



WASH' NUTRITION

**A PRACTICAL GUIDEBOOK ON INCREASING NUTRITIONAL IMPACT
THROUGH INTEGRATION OF WASH AND NUTRITION PROGRAMMES**

FOR PRACTITIONERS IN HUMANITARIAN AND DEVELOPMENT CONTEXTS



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HOW TO USE THIS GUIDEBOOK

Undernutrition is a multi-sectoral problem with multi-sectoral solutions. By applying integrated approaches, the impact, coherence and efficiency of the action can be improved.

This operational guidebook demonstrates the importance of both supplementing nutrition programmes with WASH activities and adapting WASH interventions to include nutritional considerations i.e. making them more nutrition-sensitive and impactful on nutrition. It has been developed to provide practitioners with usable information and tools so that they can design and implement effective WASH and nutrition programmes. Apart from encouraging the design of new integrated projects, the guidebook provides support for reinforcing existing integrated interventions. It does not provide a standard approach or strict recommendations, but rather ideas, examples and practical tools on how to achieve nutrition and health gains with improved WASH. Integrating WASH and nutrition interventions will always have to be adapted to specific conditions, opportunities and constraints in each context.

The guidebook primarily addresses field practitioners, WASH and Nutrition programme managers working in humanitarian and development contexts, and responds to the need for more practical guidance on WASH and nutrition integration at the field level. It can also be used as a practical tool for donors and institutions (such as ministries of health) to prioritise strategic activities and funding options.

THE CONTENT IS ORGANIZED AS FOLLOWS

- **CHAPTER 1** outlines the basics of undernutrition and provides a brief overview of the key concepts relevant for WASH and Nutrition integrated programming.
- **CHAPTER 2** provides the rationale behind linking nutritional status with WASH environment and explains how WASH interventions, by preventing infection and disease, help reduce undernutrition. A short summary of existing evidence-based knowledge is presented in this Chapter.
- **CHAPTER 3** is organized around the five pillars of WASH'Nutrition strategy. It gives operational guidance and advice on how to integrate WASH and nutrition interventions, highlighting possible challenges and proposing strategies for overcoming them.
- **CHAPTER 4** describes a practical implementation of integrated activities at different levels (household, community, national) and in different settings (health and nutrition centres, schools). Special attention is given to integrating WASH and Nutrition in emergency contexts.
- **CHAPTER 5** proposes a framework for monitoring and evaluating integrated interventions, together with a set of indicators that can be used to measure progress and impact.
- **CHAPTER 6** covers advocacy for WASH and nutrition integration, communication, capacity-building for project staff and the operational research.
- **THE PROGRAMMATIC RESOURCES SECTION** contains a collection of practical tools and examples from field projects to help integration efforts at each phase of a classical project cycle.

The guidebook also contains a number of notes, boxes with tips and further comments, links to web pages and suggested reading. Throughout the guidebook you will find practical examples from the field (case studies), collected from ACF missions and the contributors.

You will find lists of figures, boxes and tables p. 10.

FOREWORD

Undernutrition remains a significant global public health threat. It affects millions of children and contributes to an estimated 3.1 million child deaths each year, accounting for over a third of all deaths of children. Adequate nutrition in early childhood is essential for healthy physical growth and brain development. Nutritional deficiencies during this period can not only result in disease and death, but also can have long term consequences on cognitive and social abilities, school performance and work productivity.

When children are undernourished they are more likely to suffer from diarrheal diseases and other infections. Emergency and development settings where undernutrition is high often have inadequate and unsafe water, sanitation and hygiene (WASH) services which further compounds the problem. The evidence, although limited, does indicate a clear link between WASH and nutrition outcomes, with, for example, an association between open defecation and stunting.

Proven, simple interventions exist to prevent undernutrition and diarrhea, even in settings that are challenged by poor sanitation, lack of hygiene, and unsafe drinking water. The 2015 WHO/UNICEF/USAID document, Improving nutrition outcomes with better water, sanitation and hygiene: Practical solutions for policy and programmes, serves as an important foundation document for understanding the evidence, the interventions and approaches for joint WASH and nutrition actions. This practical field guide by ACF complements this initial publication by providing more detailed, frontline examples from over 30 countries on when, where and how to integrate efforts. It is targeted at humanitarian and development workers looking for simple but effective strategies for achieving nutrition targets, in part, through better WASH.

Addressing undernutrition and meeting the 2025 Global Nutrition Targets will require a multi-sectoral approach with a strengthened focus on improving WASH. Furthermore, the Development Goals, including Goal 6 on Water and Sanitation, Goal 3 on Health and Goal 17 on Partnerships provide an opportunity to target, more effectively, resources and attention on the benefits of safe WASH for nutrition and health, and development more broadly. In short, no child ought to suffer from undernutrition and through smart, targeted joint action on WASH and nutrition, millions of deaths can be prevented.



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LIST OF ACRONYMS

ABC	ASSISTING BEHAVIOUR CHANGE
ARI	ACUTE RESPIRATORY INFECTIONS
ASCAO	VILLAGE-BASED MANAGEMENT ASSOCIATIONS
BMGF	BILL AND MELINDA GATES FOUNDATION
BMZ	GERMAN FEDERAL MINISTRY FOR ECONOMIC COOPERATION AND DEVELOPMENT
CCTS	CONDITIONAL CASH TRANSFERS
CGV	CARE GROUP VOLUNTEER
CHAST	CHILDREN HYGIENE AND SANITATION FOR TRANSFORMATION
CLTS	COMMUNITY LEAD TOTAL SANITATION
CMAM	COMMUNITY MANAGEMENT OF ACUTE MALNUTRITION
DFID	BRITISH DEPARTMENT FOR INTERNATIONAL DEVELOPMENT
DHS	DEMOGRAPHIC HEALTH SURVEYS
ECHO	EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR EUROPEAN CIVIL PROTECTION AND HUMANITARIAN OPERATIONS
ECOSAN	ECOLOGICAL SANITATION
EED	ENVIRONMENTAL ENTERIC DYSFUNCTION
ENN	EMERGENCY NUTRITION NETWORK
EVIS	EXTREMELY VULNERABLE INDIVIDUALS
EWP	END WATER POVERTY
FCHVS	FEMALE COMMUNITY HEALTH VOLUNTEERS
FH/M	FOOD FOR THE HUNGRY/MOZAMBIQUE
FTI	FAECALLY TRANSMITTED INFECTIONS
GAC	GLOBAL AFFAIRS CANADA
GAM	GLOBAL ACUTE MALNUTRITION
GDP	GROSS DOMESTIC PRODUCT
GEMS	GLOBAL ENTERIC MULTI-CENTRE STUDY
GIS	GEOGRAPHIC INFORMATION SYSTEM
GNC	GLOBAL NUTRITION CLUSTER
GWN	GERMAN WASH NETWORK
HFA	HEIGHT FOR AGE
HH	HOUSEHOLDS
HHWT	HOUSE HOLD WATER TREATMENT
HMIS	HEALTH MANAGEMENT INFORMATION SYSTEM
HWTS	HOUSEHOLD WATER TREATMENT AND SAFE STORAGE
ICN2	SECOND INTERNATIONAL CONFERENCE OF NUTRITION
IDA	IRON DEFICIENCY ANAEMIA
IDPS	INTERNALLY DISPLACED PEOPLE
IYCF	INFANT AND YOUNG CHILD FEEDING
IYFC	INFANT AND YOUNG CHILDREN FEEDING
KAP	KNOWLEDGE, ATTITUDE AND PRACTICE
LBW	LOW BIRTH-WEIGHT
LRRD	LINKING RELIEF, REHABILITATION AND DEVELOPMENT
MAM	MODERATE ACUTE MALNUTRITION
MDG	MILLENNIUM DEVELOPMENT GOALS
MIRA	MULTI-SECTOR INITIAL RAPID ASSESSMENT
MOU	MEMORANDUM OF UNDERSTANDING
MSF	MÉDECINS SANS FRONTIÈRES
MUAC	MID-UPPER ARM CIRCUMFERENCE
MUS	MULTIPLE-USE WATER SERVICES

NCD	NON-COMMUNICABLE DISEASE
NGO	NON-GOVERNMENTAL ORGANIZATION
NTD	NEGLECTED TROPICAL DISEASES
NTU	NEPHELOMETRIC TURBIDITY UNITS
ORS	ORAL REHABILITATION SOLUTION
PEFSA V	PAKISTAN EMERGENCY FOOD SECURITY ALLIANCE V
PHAST	PARTICIPATORY HYGIENE AND SANITATION TRANSFORMATION
PLW	PREGNANT LACTATING WOMEN
PROCONU	PROGRAMME COMMUNAUTAIRE NUTRITIONNEL
RUTF	READY-TO-USE THERAPEUTIC FOODS
SAM	SEVERE ACUTE MALNUTRITION
SBCC	SOCIAL BEHAVIOUR CHANGE COMMUNICATIONS
SDC	SWISS AGENCY FOR DEVELOPMENT AND COOPERATION
SDG	SUSTAINABLE DEVELOPMENT GOALS
SIDA	SWEDISH INTERNATIONAL COOPERATION AGENCY
SLTS	SCHOOL-LED TOTAL SANITATION
SM	SANITATION MARKETING
SUN	SCALING UP NUTRITION
SUSANA	SUSTAINABLE SANITATION ALLIANCE
SWA	SANITATION AND WATER FOR ALL PARTNERSHIPS
TDH	TERRE DES HOMMES
TOT	TRAINING OF TRAINERS
TSSM	TOTAL SANITATION AND SANITATION MARKETING
UNHCR	UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES
UNICEF	UNITED NATIONS INTERNATIONAL CHILDREN EDUCATION FUND
URENAS	OUTPATIENT NUTRITION RECOVERY AND EDUCATION UNITS
VHSGS	VILLAGE HEALTH SUPPORT GROUPS
WASH	WATER, SANITATION AND HYGIENE
WFA	WEIGHT FOR AGE
WFH	WEIGHT FOR HEIGHT
WFP	WORLD FOOD PROGRAMME
WHO	WORLD HEALTH ORGANIZATION

