases, household support in the form of a food ration is provided as well. This support is conditional on the individual ration and will last up to the client's discharge. Where household support is given, the client's malnutrition state is carefully monitored to ensure this support is aiding nutrition recovery.

In a safety net programme, the household support can be in the form of in-kind food transfer or a cash-based transfer. The food basket should be designed to include a balanced variety of local commodities, such as cereals, pulses, oil, iodised salt and sometimes fortified blended foods (such as Super Cereal). The ration should be based on the estimated needs of the household, including food availability and access, as well as food utilization, dietary diversity and nutritional balance, and should be designed based on the average family size (usually five members including the client). The ration needs to make a concrete contribution to household members' diets without aiming to provide the full requirement. The individual ration provided to orphans and vulnerable children in schools is usually designed in alignment with School Feeding Programmes¹⁵⁷.

157 WFP-Food Baskets and Ration Composition for School Feeding Programmes: http://docustore.wfp.org/stellent/groups/public/documents/manual_guide_

HOW? DELIVERY CHANNELS AND PARTNERS

NACs, as well as the provision of SNF for the treatment of malnutrition, should be considered an integral part of HIV/AIDS and TB treatment, therefore they are usually delivered at health facility level. In emergency contexts, where the health infrastructure may be weak or destroyed, alternative health posts are normally established to dispense medicines, including ART and TB treatment. Nutrition activities should be aligned with the distribution of ART and TB drugs. Providing support through the community can create opportunities to link the health sector to community networks. However, where the lack of an efficient referral system is a barrier, distribution at health facility level is encouraged in order to monitor and track the attendance of beneficiaries to medical services.

The admission and discharge criteria should be based on the national protocol. Where this does not exist, the cut-offs shown in chapter 7, table 7.1 should be used.

Cooperating Partners (CPs) normally distribute the support for households hosting individuals on ART, PMTCT or TB treatment, as well as orphans and vulnerable children, in the form of in-kind transfers or cash-based transfers at community level. Distribution of the family ration through the health sector may increase stigmatization of beneficiaries, may overburden health workers and, especially in the case of in-kind, may force beneficiaries to carry heavy bags of food over long distances. However, this support should be closely linked to health facilities and delivered based on a functional referral system. Food support for orphans and vulnerable children can be either a household or individual ration. The individual ration can be either an on-site meal or a take-home ration. In some contexts, the on-site meals distributed through School Feeding programmes can be combined with an extra incentive in the form of a take-home ration.

HOW LONG? DURATION OF THE INTERVENTION

The provision of SNF in nutrition programmes is carried out on a regular basis and aligned with scheduled medical visits (normally on a monthly basis) according to specific anthropometric admission and discharge criteria (see chapter 7, table 7.1). Discharge should be reached within a reasonable amount of time (generally within six months for adults, and three to four months for children aged 6-59 months); if not, the clients need to be referred to medical services for further care and treatment. In most cases, two consecutive monthly results above the anthropometric cut-off parameters are required for an individual to graduate from food assistance. National protocols need to define the exact entry and discharge criteria in order to minimize risk of relapse or equity issues. The household support, under the nutrition programme, is conditional to the individual ration, and thus lasts only until the client is discharged from nutritional rehabilitation.

In safety net programmes, household support is provided on a regular basis (usually monthly). Support is provided until food security improves, or for a limited period (usually not more than 12 months). The support should be conditional upon attending medical services (for ART, TB and PMTCT clients) or formal/ informal schools (for orphans and vulnerable children). Household support may present an opportunity for referral of the households to other programmes providing psychological support, training to acquire new skills, microfinance or other forms of livelihood support.

NATIONAL CAPACITY STRENGTHENING

In addition to, and in support of, the above activities, WFP plays a critical role in national capacity strengthening, advocating at different levels for the integration of food and nutrition support within the national HIV/AIDS and TB response. For example, WFP contributes to the development of HIV/AIDS and TB national strategic plans and other relevant policies, as well as technical guidelines and protocols; and advocates for HIV/AIDS and TB-sensitive social protection. WFP also provides technical support to enhance national and sub-national capacity for resource mobilization, service delivery and for ensuring broad safety nets.

KEY READING AND ADDITIONAL RESOURCES

- WFP. 2017. Nutrition Policy: <http://newgo.wfp.org/documents/wfp-nutrition-policy>
- WFP HIV and TB Programme and M&E Guide 2014: <https://docs.wfp.org/api/documents/bce00ea9fda547c39b1acce3c35f2f17/download/>
- WFP 2019 HIV/AIDS Policy: <http://docustore.wfp.org/stellent/groups/public/documents/eb/wfp225092.pdf>
- WFP Update on 2010 Policy 2017: <http://documents.wfp.org/stellent/groups/public/documents/eb/wfp291547.pdf>
- HIV-Sensitive Social Protection: State of the evidence 2012 in Sub-Saharan Africa. UNICEF, EPRI, <http://epri.org.za/hivsocialprotection/>
- UNAIDS Strategy 2016-2022: http://www.unaids.org/sites/default/files/media_asset/20151027_UNAIDS_PCB37_15_18_EN_rev1.pdf
- UNAIDS. 2017. Fact sheet - Latest statistics on the status of the AIDS epidemic. 2017. Geneva. Available at: <http://www.unaids.org/en/resources/fact-sheet>
- Nutrition assessment, counselling and support for adolescents and adults living with HIV: <https://docs.wfp.org/api/documents/35f6d97fe60346ce8a4b2f93d692d0f7/download/>
- WHO. 2017. Global TB Report 2017. 2017. Geneva. Available at: <http://apps.who.int/iris/bitstream/10665/259366/1/9789241565516-eng.pdf?ua=1>
- Guidelines for treatment of drug-susceptible tuberculosis and patient care (2017 update) <http://apps.who.int/iris/bitstream/handle/10665/255052/9789241550000-eng.pdf;jsessionid=654148F2BBD05A9F3B39B4971860B1A1?sequence=1>
- Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. Geneva: World Health Organization; 2013: http://apps.who.int/iris/bitstream/10665/85321/1/9789241505727_eng.pdf?ua=1
- Guideline: nutritional care and support for patients with tuberculosis. Geneva: World Health Organization; 2013 http://apps.who.int/iris/bitstream/10665/94836/1/9789241506410_eng.pdf?ua=1
- Cluver LD, Toska E, Orkin FM, Meinck F, Hodes R, Yakubovich AR, Sherr L. Achieving equity in HIV-treatment outcomes: can social protection improve adolescent ART-adherence in South Africa? *AIDS Care*. 2016;28 (Suppl. 2):73–82
- De Pee S, et al. The Enabling Effect of Food Assistance in Improving Adherence and/or Treatment Completion for Antiretroviral Therapy and Tuberculosis Treatment: A Literature Review. *AIDS and Behaviour* October 2014, Volume 18, Issue 5 Supplement, pp 531-541 Date: 12 Mar 2014.
- WFP. 2018 Monitoring and Evaluation for Nutrition and HIV: <http://newgo.wfp.org/collection/monitoring-and-evaluation-for-nutrition-and-hiv>

Chapter 9. Social & Behaviour Change Communication (SBCC)

PURPOSE:

The purpose of this chapter is to orient readers to Social and Behaviour Change Communication (SBCC) and its application to WFP Nutrition programming.

While this chapter will introduce key SBCC terms and provide an overview of the SBCC development process, the SBCC Guidance Manual for WFP Nutrition should be used as the primary detailed reference for SBCC. Successfully carrying out nutrition-related social and behaviour change can be challenging, yet can be achieved using a systematic process. This chapter serves as a starting point for those readers planning to use SBCC as a primary or complementary intervention among vulnerable populations.

LEARNING OBJECTIVES:

After reading this chapter, the reader should be able to:

- Explain SBCC and its relevance to WFP nutrition programming
- Describe key aspects of effective SBCC programming
- Distinguish between SBCC and other key health promotion terms
- List the recommended steps for developing and implementing SBCC activities
- Know where to access additional SBCC-related information and guidance



One-on-one nutrition counselling in a health clinic setting

OVERVIEW

Social & behaviour change communication (SBCC), a collection of communications approaches, activities, and tools used to positively influence behaviours, is an evidence-based strategy to help improve health^{158, 159}. If implemented well, SBCC can be an important aspect of interventions where behaviour change is needed for improving nutrition. SBCC activities are numerous, yet typically characterized into three broad categories (Table 9.1).