1

THE BASICS OF UNDERNUTRITION AND WASH

-
1. DEFINING UNDERNUTRITION
 2. THE MAIN CAUSES OF UNDERNUTRITION
 3. THE “1,000 DAYS” WINDOW OF OPPORTUNITY
 4. UNDERNUTRITION CONSEQUENCES
 5. ADDRESSING UNDERNUTRITION
 6. GLOBAL TRENDS IN UNDERNUTRITION AND WASH



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THE BASICS OF UNDERNUTRITION AND WASH



END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE



ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL



ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES



WASH'NUTRITION ILLUSTRATES THE LINK BETWEEN SUSTAINABLE DEVELOPMENT GOALS 2, 3 AND 6

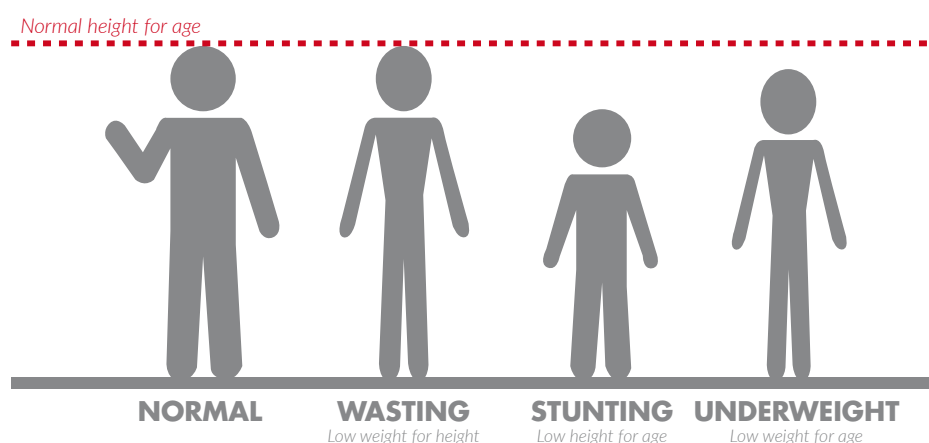
1. DEFINING UNDERNUTRITION

Defined by UNICEF as “**the outcome of insufficient food intake and repeated infectious diseases,**” **undernutrition** is one of the world's most serious but least addressed problems with direct short- and long-term health effects. Undernutrition includes being underweight for one's age, dangerously thin for one's height – wasted, too short for one's age – stunted, and deficient in vitamins and minerals – micronutrient deficiencies.¹ These conditions often overlap – for example, a stunted child may also be wasted and have micronutrient deficiencies, which increases a risk of morbidity and mortality.²

Malnutrition encompasses both under-nutrition and over-nutrition. Over-nutrition implies consuming too many calories which leads to becoming overweight. Although it is important to note that overweight is a growing problem in many developing countries, this operational guidebook will deal with undernutrition only.

NOTE

FIGURE 1: DIFFERENT TYPES OF UNDERNUTRITION



Source: World Vision (2015), “Definitions of hunger”

Acute undernutrition is indicated by a low weight-for-height (WFH), when compared to the WHO growth standards (so called “Z scores”),³ and/or presence of bilateral edemas and/or MUAC <125mm. It develops as a result of recent rapid weight loss, or a failure to gain weight within a reasonably short period of time. **Acute undernutrition** occurs more frequently with infants and young children, often during the stages where complementary foods are being introduced to their diets, and children are typically more susceptible to infectious diseases. **Acute undernutrition** can result from food shortages, a recent bout of illness, inappropriate child care or feeding practices, or a combination of these factors.⁴

MID-UPPER ARM CIRCUMFERENCE (MUAC)

is the circumference of the left upper arm, measured at the mid-point between the tip of the shoulder and the tip of the elbow.

BILATERAL EDEMA

(fluid retention on both sides of the body)

is a clinical sign indicating severe acute undernutrition. When an individual has bilateral edema, body weight increases due to the excess fluid retained.

ACUTE UNDERNUTRITION

Wasting is defined as low weight-for-height. Global estimations of acute undernutrition burden are based on only wasting prevalence data (without accounting for children having low MUAC and or bilateral edema). 50 million children were wasted and out of them 16 million children severely wasted in 2014.

1 - UNICEF (2006) “Nutrition, Survival and Development”

2 - Ibid

3 - The WHO Child Growth Standards: <http://www.who.int/childgrowth/en/>

4 - ACF (2012) “The Essential: Nutrition and Health”

Chronic undernutrition or stunting is indicated by a low height-for-age (HFA). As opposed to acute undernutrition which reflects recent nutritional status, chronic undernutrition is a process occurring over longer term in the period between conception and 24 months of age. It is a consequence of prolonged or repeated episodes of nutritional deficiencies (energy or micronutrients) and can also reflect exposure to repeated infection or other illnesses throughout the early years of life, compromising the growth of a child.⁵

Underweight is a composite form of undernutrition defined by a low weight-for-age (WFA) when compared to the WHO growth standards. Underweight is easier to measure than weight-for-height or height for age because it doesn't require a height measurement, but it is generally considered inferior to the measures above as it doesn't indicate if a child is wasted or stunted.

Micronutrient deficiencies, also known as "hidden-hunger", occur when the body does not have sufficient amounts of vitamin or mineral due to insufficient dietary intake and/or insufficient absorption and/or suboptimal utilization of the vitamin or mineral. WHO ranks deficiencies of zinc, iron and vitamin A in the top 10 causes of the disease burden in developing countries. Micronutrient deficiencies affect the survival, health, development and well-being of those affected.⁶

All forms of undernutrition can and should be prevented.

TABLE 1: CUT-OFF VALUES AND ANTHROPOMETRIC INDICATORS OF UNDERNUTRITION

Anthropometric indicators used to measure child growth and nutritional status			Prevalence cut-off values of public health significance
ACUTE UNDERNUTRITION	SAM	WFH indicator < -3 Z-scores of the WHO Growth standards and/or MUAC below 115 mm and/or presence of edema	Refers to GAM ⁷ : < 5%: Acceptable 5-9%: Medium 10-14%: High ≥ 15%: Very high *SHPERE standard for emergencies: SAM >2%
	MAM	WFH Z-score < -2 but > -3 115 mm ≤ MUAC < 125 mm without edema	
STUNTING	Severe	HFA indicator < -3 Z-scores of the WHO Growth standards	< 20%: Low 20-29%: Medium 30-39%: High ≥ 40%: Very high
	Moderate	HFA indicator < -2 Z-scores of the WHO Growth standards	
UNDERWEIGHT		WFA indicator < -2 Z-scores of the WHO standards	< 10%: Low 10-19%: Medium 20-29%: High ≥ 30%: Very high
MICRONUTRIENT DEFICIENCIES		Usually measure through biomarkers, which requires taking a blood and/or urine sample	Depends on a deficient mineral/vitamin

Adapted from: WHO (2010) "Nutrition Landscape Information System"

5 - Ibid

6 - Ibid

7 - Global Acute Malnutrition (GAM) is the sum of the prevalence of severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) at a population level