Table 9.1 Commonly-used SBCC approaches and activities¹⁶⁰

SBCC Approaches	Types of Activities	Specific Examples
Interpersonal	<ul style="list-style-type: none"> • Counselling • Education • Support groups • Messaging 	<ul style="list-style-type: none"> → One-on-one with PLHIV/TB → Group nutrition education in schools → Care groups → SMS, phone calls, chatbots^{xvi}
Media	<ul style="list-style-type: none"> • Mass media • Mid-sized media • Small print media • Traditional media • Social media 	<ul style="list-style-type: none"> → National TV programmes → Community radio, billboards → Posters, flyers, stickers, comic books → Songs, theatre → Twitter, Facebook
Community Mobilization	<ul style="list-style-type: none"> • Campaigns • Issue groups 	<ul style="list-style-type: none"> → Child Health Days → Ebola survivors group

* Not an exhaustive list of activities/examples;

xvi An innovative approach for SBCC messaging was piloted through mVAM for Nutrition in Northeast Nigeria in 2018. Targeted audience segments received nutrition and health related information by phones and chatbots. For more information see <http://newgo.wfp.org/collection/mvam-for-nutrition>

SBCC approaches may aim to impart knowledge or evoke emotions at the individual and household levels, as well as change social attitudes and mobilize entire communities. It is this combination of efforts acknowledging multiple levels of influence – *a socio-ecological view* - that makes SBCC suited for improving nutrition¹⁶¹.

158 Lamstein, S., et al., Evidence of effective approaches to social and behavior change communication for preventing and reducing stunting and anemia: report from a systematic review. 2014, USAID/Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project: Arlington, VA.

159 Group, M., Defining Social and Behavior Change Communication (SBCC) and other essential health communication terms, in Technical Brief. 20, Manoff Group: Washington, D.C.

160 Table content adapted from Lamstein, S., et al., Evidence of effective approaches to social and behavior change communication for preventing and reducing stunting and anemia: report from a systematic review. 2014, USAID/Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project: Arlington, VA.

161 McLeroy, K.R., et al., An ecological perspective on health promotion programs. Health Education Quarterly, 1988. 15(4): p. 7.

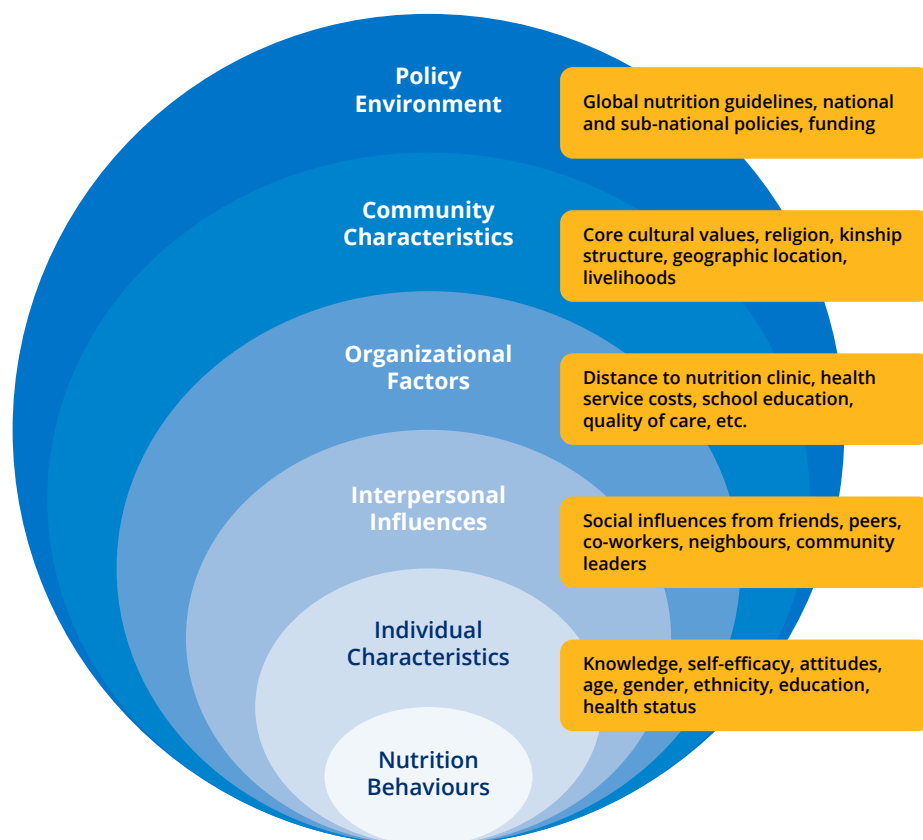
WHY DOES WFP SUPPORT SBCC IN ITS NUTRITION PROGRAMMES?

Most nutrition-related behaviours have underlying social and behavioural dimensions. Therefore, optimal behaviours need to be addressed as well as dietary diversity, in order to give nutrition programmes the opportunity to have a positive impact.

HOW EASY IS IT TO CHANGE NUTRITION-RELATED BEHAVIOURS?

Changing health and nutrition behaviours, which are steeped in longstanding family traditions and engrained in deep-rooted, socio-cultural norms, can be challenging. In addition, the nature of WFP-supported programming, which often has limited time frames and finite budgets, can be practical constraints to achieving successful behaviour change. In most cases, nutrition behaviour is not only a personal choice but also the product of the environment in which people live¹⁶⁷. Nutrition behaviours are influenced by many facilitating and constraining factors (Figure 9.1).

Figure 9.1 Multiple levels of influence on nutrition behaviours



High-quality SBCC, therefore, recognizes that a person's knowledge is necessary, but not sufficient for behaviour change – even though someone knows the benefits of a behaviour does not mean they will engage in it. Take adequate sleep, for example – most people would love sleeping the recommended >7 hours per night, but doing so is not always possible. Individual stressors, family pressures, work constraints, and even community conditions, such as uncomfortably high temperatures during the summer, can make it difficult to sleep well.

DOES SBCC WORK TO IMPROVE NUTRITION BEHAVIOURS?

A [systematic review](#)¹⁶² of 91 studies from low- and middle-income countries found that SBCC improved dietary practices among pregnant and lactating women (PLW), enhanced breastfeeding practices, and positively influenced a wide range of complementary feeding practices¹⁶³. SBCC may also increase beneficiary knowledge of nutrition to be sustained for years after an intervention ends¹⁶⁴. There is also a positive spillover effect from SBCC: improved nutrition knowledge and behaviours among the neighbours of beneficiary households are also possible¹⁶⁵. SBCC is globally recognized as one of the essential actions to improve nutrition, however, human behaviour is complex and highly contextual, and therefore well-designed and implemented SBCC is needed to improve nutrition.

WHAT IS WFP'S SBCC PROGRAMMING FOR NUTRITION?

There are many entry points for SBCC in WFP nutrition programmes and numerous useful resources¹⁶⁶ available now globally. While a multi-step, systematic development process is suggested for effective SBCC, each WFP nutrition programme is unique and may require a tailored approach. Refer to the detailed SBCC Guidance Manual for WFP Nutrition¹⁶⁷ and the 2017 CSP Guidance Note for Nutrition¹⁶⁸ for more information on this important topic.

WHAT ARE SOME OF THE KEY ASPECTS OF EFFECTIVE SBCC?

There are specific SBCC characteristics that yield positive nutrition outcomes. First, evidence suggests that using not one, but multiple SBCC approaches together, is important. For instance, using both interpersonal and media approaches is more effective than using one or the other alone¹⁶⁹. Second, SBCC is better when it is context-specific, with a combination of specific activities and channels designed to resonate with targeted audience segments (e.g. adolescent girls) and appeal to their core cultural values¹⁷⁰ (see Table 9.2). To understand the activities, channels, and messages that are most appropriate for a given socio-cultural context, implementers should conduct formative research, an important step of SBCC design.¹⁷¹ Third, SBCC is more effective when sustained messages reach intended audience segments more frequently – more exposure leads to greater change¹⁷².

162 Evidence of Effective SBCC Approaches to Improve Complementary Feeding Practices <https://www.spring-nutrition.org/publications/reports/evidence-effective-sbcc-approaches-improve-complementary-feeding-practices#block-views-706fce999d71c53f4f78dc67a568ca1>

163 Lamstein, S., et al., Evidence of effective approaches to social and behavior change communication for preventing and reducing stunting and anemia: report from a systematic review. 2014, USAID/Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project: Arlington, VA.