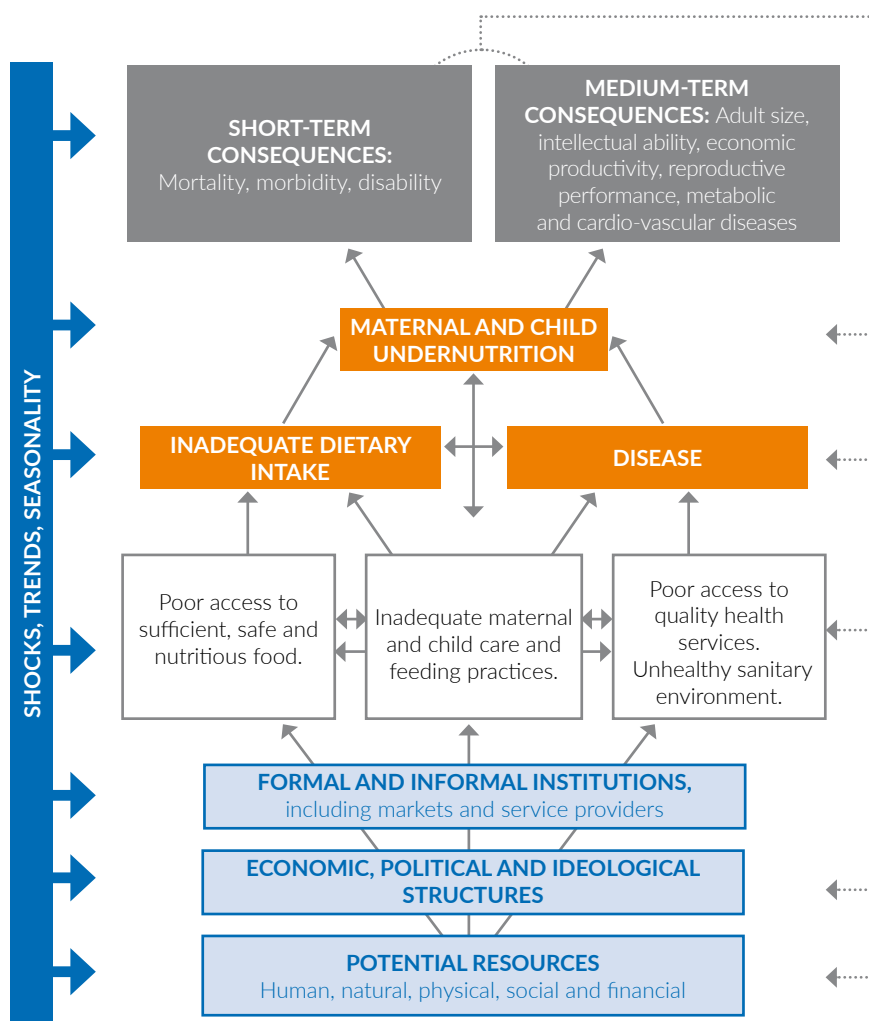
2. THE MAIN CAUSES OF UNDERNUTRITION

The determinants of undernutrition are complex and nutritional status is dependent on a wide range of diverse and interconnected factors. At the most immediate level, *undernutrition is the outcome of inadequate dietary intake and repeated infectious diseases*.⁸ Its underlying determinants include food insecurity, inappropriate care practices, poor access to health care and an **unhealthy environment, including inadequate access to water, sanitation and hygiene**. All these factors result in the increased vulnerability to shocks and long-term stresses. The basic determinants of undernutrition are rooted in poverty and involve interactions between social, political, demographic and economic conditions (see Figure 2).⁹

Undernutrition has often been viewed as a problem of limited food availability and solutions for addressing undernutrition have often focused on increasing food production. Such a perception is very simplistic and ignores a wide range of contributing factors which nutrition interventions need to address in order to achieve tangible results. Meaningful nutrition and WASH integration requires a good understanding of complex causes and determinants of undernutrition (ACF, 2014).

NOTE

FIGURE 2: CONCEPTUAL FRAMEWORK OF UNDERNUTRITION



Source: ACF (2012) "The Essential: Nutrition and Health"
Adapted from: UNICEF Conceptual Framework on causes of undernutrition (1990)

8 - WHO (2005) "Malnutrition"

9 - ACF (2011) "Maximizing the nutritional impact of food security and livelihoods interventions"

Undernutrition is also linked to structural injustice. Children are 1.5 to 2 times more likely to be stunted when living in rural areas, in the poorest economic quintiles and in regions where women's status/education is lowest. This stems from the fact that they tend to be disadvantaged in terms of access to health care, water, sanitation and hygiene, as well as nutritious food and health-related information.¹⁰

LEARN MORE

- To find out more about different forms of undernutrition and better understand the difference between chronic and acute undernutrition, please visit:
<http://www.unicef.org/nutrition/training/2.3/1.html> - UNICEF online training
- To better understand multiple causes of undernutrition, please visit:
<http://www.unicef.org/nutrition/training/2.5/1.html> - UNICEF online training

3. THE "1,000 DAYS" WINDOW OF OPPORTUNITY

While it is recognized that nutrition is important throughout a person's life, the most critical period in a person's development are the first 1,000 days - beginning with conception, throughout a mother's pregnancy and until the age of two. This basically means that undernutrition can already begin with the undernourished mother who cannot provide her child with sufficient nutrients at the fetal stage, as she herself has not benefited from optimal nutrition. Current research¹¹ appears to validate the view that unsafe drinking water, poor sanitation and inadequate hygiene significantly increase the risk of undernutrition, in particular during this critical window of 1,000 days, when a child is more vulnerable to the adverse effects of Faecally Transmitted Infections (FTI)¹². Damage done to a child's physical growth, immune system and brain development during this period is usually irreversible.¹³

4. UNDERNUTRITION CONSEQUENCES

An estimated 45% of the global under-five death burden is due to undernutrition in all its forms, including sub-optimal breastfeeding.¹⁴ The increased risks of death and diseases (diarrhea, malaria, etc.) associated individually with wasting and stunting have been widely investigated and documented.¹⁵ Both wasting and stunting are associated with increased risk of mortality with even mild deficits being associated with higher risk of dying and increasing progressively with the degree of the deficit. This means that any child experiencing a degree of wasting or stunting in any context is at heightened risk of dying. Importantly, the child who is both stunted and wasted (even moderately) has the highest hazard of death, even higher than for severe wasting individually.¹⁶

TABLE 2: MORTALITY RISKS FOR WASTING AND/OR STUNTING

		MORTALITY RISKS	Wasted children	Stunted children	Both wasted and stunted children
MULTIPLYING EFFECTS	MODERATE		3 to 3,4	1,6 to 2,3	12,3
	SEVERE		9,4 to 11,6	4,1 to 5,5	

Source: ENN, USAID (2014) "Technical Briefing Paper, Associations between Wasting and Stunting, policy, programming and research implications"

10 - Generation Nutrition (2014) "Undernutrition: The Basics"

11 - Checkley et al (2008) "Multi-country analysis of the effects of diarrhea on childhood stunting"

12 - Chambers and Von Medeazza (2017)

13 - Thousand Days (2015) "Why 1,000 days?"

14 - The Lancet (2013) "Maternal and Child Undernutrition Series"

15 - Collins (2007); Black, Allen et al. (2008); McDonald, Olofin et al. (2013)

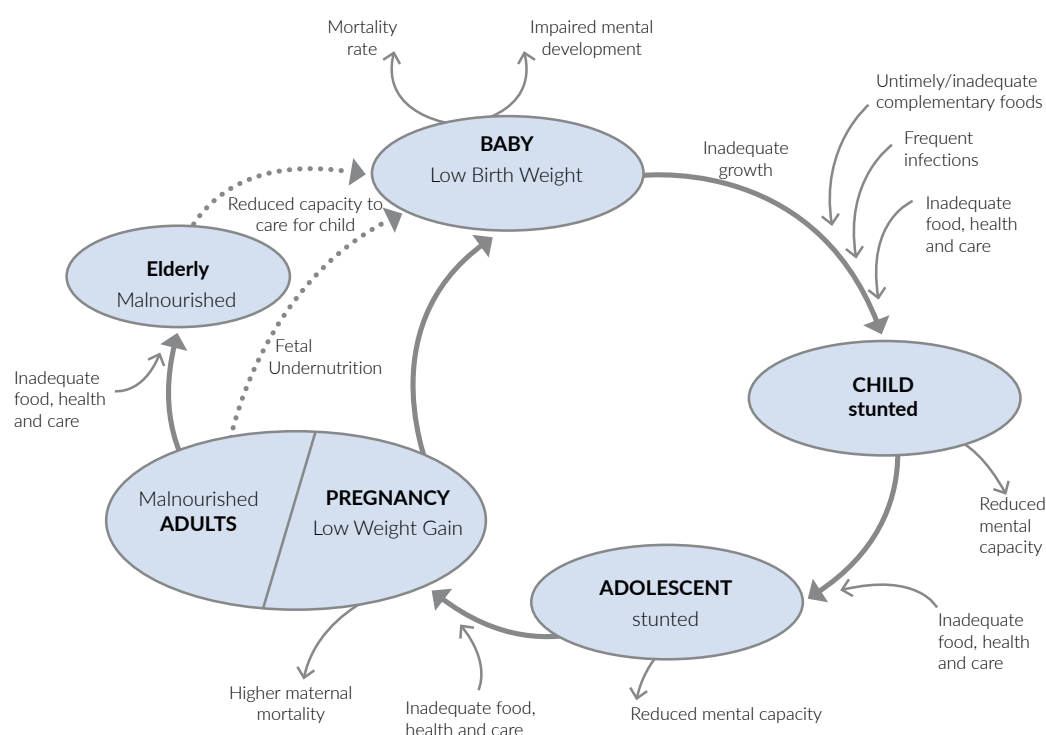
16 - McDonald, Olofin et al. (2013)

Chronic undernutrition impairs child growth, cognitive and physical development, weakens the immune system and increases the risk of morbidity and mortality. Undernourished children have a higher risk of suffering from chronic diseases (such as diabetes and cardiovascular disease) in adulthood.¹⁷ Maternal undernutrition, especially iron deficiency anemia (IDA) is associated with poor reproductive performance, a higher proportion of maternal deaths, a high incidence of low-birth-weight (LBW), and intrauterine undernutrition.¹⁸ Recent studies have also confirmed an association between stunting and **reduced school attendance and performance**, which has longer term implications, at both micro and macro levels. Undernourished children are at **risk of losing more than 10% of their lifetime earnings potential**.¹⁹ **The economic cost of undernutrition is estimated at 2 to 8 % of Gross Domestic Product (GDP)**,²⁰ indicating that undernutrition reduces overall economic development.

When severe acute malnutrition is present, the body gives priority to the functioning of vital organs (brain, heart and lungs) to preserve them. The functioning of other organs is thus reduced. This phenomenon generates, among others, a slowdown of the digestive system and the absorption of nutrients cannot be optimal. If this cycle is not stopped in time, the body's vital organs (heart, kidneys, liver, stomach) gradually slow down their operation until death occurs.²¹

Undernutrition perpetuates itself in a vicious cycle that lasts beyond the life cycle of an individual (Figure 3).