164 Hoddinott, J., et al., Nutrition behaviour change communication causes sustained effects on IYCN knowledge in two cluster-randomized trials in Bangladesh. *Maternal & Child Nutrition*, 2017: p. 10.

165 Hoddinott, J., et al., Behavior change communication activities improve infant and young child nutrition knowledge and practice of neighboring non-participants in a cluster-randomized trial in rural Bangladesh. *PLOS ONE*, 2017. 12(6): p. 13.

166 Integrated SBCC Programs Implementation Kit <https://sbccimplementationkits.org/integrated-sbcc-programs/>

167 <http://newgo.wfp.org/documents/sbcc-guidance-manual-for-wfp-nutrition>

168 <https://docs.wfp.org/api/documents/wfp-0000025613/download/>

169 Lamstein, S., et al., Evidence of effective approaches of social and behavior change communication for preventing and reducing stunting and anemia: report from a systematic review. 2014, USAID/Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project: Arlington, VA.

170 Kreuter, M.W., et al., Achieving cultural appropriateness in health promotion programs: targeted and tailored approaches. *Health Education & Behavior*, 2003. 30(2): p. 14.

171 Sanghvi, T., et al., Tailoring communication strategies to improve infant and young child feeding practices in different country contexts. *Food and Nutrition Bulletin*, 2013. 34(2): p. 12.

172 Lamstein, S., et al., Evidence of effective approaches to social and behavior change communication for preventing and reducing stunting and anemia: report from a systematic review. 2014, USAID/Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project: Arlington, VA.

Table 9.2 Key SBCC terms and their descriptions

SBCC term	Description
Audience segments	Homogenous sub-groups of a population whose members have similar underlying characteristics of a behaviour ¹⁷ . Identifying specific audience segments as part of SBCC is critical for selecting appropriate media, channels, and messages that are interesting, informative, and ultimately resonate with individuals.
Targeted messages	Messages that are developed specifically for a certain audience segment ¹⁸ . For instance, a nutrition programme may use targeted messages to appeal uniquely to adolescent girls, an audience segment with unique motivators, attitudes, and knowledge. How a programme appeals to adolescent girls will likely differ from how it targets male community leaders, for instance.
Formative research	Descriptive research conducted before a programme or intervention in order to inform its design and implementation. In the context of SBCC, conducting formative research is a critical step for understanding the socio-cultural context, identifying specific audience segments, and developing targeted channels and messages to help ensure a programme is culturally appropriate and thus more effective ¹⁹ .

xvii Slater, M.D., Theory and method in health audience segmentation. Journal of health communication, 1996. 1: p. 17.

xviii Noar, S.M., C.N. Benac, and M.S. Harris, Does tailoring matter? Meta-analytic review of tailored print health behavior change interventions. Psychological Bulletin, 2007. 133(4): p. 21.

xix Kreuter, M.W., et al., Achieving cultural appropriateness in health promotion programs: targeted and tailored approaches. Health Education & Behavior, 2003. 30(2): p. 14.

The photos below, from a government-led stunting prevention programme in Ntchisi, Malawi with support by WFP and partners, highlight multiple, complementary communications approaches and activities as part of the SBCC implementation.



Interpersonal communication



Mass media – billboard



Social Mobilization – Nutrition day

HOW DOES SBCC COMPARE TO IEC AND OTHER TERMS USED IN HEALTH PROMOTION?

SBCC was born from the premise that *knowledge is necessary, but not sufficient* for nutrition-related behaviour change¹⁷³. Thus, SBCC is an extension of nutrition Information, Education, and Communication (IEC), which was developed in the early 1970s¹⁷⁴.

“...knowledge is necessary, but not sufficient for nutrition-related behaviour change...”

An IEC approach focuses solely on the one-way provision of information from ‘experts’ to local community members for increasing knowledge. SBCC, on the other hand, acknowledges the underlying social dimensions of behaviour. As a result, SBCC offers a more robust set of approaches for effectively mobilizing targeted populations for change than did IEC.

173 Worsley, A., Nutrition knowledge and food consumption: can nutrition knowledge change food behaviour? Asia Pacific Journal of Clinical Nutrition, 2002. 11(s3): p. 6.

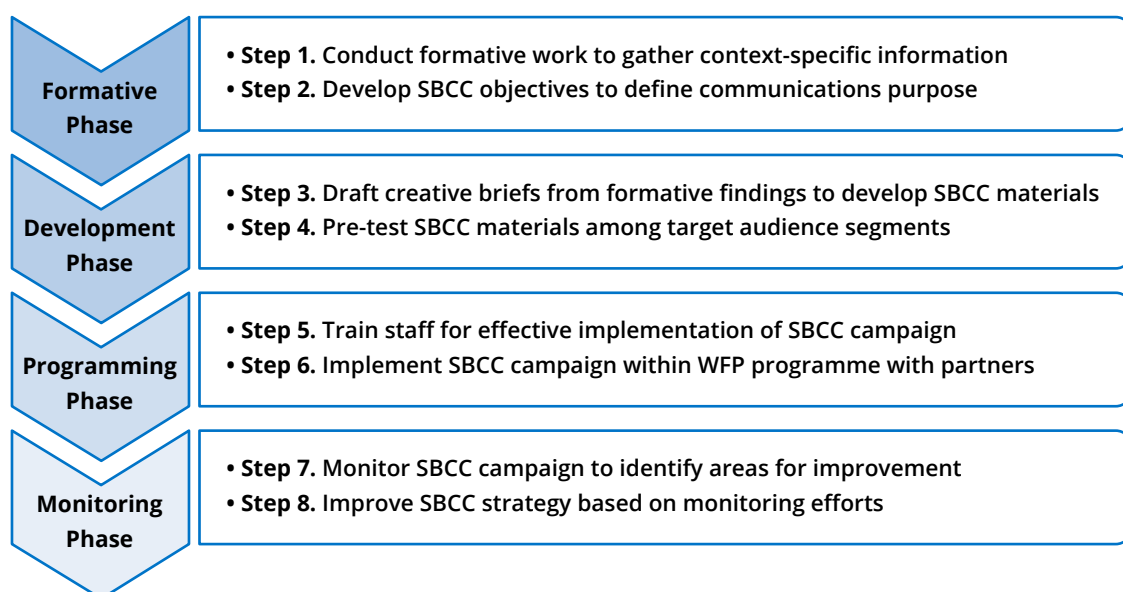
174 Group, M., Defining Social and Behavior Change Communication (SBCC) and other essential health communication terms, in Technical Brief. 20, Manoff Group: Washington, D.C.

IEC and SBCC are not the only terms used in health promotion. Many health promotion terms exist and are often used interchangeably: social marketing, IEC, BCC, SBCC, nutrition education, nutrition counselling, etc. There is continual debate, even among experts, about the varied terminology used within health promotion which, like all fields, is in constant evolution¹⁷⁵. Refer to the SBCC Guidance Manual for WFP Nutrition for more information about these various terms.

SBCC PROGRAMME FORMULATION

Designing, implementing, and monitoring SBCC involves a multi-step process. Below is an overview:

Figure 9.2 SBCC development process



FORMATIVE PHASE

The formative phase of SBCC development is an important phase that includes several activities that will form the basis of an effective strategy. A new or existing nutrition programme may have an overarching nutrition goal (e.g. reducing the prevalence of anaemia among PLW), and the formative phase is important for shaping the SBCC activities most appropriate for reaching it. The phase will allow programme staff to take stock of the SBCC landscape, garner stakeholder support¹⁷⁶, and define appropriate behavioural objectives in light of the barriers and facilitating factors related to the desired nutrition outcome.

175 Spray, A.L., Nutrition education and behavior change communication: how much is “enough” to achieve measurable results for nutrition in social protection programs?, in *Secure Nutrition*. 2017, World Bank Group: Washington, D.C.

176 Health Compass. (2017). How to conduct a stakeholder workshop. Available at <https://www.thehealthcompass.org/how-to-guides/how-conduct-stakeholder-workshop>

WHERE? GEOGRAPHIC TARGETING OF SBCC ACTIVITIES

Typically, specific regions of a country may have higher burdens of malnutrition, and SBCC activities will therefore be rolled out wherever the WFP-supported nutrition activities are located. That said, high-quality SBCC might not only include programme-specific activities, but also broader advocacy components.

One example of this is WFP's Peru country office: in 2017, WFP aired a national TV programme and hosted a national launch with government and partners to promote healthy diets for reducing anaemia and addressing overweight/obesity¹⁷⁷. By doing so, WFP primed the country for positive social and behaviour change before then implementing three tailored SBCC campaigns in high-burden regions of the country.