FIGURE 3: UNDERNUTRITION THROUGHOUT THE LIFE CYCLE



Source: ACC/SCN fourth report on the World Nutrition Situation (2000)

Maternal undernutrition leads to poor fetal development and higher risks of complications in pregnancy. Poor nutrition often starts in the uterus and extends, particularly for girls and women, well into adolescent and adult life. Women who were undernourished as girls are likely to become undernourished mothers, who give birth to LBW babies, leading to **a vicious intergenerational cycle**. LBW infants, who suffered from intrauterine growth retardation, are at higher risk of dying in the neonatal period or later infancy. If they survive, they are unlikely to catch up on this lost growth and are more likely to experience a variety of developmental deficits. An LBW infant is more likely to be underweight or stunted in early life.²² Therefore, undernutrition and its consequences repeat themselves, generation after generation.

17 - ACF (2014) "Nutrition Security Policy"

18 - ACF (2011) "Maximizing the nutritional impact of food security and livelihoods interventions"

19 - The World Bank Group (2011) "Repositioning nutrition as central to development"

20 - ACF (2014) "Nutrition Security Policy"

21 - ACF (2012) "The Essential: nutrition and health"

22 - ACF (2012) "The Essential: nutrition and health"

5. ADDRESSING UNDERNUTRITION

A long term, sustainable and at-scale impact on undernutrition cannot be achieved without **tackling all context-specific immediate and underlying causes of undernutrition**. For this, a coherent and coordinated multi-sectoral approach linking preventive and curative actions and strategies is needed.

5.1. NUTRITION-SPECIFIC AND NUTRITION-SENSITIVE INTERVENTIONS

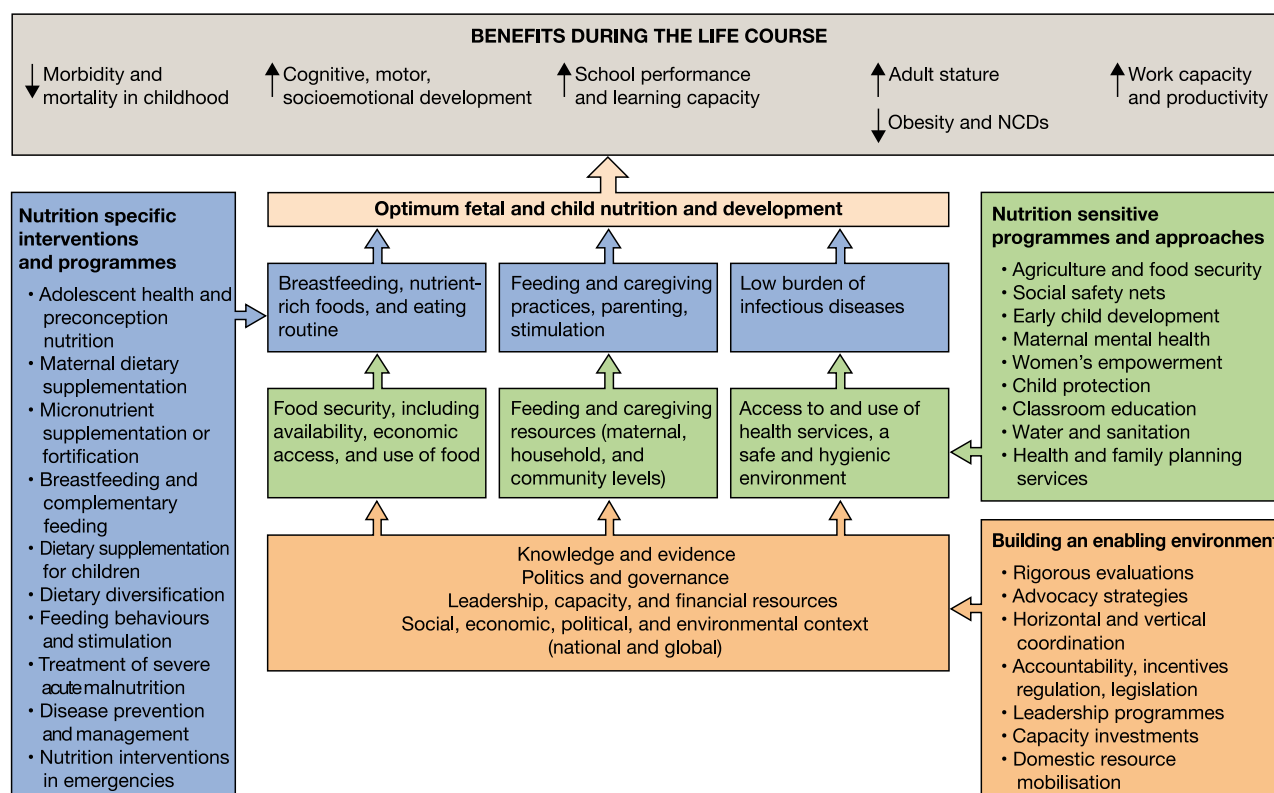
Recent literature and project reviews have highlighted intervention principles and strategies with high potential to address undernutrition, distinguishing between nutrition-specific and nutrition-sensitive interventions.

The 2013 Lancet Series identified a set of effective, nutrition-specific interventions that, if brought to scale, could save millions of lives and contribute to long-term health and development. If these ten proven interventions were scaled-up from the existing population coverage to 90%, an estimated 900,000 lives could be saved in 34 high nutrition-burden countries (where 90% of the world's stunted children live) and the prevalence of stunting could be reduced by 20% and that of severe wasting by 60%.²³

DEFINING NUTRITION-SPECIFIC AND NUTRITION-SENSITIVE INTERVENTIONS (Ruel et al., 2013)

- **Nutrition-specific interventions:**
Interventions that address the **IMMEDIATE** determinants of fetal and child nutrition and development.
- **Nutrition-sensitive interventions:**
Interventions that address the **UNDERLYING** determinants of fetal and child nutrition and development.

FIGURE 4: NUTRITION-SPECIFIC AND NUTRITION-SENSITIVE INTERVENTIONS



Source: Lancet Series, 2013

While these would be extremely significant actions, it is also clear that without efforts to address indirect or underlying drivers

23 - The Lancet (2013) "Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost?"

of undernutrition, the global problem will not be resolved. Nutrition-sensitive interventions in water, sanitation, hygiene, agriculture, health, social safety nets, early child development, and education, to name a few, have the enormous potential to contribute to reducing undernutrition.²⁴

WASH interventions, among others, represent a key nutrition-sensitive approach in preventing undernutrition. As often implemented in a large scale, they can serve as a delivery platform for enhancing the coverage and effectiveness of nutrition-specific interventions.²⁵ However, WASH programmes are not always designed as nutrition-sensitive. To effectively contribute to achieving nutrition outcomes, WASH programmes should have certain design characteristics (Box 1).

BOX 1: DESIGN CHARACTERISTICS OF NUTRITION-SENSITIVE INTERVENTIONS

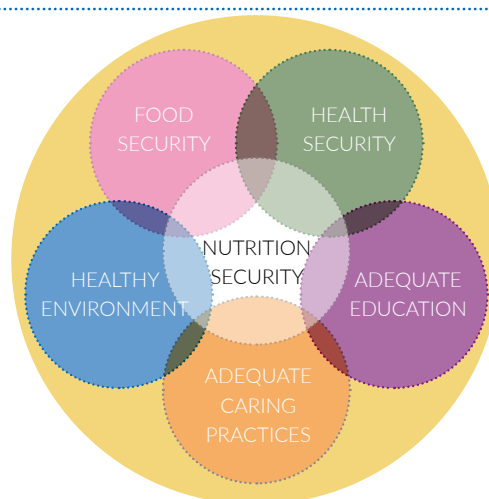
- 1 **Targeting on the basis of nutritional vulnerability.** For example, target groups with the highest undernutrition rates, groups that are the most vulnerable to undernutrition (children under five, pregnant women), populations facing stress related to food security or other shocks.
- 2 **Identifying nutrition goals to maximize opportunities.** Which activities can impact on nutrition? How are the planned activities going to lead to a change in the nutritional status? Designing appropriate indicators and objectives to monitor and evaluate the impact is essential.
- 3 **Engaging women** and including interventions to protect and promote their nutritional status, well-being, social status, decision-making and overall empowerment as well as their ability to manage their time, resources and assets.
- 4 **Including nutrition promotion and behaviour change strategies.**
- 5 **Considering alternatives** to minimize unintended negative consequences and maximize the positive impact on nutrition. Appropriate timing and duration of the intervention to influence nutritional status.

Source: ACF (2014) "Nutrition security policy" & World Food Programme (2014) "Nutrition sensitive programming: What and why?"

5.2. NUTRITION SECURITY APPROACH

This guidebook endorses the World Bank definition of nutrition security defined as *"the ongoing access to the basic elements of good nutrition, i.e., a balanced diet, safe environment, clean water, and adequate health care (preventive and curative) for all people, and the knowledge needed to care for and ensure a healthy and active life for all household members"*.²⁶ Therefore, nutrition security goes beyond the traditional concept of food security and recognizes that nutritional status is dependent on a wide and multi-sectoral array of factors. A household has achieved nutrition security when it has secure access to food coupled with a proper sanitary environment, adequate health services, and knowledgeable care to ensure a healthy life for all household members (Figure 5).²⁷ Nutritional security therefore encourages better integration of actions. A **multi-sectoral approach is needed to achieve it**.