Geographic targeting is an important SBCC consideration based on nutrition burden, resource availability, and partner presence; however, national-level SBCC-related advocacy should be considered where appropriate. The formative work should be used to help inform decisions around geographic targeting of SBCC activities.



'Cocina con Causa', the Peru TV show that promotes healthy and traditional diets

177 <https://box.wfp.org/public.php?service-files&t=6c88f326974746b2f1108c8191ede272>

WHO? UNDERSTANDING AUDIENCE SEGMENTS

The formative phase should also define the characteristics of important audience segments. It should outline the primary versus secondary audience segments, as well as the unique motivators and influencers for each group.

Primary audience segment: The audience segment whose behaviours are the priority to change. For exclusive breastfeeding, the primary caregivers will likely be the primary audience segment.

Secondary audience segment: The second most important audience of your SBCC activities. To improve exclusive breastfeeding, you may focus on influencing husbands, a secondary audience segment, to support primary caregivers.

Tertiary audience segment: Primary caregiver behaviours are also influenced indirectly by others. A caregiver's in-law may not directly suggest certain breastfeeding practices to her, but may do so through her husband. As an indirect influence, this in-law would be a tertiary audience segment.

For instance, the behavioural determinants of younger versus older adolescent girls may differ in any one context, and therefore will need to be targeted differently. The formative phase should describe these differences in enough detail so that appropriate communication channels and targeted messages that resonate with key audience segments can be developed appropriately in the next phase. These detailed descriptions of specific target audiences are referred to as 'audience profiles.'

DEVELOPMENT PHASE

The development phase is the keystone linking the SBCC formative work and programme implementation. It requires WFP Nutrition staff to ensure that formative findings from Steps 1 and 2 are fully represented in Steps 3 and 4 as SBCC materials are created and tested (refer to Figure 9.2). This phase will provide guidance on developing creative briefs, which are the templates for communications agencies to develop targeted SBCC materials based on formative findings. The development phase also is an important time to pilot test those materials among both stakeholders and community members prior to implementation.

HOW? COMMUNICATIONS CHANNELS

For each audience segment, there will be specific channels that may most effectively reach it. A communication channel is the medium through which messages will be delivered to beneficiaries. There are many channels to choose depending on the SBCC approach being used (refer to Table 9.1). Each channel has unique strengths and limitations and therefore should be used in combination with one another for maximum reach and comprehension.

The formative research findings should outline those channels that are most appropriate and preferred by primary, secondary, and tertiary audience segments. Figure 9.3 below is taken from an SBCC strategy developed for an integrated stunting prevention programme in Malawi. Multiple

different channels (news media, billboards, radio, cooking demonstrations, theatre sessions, community meetings, Care Groups, couples counselling) were chosen and designed to both directly influence the primary audience segment (female beneficiary) and do so through secondary audience segments (health centre staff and husbands).

Figure 9.3 Multiple communication channels designed to reach female beneficiaries as the primary audience segment in Malawi Stunting Prevention programme

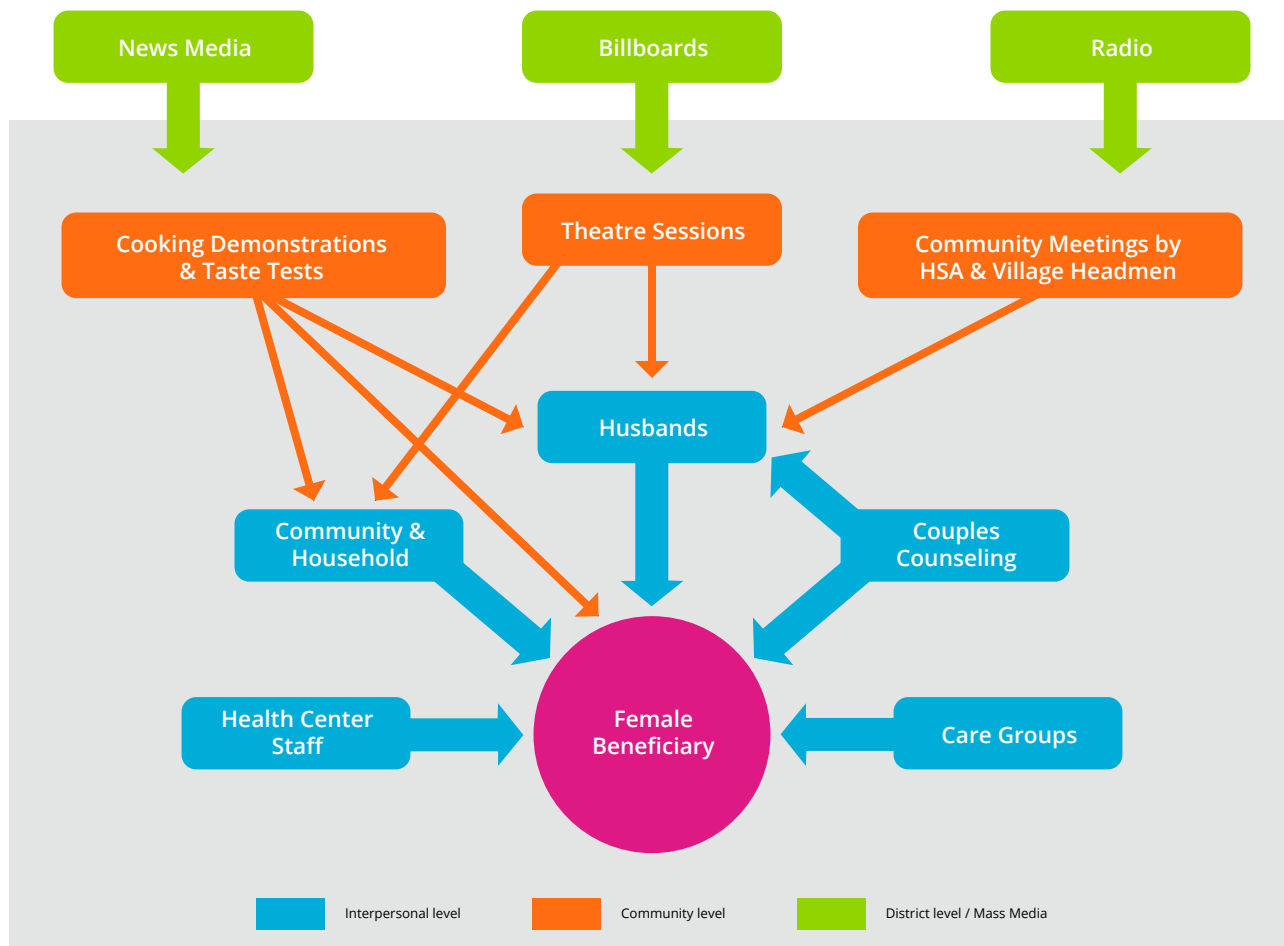
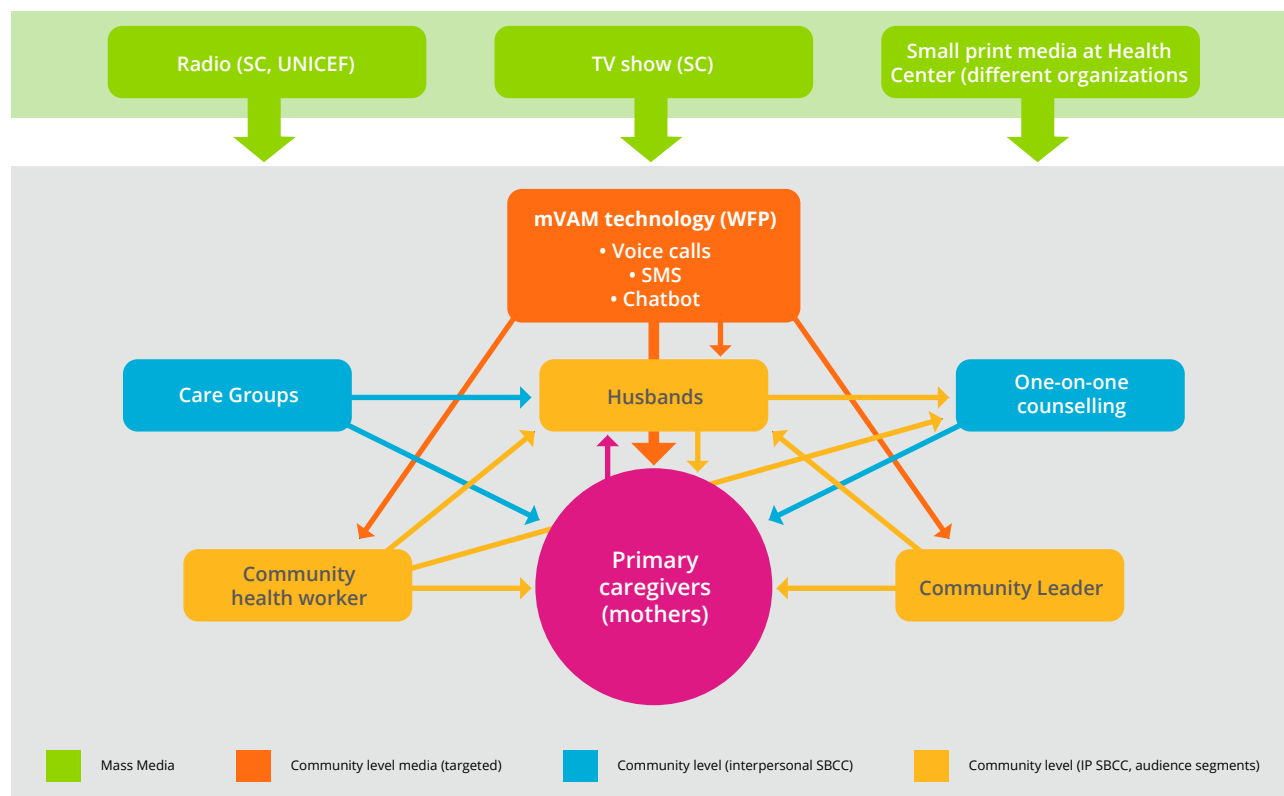