FIGURE 5: NUTRITION SECURITY APPROACH



Source: ACF (2014) "Nutrition Security Policy"

24 - ACF (2014), "Nutrition Security Policy"

25 - Ibid

26 - The World Bank (2013) "Improving nutrition through multi-sectoral approaches"

27 - ACF (2011), "Maximizing the nutritional impact of food security and livelihoods interventions"

The WASH sector plays an important role in ensuring nutrition security, given that the status of WASH impacts the availability, access, stability or resilience and utilization of food resources. In addition, suitable WASH conditions are necessary for ensuring a healthy environment, access to health services, adequate caring practices and education.

5.3. NUTRITION PROGRAMMING

While there is a wide range of nutrition interventions that could be applied to diagnose and treat undernutrition, prevention is the primary objective for tackling undernutrition in all its forms.

Children who are suffering from **SAM need treatment** services, i.e. access to out-patient therapeutic programmes in a health centre or, if they have medical complications (pneumonia, fever, dysentery, etc.), in-patient management.²⁸ For example, with the CMAM approach (see Box 2), approximately 90% of SAM cases can be treated at home, with patients receiving ready-to-use therapeutic food combined with regular visits to the closest health centre. The CMAM approach includes **MAM treatment** as well – but treating MAM with ready-to-use supplementary food should be considered only in specific contexts like emergencies and population displacements and should no longer be considered as the only way to treat or prevent moderate acute malnutrition. Approaches such as cash transfers or food vouchers can be useful alternatives when food is available in the local markets. Nutrition-specific activities such as counselling and support for continued breastfeeding, appropriate complementary feeding from 6 months up to 2 years, vitamin A supplementation, and deworming are part of the treatment and can help prevent both SAM and MAM. These activities should be accompanied with nutrition-sensitive WASH interventions, social safety nets, support for maternal mental health, etc. so as to ensure optimal long-term prevention of acute undernutrition.

Stunting cannot be “treated”²⁹ and it should therefore be prevented continuously throughout the most critical period of human development – the first 1,000 days from conception to a child's second birthday. Some examples of prevention activities include: improving nutrition for pregnant and lactating women, promoting early initiation of breastfeeding within 1 hour of birth, exclusive breastfeeding for the first 6 months of life, adequate complementary feeding, micronutrient supplementation to women of reproductive age, pregnant women and children, etc.³⁰ Programmes aiming at decreasing chronic undernutrition rates need to be long term and comprehensive, including both community-based approaches and governance issues at the national level. Water and sanitation programmes, IYCF programming, micronutrient interventions, agriculture and food security interventions, advocacy on nutrition, women's empowerment, education, family planning, and so on, all contribute to stunting-reduction efforts.³¹

INFANT AND YOUNG CHILD FEEDING (IYCF)

Refers to feeding practices provided to children, from birth until the age of 2. These differ from the ones of other age groups, because the nutrition needs of infants and young children are different, while the texture of foods and the frequency of feeding have to be adapted to their capacity to chew and the size and maturity of their digestive system. Optimal infant and young child feeding plays a decisive role in the 1,000 days critical window of opportunity and is crucial to prevent stunting, as well as wasting and micronutrient deficiencies.

BOX 2: COMMUNITY MANAGEMENT OF ACUTE MALNUTRITION (CMAM) APPROACH

Community Management of Acute Malnutrition (CMAM) is an approach to treat acute undernutrition. The CMAM approach has been largely scaled up since first introduced in 2000 and community-based treatment of SAM is now included as a standard part of the health package in national policy. CMAM is applicable to both emergency and non-emergency contexts where the prevalence of acute undernutrition among children under five is high and aggravating factors (food insecurity, widespread communicable diseases, etc.) are present.

28 - WHO (2014) "Severe Acute Malnutrition"

29 - Some catch-up growth is possible before the age of two

30 - ACF (2012) "The Essential: nutrition and health"

31 - Ibid

The CMAM approach has four components:

- ❶ community outreach as the basis;
- ❷ management of moderate acute malnutrition (MAM);
- ❸ outpatient treatment for children with SAM with a good appetite and without medical complications; and
- ❹ inpatient treatment for children with SAM and medical complications and/or no appetite. Integration of in-patient and out-patient services for SAM, active community screening, referral and follow up proved to be crucial for increasing coverage of SAM treatment services.

The comprehensive **CMAM model links** with maternal, new-born, and child health and nutrition, **water, sanitation and hygiene**, food security and livelihood, and other community outreach initiatives. More about the CMAM approach: <http://www.cmamforum.org/>

Micronutrient deficiencies are often diagnosed too late and can have an irreversible effect on people. The common ones include iodine deficiency, vitamin A, iron and zinc deficiencies. Effective control of micronutrient undernutrition is likely to involve both curative and preventative approaches. A number of approaches may be followed to prevent micronutrient deficiencies, including: provision of fresh food items and/or of fortified foods, distribution of food supplementation products and/or of nutrient supplements; promotion of recommended infant feeding practices; ensuring adequate health care and access to adequate non-food items. An effective prevention strategy is likely to use a combination of these different approaches. Treatment usually takes the form of oral supplement tablets or capsules and should be accompanied by a good general diet and appropriate health care.³²

LEARN MORE

- ACF book “The Essential: nutrition and health”, available in English and French:
<http://www.actioncontrelafaim.org/fr/content/l-essentiel-en-nutrition-sante-essentiel-nutrition-and-health>
- ACF Nutrition security policy, available in English, French and Spanish:
<http://www.actioncontrelafaim.org/en/content/acf-international-nutrition-security-policy>
- The Global Nutrition Cluster toolkit can be found here:
<http://nutritioncluster.net/topics/im-toolkit/>

5.4. WASH PROGRAMMING

WASH includes a number of interventions that could be grouped in several categories: water supply (improving water quantity and quality), sanitation (particularly safe excreta disposal) and hygiene promotion/education (including hand washing, food, personal and environmental hygiene). Water supply, sanitation and hygiene are closely linked and keeping someone in good health depends on each of these components individually as well as on many existing interactions between them. For example, personal hygiene depends on water availability; access to water greatly facilitates hygienic use of sanitation; unhygienic latrines threaten the quality of nearby water sources and lead to an increase in the number of flies; good hygiene can prevent contamination after collecting water from the source, etc.³³

Table 3 provides a non-exhaustive list of WASH interventions. Hygiene promotion activities might be the most feasible to integrate and implement jointly with nutrition programmes. However, there are many practical solutions for integrating other interventions such as sanitation and improving water quality into nutrition programming - all these will be discussed in more detail in Chapter 4. Although investments in larger water and sanitation infrastructure will require resources outside the remit of nutrition, the frameworks and components of such efforts are briefly described to facilitate advocacy and planning of co-siting WASH efforts in nutritionally vulnerable areas. Finally, WASH programmes should have a greater and more sustainable impact when they combine three following elements: access to good quality hardware and services, demand creation - services uptake and an enabling institutional and policy environment.³⁴

32 - ACF (2012) “The Essential: nutrition and health”

33 - UK Aid (2013) “Water, sanitation and hygiene evidence paper”

34 - WHO/UNICEF/USAID (2015) “Improving nutrition outcomes with better water, sanitation and hygiene”

TABLE 3: NON-EXHAUSTIVE EXAMPLE OF WASH INTERVENTIONS

WATER SUPPLY AND WATER QUANTITY	➤ Water safety planning ➤ Constructing or improving water supply systems and services ➤ Providing safe and reliable piped water to user's home ➤ Constructing and/or rehabilitating public water points, boreholes, protected dug wells, etc. ➤ Emergency water supply by, for example, water trucking
WATER QUALITY	➤ Use of proven water treatment methods, such as filtration, boiling or solar. Chlorine can be used but is ineffective against protozoa and in turbid water³⁵ ➤ Protection from (re)contamination through, for example, piped distribution and safe storage in clean covered containers
SANITATION	➤ Providing access to hygienic sanitation facilities that safely remove and treat feces ➤ Sanitation safety planning ➤ Community-Led Total Sanitation, School-Led Total Sanitation and Sanitation Marketing ➤ Constructing facilities appropriate for infants and toddlers ➤ Enabling access and use of latrines for those with physical limitations
HYGIENE PROMOTION AND EDUCATION	➤ Education on hand washing with soap (or ash if soap is not available) and water at critical times ➤ Promoting safe food hygiene practices ➤ Behaviour change programming addressing the key behavioural determinants for the target population (going beyond education)
ENVIRONMENTAL SANITATION	➤ Improving environmental hygiene practices e.g. keeping animals away from the areas where food is prepared, child play areas and water resources ➤ Improving solid waste disposal and management ➤ Control disease vectors such as flies, mosquitoes, cockroaches and rats by covering food, improving drainage and safely disposing of garbage and non-reusable materials into a waste receptacle or protected pits
WATER AND SANITATION GOVERNANCE	➤ Advocacy on equitable access to water and sanitation ➤ Supporting local/national authorities in establishing sustainable pricing policy ➤ Community mobilization and implementation of conflict management mechanisms among water users, etc.