Figure 9.4 Multi-level channels and audience segments for reaching caregivers with messaging on optimal Infant and Young Child Feeding practices (IYCF) in Nigeria



SC: Save the Children

In some settings, SMS may be a viable channel for reaching caregivers, whereas Care Groups may be more effective in others. In any programme, a strategic combination of varied communication channels should be proposed to effectively reach each audience segment frequently and at key times.

HOW MANY? ESTIMATING THE REACH OF SBCC ACTIVITIES

A primary consideration for choosing communications channels should be their potential for reaching beneficiaries. Some channels are better suited for reaching some audience segments, while others are better for reaching others; not every channel will reach everyone. Thus, while planning it is important to consider what combination of channels will most effectively reach the maximum number of beneficiaries in a cost-effective way. Some channels have farther, albeit less personal, reach (community radio) whereas others have closer reach (one-on-one counselling).

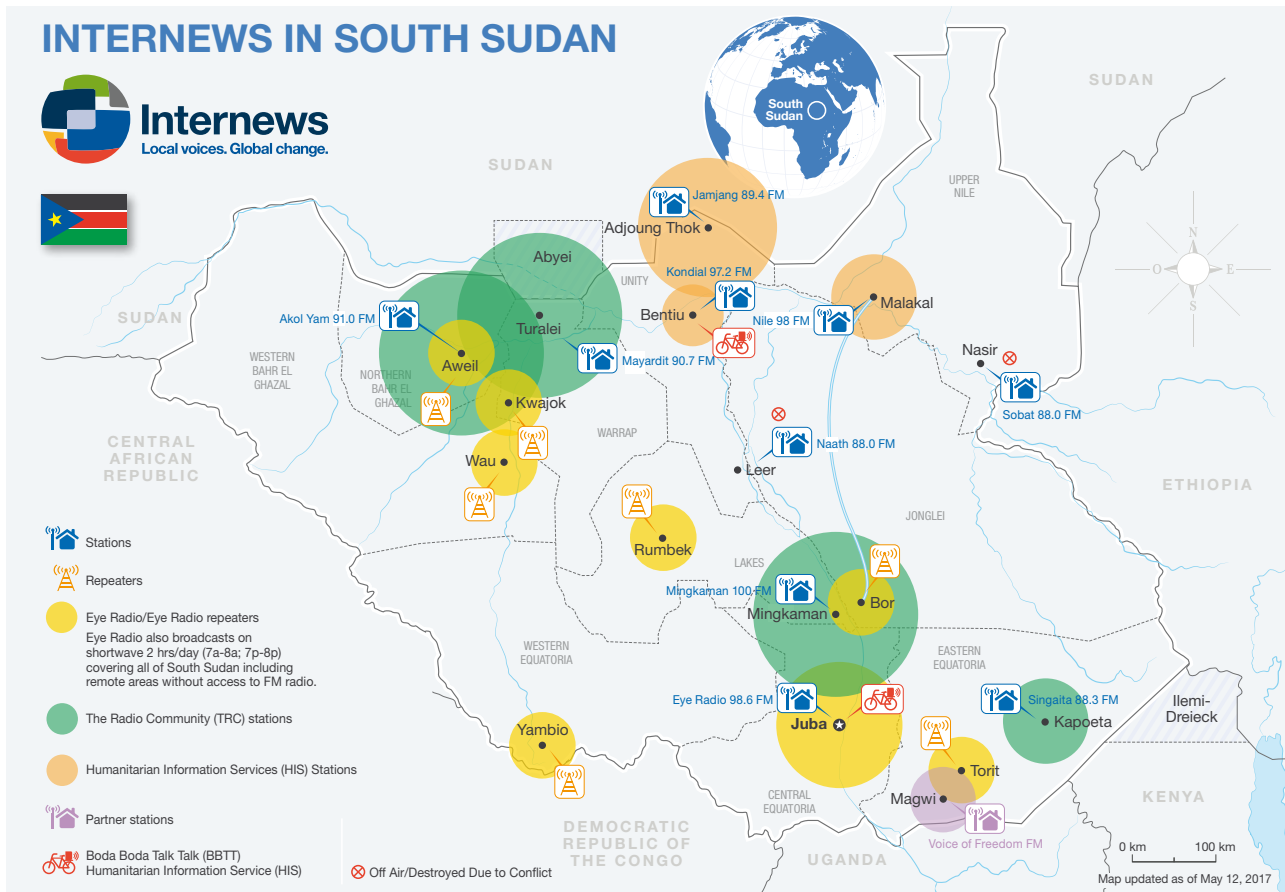
WFP’s Corporate Results Framework 2018 sets a goal of reaching 70% of intended beneficiaries while using either interpersonal¹⁷⁸ or media¹⁷⁹ SBCC approaches. However, there is no specific formula for

178 *Interpersonal SBCC definition: A variety of interpersonal approaches, including 1) individual or group counselling (e.g. nutrition counselling for MAM treatment), 2) individual or group education (e.g. nutrition education sessions), 3) support groups (e.g. Care Groups, nutrition support groups), 4) community mobilization using interpersonal approaches (e.g. issue groups on particular topics), and 5) other SBCC interpersonal approaches not included here.*

179 A variety of media used in a WFP SBCC approach (not including print media) includes 1) mass media (e.g. national TV programme), 2) mid-sized media (e.g. community radio), 3) traditional media (e.g. songs, theatre), 4) social media (e.g. Twitter, Facebook), 5) mobile technology (e.g. SMS text messages, programmed nutrition voice calls), individuals reached through certain 6) community mobilization activities involving media (e.g. health fairs, Child Health Days), or 7) other SBCC media approaches not included here (not including print media).

determining the reach of each channel. Each context is unique and dependent on various factors. For instance, the reach of SMS may be limited by the number of mobile phone owners and the network reach. The reach of Care Groups may be limited by the number of households that Care Groups are able to visit.

Figure 9.5 Geographic reach of radio in South Sudan, Internews Organization¹⁸⁰



To determine the combined potential reach of planned channels within in an SBCC strategy, WFP staff should consult with the local implementing partners helping facilitate these activities (local radio stations etc.) to get updated information about the communications landscape (e.g. estimated visibility of available billboards, reach of community radio stations, geographic areas covered by Care Groups, mobile phone ownership, etc.) This planning should occur in either the Formative or Development Phase.

180 More information about Internews can be found at: <https://www.internews.org/south-sudan>

WHAT? TARGETED MESSAGE DEVELOPMENT

Too often, nutrition programmes ineffectively deliver textbook-like messages focusing on the biomedical benefits of engaging in a particular nutrition behaviour.

People are motivated not by a mere presentation of facts, which is the typical approach taken in nutrition, but by emotional hooks, such as relatable stories, that evoke feelings and spur action.

There are many ways to ensure messages are culturally appropriate and resonate with audience segments. Consider the stages below as one systematic approach for developing targeted messaging:

- Stage 1.** Choose a generalized nutrition message from global and/or national guidelines
- Stage 2.** Identify the behaviour, or set of practices, to achieve desired nutrition outcomes
- Stage 3.** Review the formative findings and relevant literature to identify potential season- and context-specific barriers and facilitating factors to successful completion of this behaviour
- Stage 4.** Tailor each message using information from stages 1-3 above, and then combine with a key construct from persuasive communication. Refer to page 54 of the SBCC Guidance Manual for WFP Nutrition for 10 persuasive communication techniques.
- Stage 5.** Incorporate local, salient terms identified during the formative work into the messages.
- Stage 6.** Translate messages into local languages as the final step prior to pre-testing. Refer to pp. 56 – 60 of the SBCC Guidance Manual for WFP Nutrition for detailed instructions related to pre-testing.

People will not process every message at once, so it is wise not to overwhelm beneficiaries with numerous messages in a short time period. We cannot expect human behaviours to change overnight. Consider introducing just a few primary messages that are necessary for achieving key nutrition outcomes of interest, before later communicating other secondary messages that may also be important for behaviour change, in a staggered delivery approach.

SBCC PROGRAMME IMPLEMENTATION

PROGRAMMING PHASE

The programming phase is the product of up-front work conducted in Steps 1-4 (as outlined Figure 9.2 SBCC development process). It is the culmination of stakeholder engagement, formative work, and other preparatory work needed to implement a culturally-appropriate and effective SBCC campaign to positively influence nutrition behaviours and social norms. The application of SBCC activities will vary across different WFP nutrition programmes and thus should be modified accordingly. The way that SBCC activities are applied to Community-based Management of Acute Malnutrition (CMAM) will be different from their implementation in a stunting prevention programme, for instance. For any programme, however, trainings (Step 5) and well-planned implementation activities (Step 6) are necessary.

HOW LONG? DURATION OF SBCC ACTIVITIES

SBCC activities are often implemented in conjunction with nutrition activities and are often limited by resource availability and programme timelines. Therefore, SBCC activities usually last as long as the nutrition programming activities in which they were delivered do. That said, one goal of SBCC is to enact sustained change by instilling knowledge, changing attitudes, and shaping norms of community members; in that sense, SBCC effects may last much longer than nutrition programming, which may depend on external resources such as the provision of foods.

Throughout SBCC programme implementation, it is important that SBCC activities, including trainings of staff, are carefully planned. A detailed SBCC implementation manual should be used to guide programme activities. It may include several sections, such as SBCC background and objectives, guiding programme impact pathway, well-planned timelines (e.g. GANTT Chart), local implementation structures to align stakeholder collaboration, and detailed 'how to' explanations of implementation activities.

MONITORING PHASE

Monitoring is a fundamental aspect of WFP. This phase includes development and measurement of feasible indicators for monitoring SBCC activities within WFP programmes. While Step 7 in the SBCC Development Process (see Figure 9.2) focuses on monitoring efforts, Step 8 involves the incorporation of findings into programming for improvement of activities. There is still much room for improvement related to the development of valid and reliable indicators to monitor nutrition-related social and behaviour change both within WFP and globally. This phase should include monitoring SBCC across interpersonal, media and social mobilization activities, as well as testing both new indicators and innovative measurement methods for SBCC. Both the SBCC Guidance Manual for WFP Nutrition¹⁸¹ and external resources (e.g. Indikit¹⁸²) offer detailed help in monitoring.

181 <http://newgo.wfp.org/document/sbcc-guidance-manual-for-wfp-nutrition>

182 Indikit. (2017). Development and relief indicators for monitoring and evaluation. Available at <https://www.indikit.net/sector/21-nutrition>

HOW DOES SBCC FIT INTO WFP'S WIDER PROGRAMMING?

Improving nutrition nearly always requires some level of behaviour change. SBCC may help with the adaptation of current behaviours, such as nudging a person to make more nutritious food choices at the market. It may also be used to promote the adoption of entirely new behaviours, for instance, supporting a household to add micronutrient powder into local complementary foods, also known as 'point-of-use fortification' (see chapter 6.3.1). Nutrition programmes may aim to change the behaviours of the front-line workers who help deliver programme services, such as community health workers conveying breastfeeding messages, as well as the beneficiaries who receive the services.

NUTRITION-SPECIFIC INTERVENTIONS

SBCC should be a core part of prevention programmes that aim to improve nutrition by enhancing IYCF practices during the first 1,000 Days^{183, 184}. SBCC may communicate the benefits and 'how to' of breastfeeding, complementary feeding; clean water, sanitation, and good hygiene (WASH); and access to care. Within mass fortification programmes, SBCC can generate demand, increase acceptability, and ensure appropriate usage of fortified foods such as rice, fortified infant cereals and other fortified foods and condiments (e.g. iodized salt and vegetable oil).

In treatment programmes, SBCC can help ensure uptake of complementary services (e.g. prenatal care, vaccinations, young child well-baby care, etc.) and complement Targeted Supplementary Feeding Programmes (TSFPs) by creating enabling environments for engaging in these positive health-seeking behaviours. These programmes can also serve as platforms for promoting optimal IYCF practices among caregivers, as well as improved dietary and health-seeking behaviours among people living with HIV or tuberculosis (TB).

CMAM programmes, which are predicated on the empowerment of caregivers in the treatment process, require intensive SBCC to help manage child malnutrition by increasing referrals, reducing stigma, reducing default rates, and lowering risk of relapse. SBCC can be used for mobilizing entire communities around addressing acute malnutrition.

NUTRITION-SENSITIVE INTERVENTIONS

Though not the only approach to make programmes nutrition sensitive, SBCC can be used across different WFP programmes as part of a larger strategy to make them nutrition sensitive. For instance, Cash-based Transfers can improve food and nutrition access, but SBCC is critical for helping beneficiaries make more informed food purchases while in the marketplace, use healthier food preparation methods while at home, and ensure equitable intra-household food allocation. School Feeding programmes offer a unique platform for health and nutrition messaging to school-aged children and adolescents.

183 <http://newgo.wfp.org/documents/first-1000-days-of-life>

184 Dewey, K.G., Reducing stunting by improving maternal, infant and young child nutrition in regions such as South Asia: evidence, challenges, and opportunities. *Maternal & Child Nutrition*, 2016. 12(S1): p. 12.

NUTRITION IN EMERGENCIES

SBCC for nutrition is an important aspect of emergency preparedness and response. For example, SBCC can be used to mobilize people toward General Food Assistance. SBCC should also complement the provision of Specialized Nutritious Foods (SNF), which tend to be novel to most beneficiary populations, thus benefiting from messaging and interpersonal support to ensure appropriate utilization. SBCC for Emergencies toolkits can be helpful for thinking through emergency-specific considerations while designing and implementing SBCC specifically in these contexts¹⁸⁵.

There is no *one-size-fits-all* approach to SBCC in WFP programmes. Each WFP nutrition programme has its own needs due to unique contexts and populations, as well as available capacity and resources. For an emergency response, for example, an abbreviated SBCC development process may be more appropriate based on immediate communications needs and limited time frames. Country offices can often take advantage of existing materials, desk reviews and formative research conducted previously in their own country context, or in other similar settings, to adjust the process as needed. And remember that the process does not have to be entirely linear: sometimes multiple steps can be conducted at the same time or in a different order, depending on the context¹⁸⁶.

KEY READING AND ADDITIONAL RESOURCES

- Lamstein, S., et al., Evidence of effective approaches of social and behavior change communication for preventing and reducing stunting and anemia: report from a systematic review. 2014, USAID/ Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project: Arlington, VA.
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- Noar, S.M., C.N. Benac, and M.S. Harris, Does tailoring matter? Meta-analytic review of tailored print health behavior change interventions. *Psychological Bulletin*, 2007. 133(4): p. 21.

185 Health Communication Capacity Collaborative [HC3]. (2016). Social and Behaviour Change Communication for Emergency Preparedness Implementation Kit. <https://sbccimplementationkits.org/sbcc-in-emergencies>.