Adapted from: WHO (2010) "Nutrition Landscape Information System"

LEARN MORE

- ACF book on water, sanitation and hygiene for populations at risk:
http://www.actionagainsthunger.org/sites/default/files/publications/Water_sanitation_and_hygiene_for_populations_at_risk_12.2005.pdf
- Global WASH Cluster tools and resources can be found here:
<http://washcluster.net/tools-and-resources/>
- WHO guidelines for water and sanitation:
http://www.who.int/water_sanitation_health/en/

³⁵ - List of Products that have been found to meet one of the three WHO recommended performance levels:
http://www.who.int/household_water/scheme/products/en/

6. GLOBAL TRENDS IN UNDERNUTRITION AND WASH

In 2015, an estimated 156 million children under five were stunted, 50 million were wasted and around 17 million suffered from severe acute malnutrition, most of them living in South East Asia and Sub-Saharan Africa.³⁶ So far, global efforts to fight undernutrition and make progress towards the first Millennium Development Goal (MDG), which aims to “*eradicate extreme poverty and hunger*”, by halving the proportion of people suffering from hunger, have achieved some success. Thus, the proportion of undernourished people in the developing regions has fallen by almost half since 1990, from 23.3% in 1990–1992 to 12.9% in 2014–2016.³⁷ Stunting rates have also decreased; however, global wasting prevalence among children under five has remained stable and billions of people still suffer from vitamin and mineral deficiencies.³⁸

FIGURE 6: GLOBAL TRENDS IN CHILD STUNTING AND WASTING



Source: UNICEF/WHO/World Bank Group (2015) “Levels and trends in child malnutrition”

Despite the substantial headway that has been made, undernutrition remains the largest simple contributor to disease worldwide and nutrition-related factors accounted for **3.1 million child deaths in 2014**.³⁹ Safe and sufficient drinking water, along with adequate sanitation and hygiene have had implications across all Millennium Development Goals (MDGs) – from eradicating poverty and hunger, reducing child mortality, improving maternal health, combating infectious diseases, increasing school attendance, to ensuring environmental sustainability.⁴⁰ Much progress has been achieved over the past decade: 2.6 billion people have gained access to an improved drinking water source and 2.1 billion people have gained access to an improved sanitation facility since 1990.⁴¹ The proportion of people practicing open defecation globally has fallen by almost half. The number of children dying from diarrheal diseases, which are strongly associated with poor water access, inadequate sanitation and hygiene, has steadily fallen over the two last decades from approximately 1.5 million deaths in 1990 to 0.5 million in 2015.⁴²

Despite progress, the MDG target to halve the proportion of the population without access to improved sanitation facilities was missed by almost 700 million people; 946 million still defecate in the open.⁴³ Billions lack safe water that is reliably and continuously delivered in sufficient quantities.⁴⁴ As vital and basic as it is, adequate access to WASH services remains an immense challenge for billions of people, putting them, especially children, at great risk of acquiring preventable water-borne diseases, undernutrition and premature death.

36 - UNICEF/WHO/World Bank Group (2015) “Levels and trends in child malnutrition”

37 - The Millennium Development Goals Report (2015)

38 - UNICEF/WHO/World Bank Group (2015) “Levels and trends in child malnutrition”

39 - WHO (2015)

40 - UN Water/WHO (2014) “Global Analysis and Assessment of Sanitation and Drinking- Water: GLASS Report 2014”

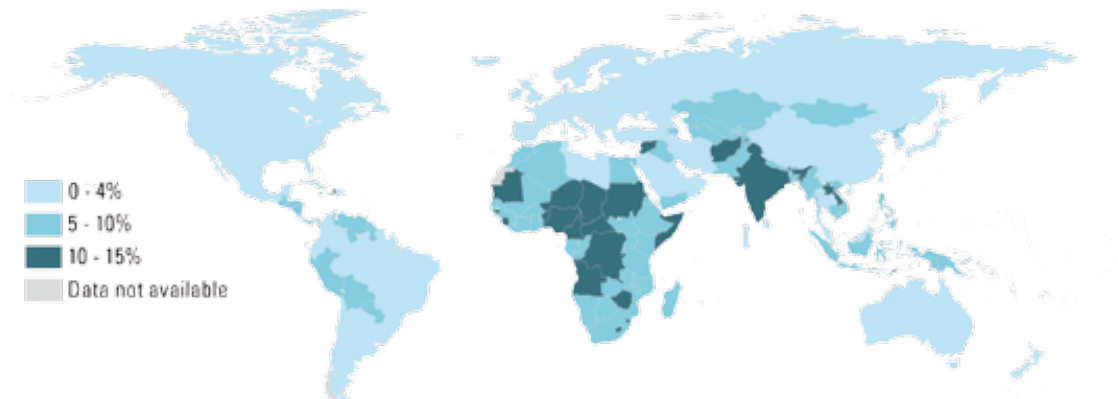
41 - JMP (2015) “Key Facts from JMP 2015 Report”

42 - WHO (2014 & 2015) “Preventing diarrhea through better water, sanitation and hygiene: exposure and impacts in low-and middle income countries”

43 - JMP (2015) “Key Facts from JMP 2015 Report”

44 - WHO (2014)

MAP 1: DIARRHEA DEATHS UNDER 5



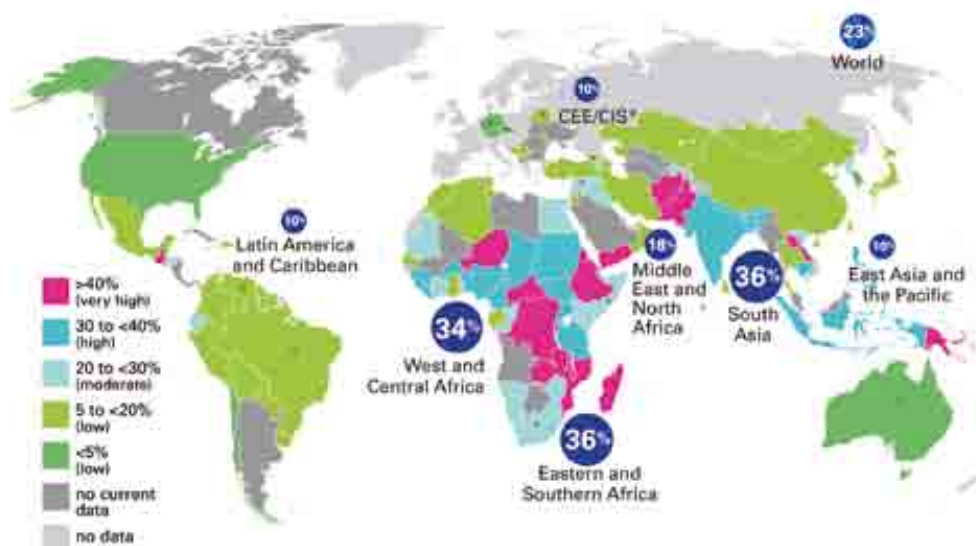
Source: WHO (2015)

MAP 2: WASTING CHILDREN BY REGION



Source: UNICEF (2016)

MAP 3: PERCENTAGE OF CHILDREN UNDER 5 WHO ARE STUNTED



Source: WHO (2010-2016)

Today, the world's attention is turning to the implementation of the 2030 Agenda for Sustainable Development (<http://www.un.org/sustainabledevelopment/development-agenda/>). Much remains to be done to end extreme poverty, tackle climate change and reduce inequalities and injustice across populations. Sustainable development cannot be realized without nutritional well-being and reaching the 2025 Global Nutrition Targets set by the World Health Assembly. Moreover, achieving important global health goals, such as ending preventable child and maternal deaths, will likewise require addressing undernutrition in all its forms.⁴⁵ Integrating WASH interventions into nutrition actions, strategies and budgets will be fundamental for reaching health and nutrition goals. The beginning of a new era of Sustainable Development Goals (SDGs), which highlight **joint multi-sector action, collaboration and engagement**, seems to be the right time to demonstrate, practically, how nutrition and WASH actions can be integrated, for better health and the betterment of humanity.⁴⁶

Linking Goal 2 (Zero Hunger), Goal 3 (Good Health and Well-Being) and Goal 6 (Clean Water and Sanitation) will definitively impact on Health and Nutrition outcomes.



KEY MESSAGES

Chapter 1

- Undernutrition was responsible for **3.1 million child deaths in 2014 (WHO, 2015)**. It has serious consequences on individual health and development along with undermining economic growth and perpetuating poverty. All this is unnecessary as **causes of undernutrition are totally preventable**.
- Factors and **pathways leading to undernutrition are diverse, complex and most often interconnected**. Key broad factors that influence nutritional status are food, caring practices and access to health care/healthy environment. All of them are linked to water, sanitation and hygiene.
- **The first 1,000 days** between a woman's pregnancy and her child's 2nd birthday offer a unique window of opportunity to build healthier and more prosperous futures. The damage that happens during this period is usually irreparable.
- Multidimensional nature and causes of undernutrition **call for coherent and coordinated responses that transcend traditional sector boundaries**.
- **Nutritional security** refers to a long-term, sustainable and at-scale impact on the nutritional status of populations and a multi-sectoral approach is needed to achieve it.
- Undernutrition and lack of access to safe water, sanitation and hygiene remain major global challenges. **To reach the new Sustainable Development Goals** and global targets for nutrition and WASH, **integration will be the key component**.