186 More details around each step of the process can be found in the SBCC guidance manual <http://newgo.wfp.org/document/sbcc-guidance-manual-for-wfp-nutrition>

- Worsley, A., Nutrition knowledge and food consumption: can nutrition knowledge change food behaviour? Asia Pacific Journal of Clinical Nutrition, 2002. 11(s3): p. 6.
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- Leslie, L., Whang, C., & Arnold, R. (2016). SBCC Best Practices. Available at: https://www.k4health.org/sites/default/files/a_selective_literature_review_on_sbcc_best_practices.pdf.

Glossary

Acute malnutrition:	Sudden weight loss or oedema, caused by a decrease in food consumption and/ or illness. In children under 5, acute malnutrition is identified by weight-for-height Z-scores (WHZ), mid-upper arm circumference (MUAC), or bilateral, pitting oedema. In adolescents it is measured by Body Mass Index- (BMI) for-age Z-scores. In pregnant and lactating women it is measured by MUAC. In adult men, and women who are not pregnant or lactating, it is measured by BMI. (See chapter 2 for cut offs.)
Anthropometry:	Body measurements used as an indicator of an individual's growth and nutritional status.
Antiretroviral therapy(ART):	A combination of at least three antiretroviral drugs to suppress the HIV virus and slow progression of the HIV infection. Three drugs are used to reduce the likelihood of the virus developing resistance. ART has the potential to reduce mortality and morbidity rates among HIV-infected people, and to improve their quality of life. With ART, HIV-infection has become a chronic disease rather than a 'killer'.
Audience segment:	Homogenous sub-groups of a population whose members have similar underlying characteristics of a behaviour. For example, adolescents may be divided into a segment that is interested in sports and a segment interested in theatre. This segmentation can be used to better target the channels to reach these different groups in social and behaviour change communication (SBCC).
Behaviour Change Communication (BCC):	The application of interactive, theory-based communication aimed to primarily change individual-level practices, without too much focus on factors in the larger environment or social change.
Biochemical assessment:	The examination of specific metabolites found in body fluids, to determine deficiencies and abnormalities in the metabolism of nutrients.
Bilateral, pitting, oedema:	The abnormal effusion of fluid into the cells of tissue spaces or body cavities on both sides of the body as a result of severe nutritional deficiencies. A child with bilateral, pitting oedema is classified as severely malnourished, irrespective of their weight-for-height Z-score or MUAC.
Blanket Supplementary Feeding Programmes(BSFPs):	WFP programme component for the prevention of acute malnutrition defined by providing specialized nutritious food (SNF) to vulnerable individuals on a regular basis for a specific period of time. Enrolment into the programme does not depend on nutritional status but on assessment of risk. BSFP rations are not intended to replace a normal diet or disrupt breastfeeding; they are to be consumed in addition to the usual diet.
Carbohydrates:	A category of macronutrient consisting mainly of starches, sugars and fibre. Common sources include whole grains, tubers and legumes.
Care Group:	A type of interpersonal communication approach where group support, in the form of social interaction and counselling, is provided to individuals and households.
Chronic malnutrition:	Form of undernutrition that occurs over a slow cumulative process as a result of inadequate nutrition, repeated infections, or both. One indicator of chronic malnutrition is stunting. Other effects included suboptimal cognitive and physical development. Some negative outcomes of chronic malnutrition may be irreversible.
Clinical assessment:	The identification of observable signs and symptoms to diagnose malnutrition.
Community mobilization:	A process that consists of community-level sensitization and mobilization activities that aim to ensure multiple levels of influence on behavioural outcomes.
Cooperating Partner (CP):	WFP's partners, usually non-governmental organizations (NGOs) who support WFP's programmatic implementation in the field.
Defaulted:	A beneficiary in a treatment programme whose treatment has been interrupted for two consecutive months or more.
Dietary diversity:	A term used to signify the consumption of a proper balance of different foods that provide all the macronutrients and micronutrients needed for healthy growth and productive life. Dietary diversity is indicated by the number of food groups consumed over a given period. It can be used as one of a number of indicators of household food security, and can indicate household or individual dietary quality depending on the way in which the indicator is measured.

Dietary intake:	A method to assess the risk of poor nutritional status. Respondents provide information about their diets through food diaries, 24-hour recalls, questionnaires or interviews.
Directly Observed Treatment Short Course (DOTS):	The internationally recommended approach to TB control, which forms the core of the Stop TB Strategy. DOTS includes early case detection through quality- assured bacteriology; standardized treatment with direct supervision and patient support, often by a family member; and an effective drug supply and management system. DOTS lasts 6-9 months.
Double burden of malnutrition:	The coexistence of undernutrition along with overweight and obesity, or diet-related noncommunicable diseases, within individuals, households and populations.
Enabling environment:	For nutrition, the political and policy processes that build and sustain momentum for the effective implementation of actions that reduce undernutrition.
Energy/ Total energy Intake:	Energy from food is obtained by consuming carbohydrates, fats and/or proteins. It can be measured in kilocalories (kcal). For example, an apple provides approximately 100 kcal. Total kcal consumed per day are a measure of a person's total energy intake.
Field Level Agreement(FLA):	A contract between WFP and an NGO partner on the ground, which clearly defines the roles and responsibilities of both organizations.
Fill the Nutrient Gap(FNG):	A situational analysis and decision making tool that provides a framework for multi-sectoral collaboration. FNG identifies context-specific barriers to adequate nutrient intake among specific target groups, and models options for cost-effective measures to improve dietary intake and nutritional status.
First 1,000 days:	The period between a child's conception and their second birthday. The first 1,000 days are considered a 'window of opportunity' during which poor nutrition can cause the biggest adverse effects, but optimum nutrition provides the biggest opportunity for impact.
Food Assistance for Assets (FFA):	WFP programme which distributes in-kind food or cash-based transfers to address immediate food needs, while beneficiaries build or boost assets that will improve their livelihoods.
Food security:	Physical and economic access to sufficient, safe and nutritious food which meets dietary needs for an active and healthy life.
Formative research:	Descriptive research, often using qualitative and ethnographic methods, such as in-depth interviews, direct observations, and focus group discussions, typically conducted before a programme or intervention, in order to inform its design and implementation.
Fortificant:	A micronutrient (vitamin or mineral) selected to fortify food.
Fortification:	The addition of micronutrients to foods.
Gender sensitive:	An intervention that considers, and aims to address, the specific needs, interests, capacities and contexts for women, men, girls and boys, but does not address gender relations or the distribution of power between men and women.
General Food Assistance (GFA):	WFP programme which distributes a combination of food commodities or cash-based transfers, usually based on nutritional needs, to an emergency affected population.
Global Acute Malnutrition (GAM):	A proxy indicator for the severity of a food or nutrition crisis. Acute malnutrition at the population level is estimated based on the prevalence of GAM in children aged 6-59 months. The prevalence of GAM refers to children classified with Moderate Acute Malnutrition (MAM) plus children classified with Severe Acute Malnutrition (SAM).
HIV incidence:	The number of new people acquiring HIV infection in a given period in a specified population.
HIV prevalence:	The number of people living with HIV at a specific point in time, expressed as a percentage of the total population.
Information, Education& Communication (IEC):	One of the earliest approaches developed to improve health and nutrition behaviours. It is based on the premise that providing people with an informed base for making choices will result in positive behaviour changes.

Key populations:	In HIV/AIDS and TB programming, the preferred term when referring to the following population groups: gay men and other men who have sex with men, sex workers and their clients, transgender people, people who inject drugs, and prisoners and other incarcerated people. The term 'key populations at higher risk' also may be used more broadly, referring to additional populations that are most at risk of acquiring or transmitting HIV, regardless of the legal and policy environment.
Lipid-based Nutrient Supplement-Large Quantity (LNS-LQ):	A specialized nutritious food product that is high in lipid (fat) and presented as ready to eat in sachets containing both macro- and micronutrients, as well as essential fatty acids. LNS-LQ is designed to address linear growth (height), infant development and micronutrient deficiencies.
Lipids (fats and oils):	A category of macronutrient made from fatty acids which are an important source of energy. Lipids also help the body absorb fat-soluble vitamins. Some lipids are important for brain development, cognition, and visual acuity. Common sources include nuts, seeds, butter, milk and fish.
Macronutrient:	Food component that contributes energy (kcal) and whose quantity of consumption in a day is measured in grams. Carbohydrates, proteins and fats which form the bulk of the diet and provide for most energy needs are common macronutrients.
Malnutrition:	A general term which covers both undernutrition and overnutrition. Malnutrition occurs when nutrient or energy intake does not meet, or exceeds, an individual's requirements to maintain growth, immunity, organ function and a healthy life.
Mass fortification:	The addition of micronutrients to commonly eaten foods (such as wheat flour, maize flour, rice, salt and oil) to improve nutritional quality and provide a public health benefit.
Micronutrient:	Food component that does not contribute energy (kcal) and whose quantity of consumption in a day is most commonly measured in milligrams or micrograms. Micronutrients include vitamins and minerals. Although they are only consumed in small amounts, micronutrients are essential for life.
Micronutrient deficiency (MND):	A state of malnutrition caused by a shortage of essential vitamins or minerals needed for growth and development, a healthy immune system, and proper functioning of the body. People often suffer from more than one deficiency at a time but, nonetheless, may not show any signs or symptoms. Therefore, MND is sometimes referred to as 'hidden hunger'.
Micronutrient Powders (MNPs):	Sachets containing micronutrients in powder form, that can be added to any semi-solid or solid food that is ready for consumption.
Moderate acute malnutrition (MAM):	A form of acute malnutrition that puts a child at higher risk of death and disease than a well-nourished child. In children aged 6-59 months, MAM is defined by WHZ <-2 to >-3, MUAC <125 mm to > 115 mm, or a combination of both. For classifications of MAM in other age groups, please see chapter 2, table 2.3. WFP is the UN agency with the mandate for treating MAM.
Multi-sectoral:	A strategy where all stakeholders are involved (civil society, development partners, private sector, governments) and ministries from multiple sectors work together (e.g. health; agriculture and food; education; water and sanitation; gender; social protection; industry and trade; employment and labour).
Nutrient:	A substance that provides nourishment essential for growth, reproduction and health. Nutrients are divided into two categories: macronutrients that are consumed in larger amounts per day, and micronutrients that are consumed in very small amounts yet are essential for life.
Nutrition:	The entire process of obtaining food, to consuming that food, to absorbing its nutrients and energy.
Nutrition counselling:	A one-on-one transactional exchange, typically designed to deliver a standard set of messages to beneficiaries, while also offering various choices and strategies for beneficiaries to improve their health and nutrition.
Nutrition education:	A health communications approach used in settings where individuals receive information based on a standardized curriculum. In the WFP setting, nutrition education is most commonly targeted to students in schools.
Nutrition situational analyses:	An assessment of the nutritional status of a population, as well as key nutritional problem(s) and their characteristics. Nutrition situational analyses provide information needed for designing and implementing nutrition programmes.

Nutrition-sensitive programmes:	Interventions addressing the basic and underlying determinants of malnutrition; namely, food security, caregiving, and access to health services and a safe and hygienic environment. Nutrition-sensitive programmes also address the enabling environment, through technical assistance to governments, including advising on policies in complementary sectors.
Nutrition-specific programmes:	Interventions addressing the immediate determinants of malnutrition; namely, inadequate food and nutrient intake, and disease.
Nutritional index:	A nutritional index is an indicator of nutritional status derived by relating a child's anthropometric measurement with the expected measurement of a reference, healthy population of the same age and gender. For example, weight-for-height is a nutritional index commonly used to reflect acute malnutrition in nutritional assessments.
Nutritional requirements:	The amount of energy, protein, fat and micronutrients needed for an individual to sustain a healthy life.
Nutritional status:	The health of a person, influenced by the intake and utilization of nutrients. The nutritional status of an individual is the outcome of a wide range of factors, including food security.
Orphans and Vulnerable Children:	In this Handbook: <ul style="list-style-type: none"> • Orphan is a child aged 0-17 years whose mother or father or both are dead due to HIV and AIDS. • Vulnerable child is a person under the age of 18 who is made vulnerable, or whose household is made vulnerable, due to HIV/AIDS and TB.
Overnutrition:	The overconsumption of energy, or one or more nutrients, which can lead to nutrition-related diseases.
Overweight and obesity:	Abnormal or excessive fat accumulation. Overweight and obesity are major risk factors for a number of noncommunicable diseases, including diabetes, cardiovascular diseases and cancer.
Point-of-use fortification:	A process of fortification that occurs at the point of consumption of pre-prepared food.
Premix:	A blend of vitamins and/or minerals used in fortification.
Prevention of mother-to-child transmission (PMTCT):	Also known as prevention of vertical transmission, this refers to interventions to prevent transmission of HIV from a mother to her infant during pregnancy, labour and delivery, or breastfeeding.
Programme Impact Pathway:	Plausible pathways describing the different causal linkages through which a programme's inputs and activities are expected to contribute to overall nutrition outcomes.
Protein:	A category of macronutrient made from amino acids. Amino acids provide energy, and are the building blocks of body tissue. Essential amino acids cannot be made by the body and must be obtained through the diet. Common sources include poultry, fish, meat, legumes and beans.
Reference population:	A healthy population that demonstrates an expected distribution of variance in body measurements in the absence of malnutrition. The WHO Growth Standard reference values are based on surveys of healthy children whose measurements represent an international reference for deriving an individual's anthropometric status.
Response Capacity Analysis:	A review of the operational environment, which enables appropriate decision-making for nutrition programmes.
School Feeding:	Programmes in which WFP directly provides school meals to children or builds the capacity of governments to improve national school feeding programmes.
Severe acute malnutrition (SAM):	The most severe form of acute malnutrition that puts a child at very high risk of death and disease compared to well-nourished child. In children aged 6-59 months, SAM is defined by WHZ <-3, MUAC < 115mm, the presence of bilateral, pitting oedema – or a combination of any of these. For classifications of SAM in other age groups, please see chapter 2, table 2.3. UNICEF is the UN agency with the mandate for treating SAM.
Smallholder Agricultural Market Support (SAMS):	WFP programmes which enable smallholder farmers to gain an entry point into formal markets, and form associations to negotiate for fair prices, sell more produce, lower their transaction costs and extend their customer base.

Social & Behaviour Change Communication (SBCC):	A collection of evidence-based communication approaches, activities, and tools used to positively influence behaviours.
Social marketing:	An approach used to influence behaviours that benefit individuals and communities, with consideration of product planning, placement, pricing, communication, distribution and marketing research.
Socio-ecological view:	An understanding that health and nutrition behaviours are influenced by factors at various different levels, not only the individual.
Specialized Nutritious Food (SNF):	A range of food products that provide varying levels of energy, micronutrients, and macronutrients necessary for growth and health in order to prevent or treat undernutrition. SNFs are often defined or categorized as follows: fortified blended foods (FBF) and lipid-based nutrient supplements (LNS). The most common types of LNS are ready-to-use therapeutic or supplementary foods (RUTF and RUSF).
Stunting:	An indicator of chronic malnutrition, manifested by a child under the age of 5 being too short for her age. Stunting is measured by height-for-age Z-scores (see chapter 2 for more information about height-for age Z-scores). Some negative outcomes associated with stunting may be irreversible, therefore stunting should be prevented.
Targeted messages:	Messages that are developed specifically for a certain audience segment.
Targeted Supplementary Feeding Programmes(TSFPs):	WFP programme component for the treatment of MAM characterized by the provision of SNFs on a regular basis to children under 5, and pregnant and lactating women suffering acute malnutrition. Admission to, and discharge from, the programme depend on nutritional status.
Treatment adherence:	The extent to which a HIV/AIDs or TB client's behaviour coincides with the prescribed health care regimen as agreed through a shared decision-making process between the client and the health care provider. Ability to keep to this pattern of utilization is defined as 100% adherence, while adherence of >95% is accepted as optimal adherence.
Undernutrition:	Insufficient intake of macronutrients and/or micronutrients, which leads to a nutritional deficiency.
Wasting:	Recent rapid weight loss, or a failure to gain weight, defined as WHZ <-2 in children under 5. (See chapter 2 for more information about WHZ, as well as for anthropometric measurements and cut offs for acute malnutrition in all age groups.)
Z-score:	A measure of the distance between an individual's nutritional index for a given anthropometric measurement and the expected measurement of a reference, healthy population. The distance is expressed in terms of the standard deviation from the mean.
Zero Hunger Strategic Review:	A country-led exercise that determines the collective actions needed to achieve Sustainable Development Goal 2 by 2030. It provides comprehensive analyses of the country-specific-food security and nutrition challenges through inclusive consultations with a wide range of government stakeholders, civil society, private sector, donors and international organizations.

World Food Programme

Via Cesare Giulio Viola 68/70,
00148 Rome, Italy
T +39 06 65131 wfp.org

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