45 - WHO/UNICEF/USAID (2015) "Improving nutrition outcomes with better water, sanitation and hygiene"

46 - Ibid

2

LINKING NUTRITIONAL OUTCOMES WITH THE WASH ENVIRONMENT

-
1. NUTRITIONAL STATUS AND THE WASH ENVIRONMENT RELATIONSHIP
 2. KEY PATHWAYS TO UNDERNUTRITION
 3. CONTRIBUTING WASH-RELATED DISEASES
 4. WASH INTERVENTIONS EFFECTS ON HEALTH



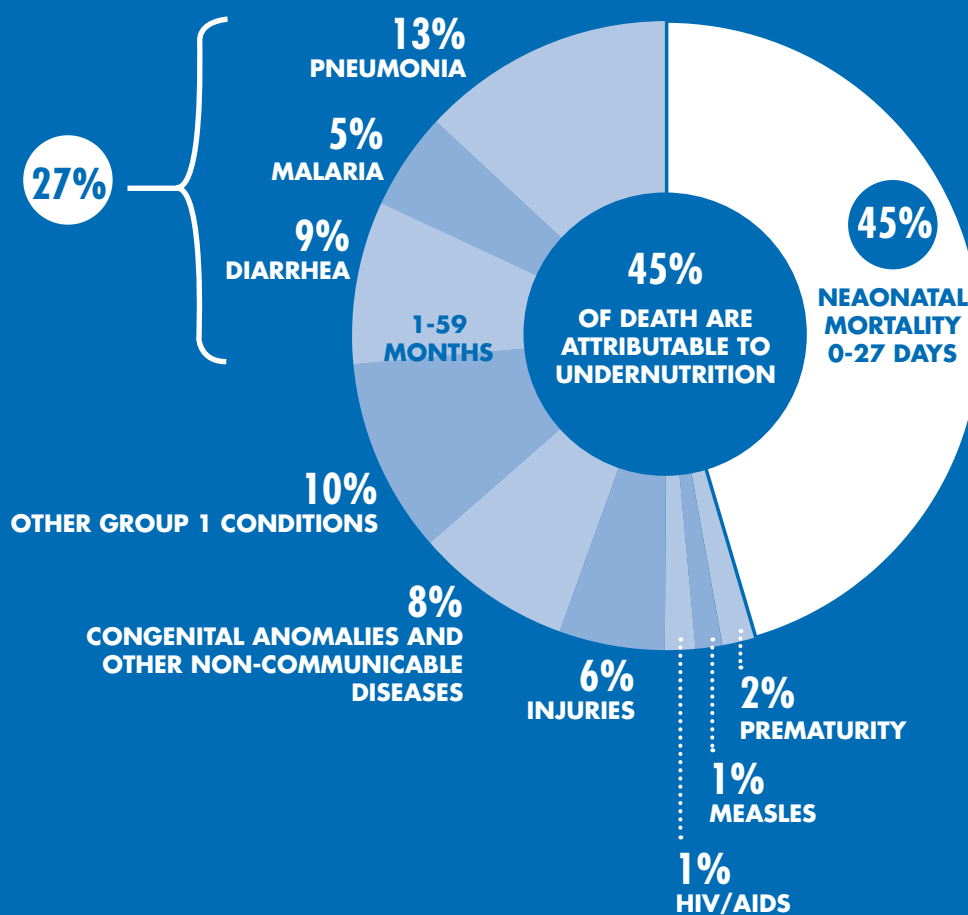
Jovana Dodos © ACF - Senegal, 2015



CHILDREN UNDER 5 MORTALITY WAS **5.9 MILLION** IN 2015.

WASH RELATED DISEASES ACCOUNTED FOR 27%.

AROUND 45% OF CHILD DEATHS WERE ATTRIBUTABLE TO UNDERNUTRITION.



UNDER 5 MORTALITY IN 2015

(WHO, 2016)

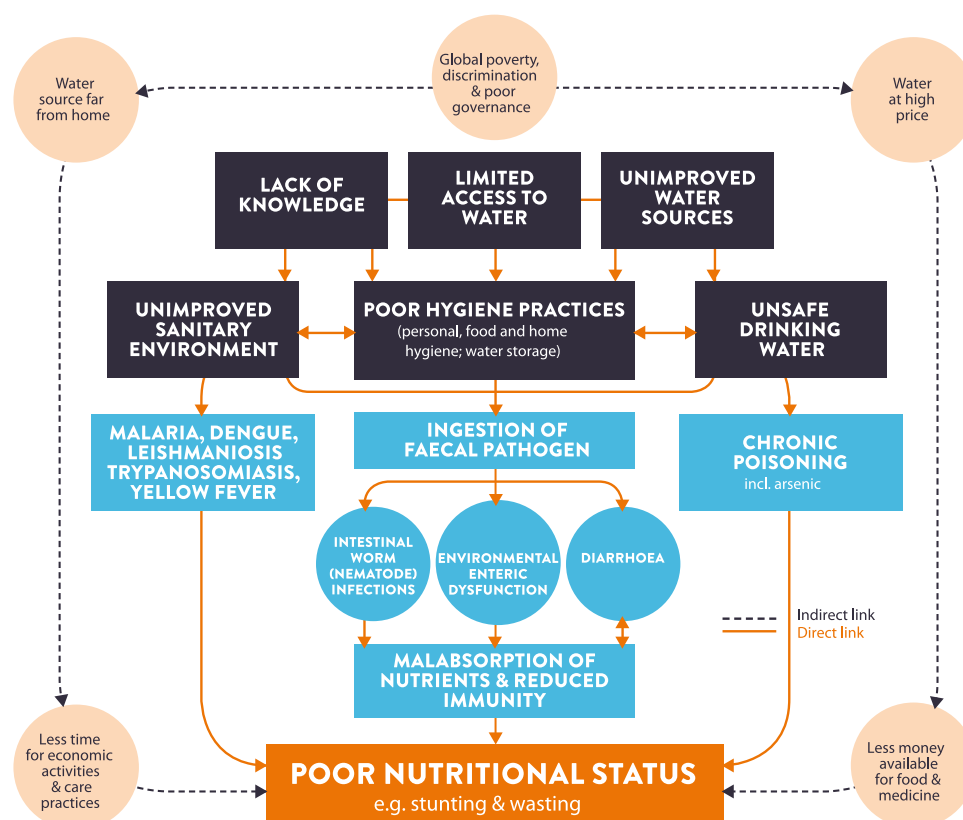
1. NUTRITIONAL STATUS AND THE WASH ENVIRONMENT RELATIONSHIP

In the past decade deaths due to infectious diseases, such as diarrhea and malaria, often related to poor water, sanitation and waste management, have declined.⁴⁷ Nevertheless, poor WASH conditions remain associated with a significant proportion of deaths (both neonatal and post neonatal) and diseases among children under five. Most of this burden falls on children in low-and-middle income countries.⁴⁸ Chapter 2 provides an overview of the existing evidence-based knowledge of linking nutritional outcomes with the WASH environment and explains how WASH interventions, by preventing infection and disease, help reduce undernutrition.

The three main underlying causes of undernutrition, namely unsuitable or insufficient food intake, poor care practices and disease, are directly or indirectly related to inadequate access to water, sanitation and hygiene.⁴⁹

Figure 7 illustrates multiple pathways, both **direct and indirect**, which demonstrate the dependence of nutritional status on the WASH environment. Poor WASH conditions facilitate ingestion of fecal pathogens which leads to diarrhea, intestinal worms and environmental enteric dysfunction. This **directly** relates to the body's ability to resist and respond to sickness by **affecting the absorption of nutrients and decreasing body's immunity**.⁵⁰ Other water and sanitation-related illnesses such as malaria, dengue, leishmaniosis, trypanosomiasis, yellow fever, together with chronic poisoning due to poor chemical quality of water also contribute to the deterioration of nutritional status.⁵¹

FIGURE 7: RELATIONSHIP BETWEEN POOR WASH AND CHILD UNDERNUTRITION



Source: Dangour et al (2013), adapted by Lapegue J., ACF (2014) "WASH and nutrition factsheet"

47 - WHO (2016) "Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks"

48 - WHO (2014) "Mortality and burden of disease from water and sanitation"

49 - ACF (2011) "Water, Sanitation and Hygiene Policy"

50 - Dangour et al (2013) "Interventions to improve water quality and supply, sanitation and hygiene practices, and their effects on the nutrition status of children (Review)"

51 - ACF (2011) "Water, Sanitation and Hygiene Policy"

Indirect links between WASH and nutritional status, referring primarily to a broader socio-economic environment (access and affordability of water, sanitation and hygiene services, distance from household to a water point, education and poverty) should also be taken into consideration. For example, a lack of safe water close to the home has many indirect effects on nutrition. People are often left with no choice but to drink unsafe water from unprotected sources. Two thirds of the burden of water-fetching and carrying water home falls on women and young children.⁵² Time wasted on water collection translates into decreased productivity, lower school attendance and less time for caring for children and the household.⁵³ Note that inadequate child care is one of the underlying causes of undernutrition. Along similar lines, inadequate access to water and sanitation impacts the educational success of school-age children, resulting in a reduced opportunity to work, perpetuated poverty and undermined household food security – the underlying causes of maternal and child undernutrition.⁵⁴

2. KEY PATHWAYS TO UNDERNUTRITION

Inadequate WASH conditions facilitate ingestion of fecal pathogens which leads to diarrhea, intestinal worms and environmental enteric dysfunction, the three key pathways from poor WASH to undernutrition.

2.1. DIARRHEA

Diarrhea most often results from the ingestion of pathogens from feces that have not been properly disposed of and from the lack of hygiene. A person is classified as having diarrhea when she or he experiences more than three liquid stools per day.⁵⁵ Diarrhea remains **a leading cause of mortality among children under five in the world**, and one of the biggest killers of this age group in the sub-Saharan Africa.⁵⁶ In 2015, inadequate WASH conditions accounted for 531,000 diarrheal deaths among children under five, or nearly 1,450 child deaths per day.⁵⁷

Existing evidence shows that 50% of undernourishment is associated with recurrent onsets of diarrhea.⁵⁸ Undernourished children are more susceptible to repeated bouts of enteric infections and, hence, are at greater risk of dying from diarrhea and other diseases, including respiratory infections. **The probability of dying from diarrheal disease among children under five is 10 times higher if the child is affected by severe acute malnutrition.**⁵⁹ Frequent illnesses, in return, cause poor nutritional intake and reduced nutrient absorption. Children are thus locked into **“a vicious circle”** of recurring sickness and further deterioration of their nutritional status (Figure 9).⁶⁰

Diarrhea also has an impact on stunting. Current evidence show that *“with each diarrheal episode and with each day of diarrhea before 24 months”* the risk of stunting increases. The proportion of stunting attributable to five or more episodes of diarrhea before the age of 2 is 25%.⁶¹

52 - UK Aid (2013) “Water, sanitation and hygiene evidence paper”

53 - Ibid

54 - ACF (2011) “Water, Sanitation and Hygiene Policy”

55 - WHO (2011) “Water, sanitation and hygiene interventions and the prevention of diarrhea”

56 - Walker C et al (2013) “Global burden of childhood pneumonia and diarrhea”

57 - WHO (2016)

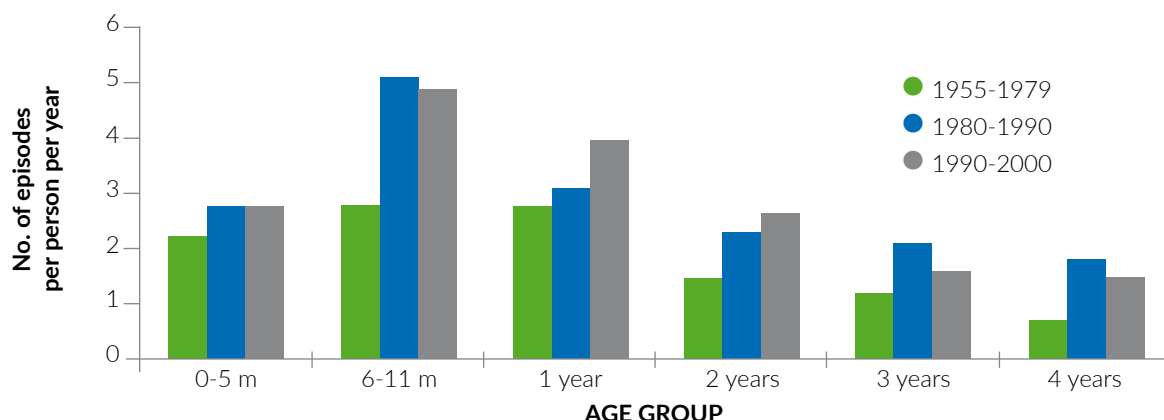
58 - Walker C et al (2013) “Global burden of childhood pneumonia and diarrhea”

59 - Black et al (2008) “Maternal and child undernutrition: global and regional exposures and health consequences”

60 - UNICEF (2013) “Improving Child Nutrition: The Achievable Imperative for Global Progress”

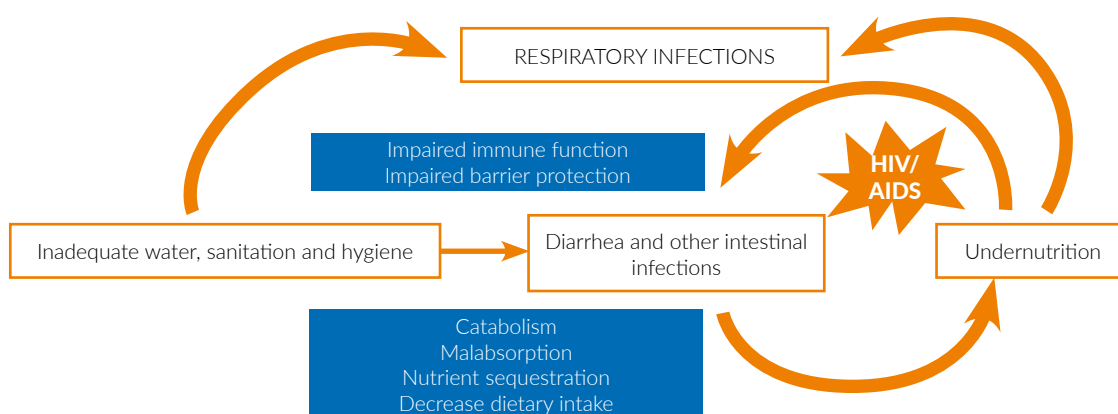
61 - Walker et al 2013

FIGURE 8: MEDIAN AGE-SPECIFIC INCIDENCES FOR DIARRHEAL EPISODES PER CHILD PER YEAR FROM THREE REVIEWS OF PROSPECTIVE STUDIES IN DEVELOPING AREAS



Source: *The global burden of diarrheal disease, WHO 2003*

FIGURE 9: VICIOUS CYCLE BETWEEN INTESTINAL INFECTIONS AND UNDERNUTRITION



Source: *Pathways linking WASH with nutrition (WHO, 2007), Brown 2003, adapted ACF*

2.2. NEMATODES

Caused by different species of parasitic worms, the infection is transmitted by eggs present in human feces, which in turn contaminate soil in areas where sanitation is poor. Infection can be caught easily by walking barefoot on the contaminated soil or eating contaminated food. Nematode infections interfere with nutrient uptake in children, which can lead to anemia, malnourishment and impaired mental and physical development. They pose a serious threat to children's health, education, and productivity.⁶² Parasitic, intestinal worms, such as schistosomes (contracted through bathing in, or drinking contaminated water) and soil-transmitted helminths (contracted through soil contaminated with feces) cause blood loss and reduced appetite, both of which negatively affect a child's nutritional status.⁶³

*In developing countries every second, pregnant women and about 40% of preschool children are estimated to be anemic. Maternal anemia increases risks of poor outcomes during pregnancy and childbirth, risk of morbidity in children and reduced work productivity in adults. **Iron-deficiency anemia (IDA) is aggravated by hookworm infections, malaria and other infectious diseases contracted through a poor WASH environment (WHO, 2015).***

NOTE

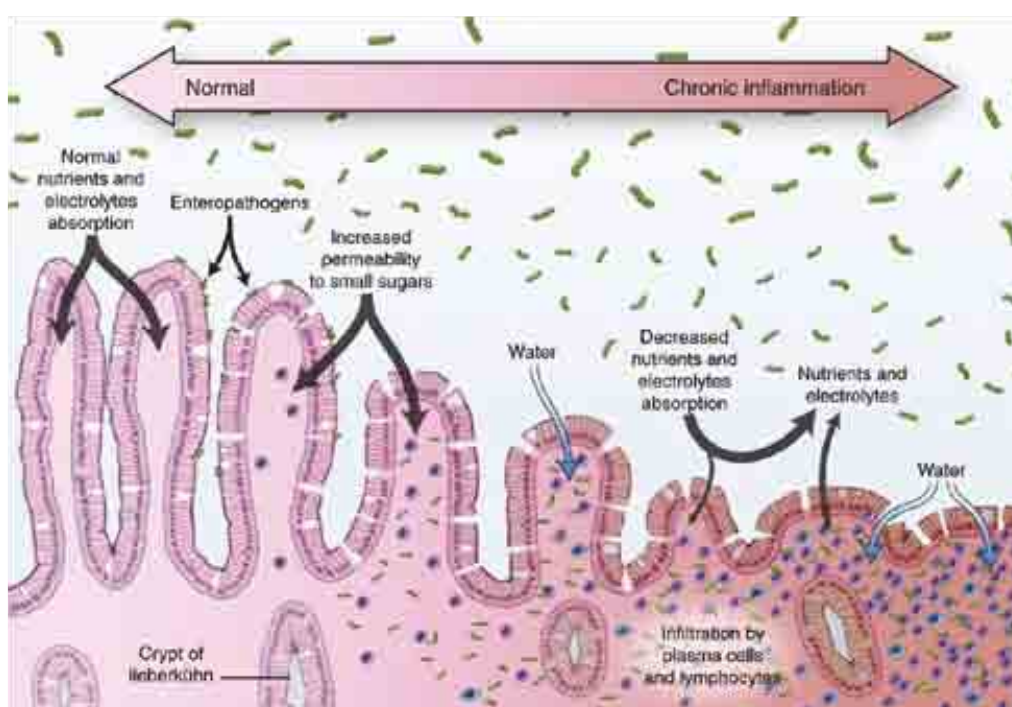
62 - Deworm the World (2014)

63 - Generation Nutrition (2015) "The role of water, sanitation and hygiene in fight against child undernutrition"

2.3. ENVIRONMENTAL ENTERIC DYSFUNCTION (EED)

Defined as a “chronic infection of the small intestine caused by extended exposure to fecal pathogens”,⁶⁴ environmental enteric dysfunction (EED) reduces children’s ability to absorb nutrients and subsequently provoke undernutrition and growth stunting. The ingestion of microorganisms, not always pathogenic, has been suggested to be the main cause of EED in children under 2 years old. Establishment of EED early in life, during infancy, is greatly facilitated by unhygienic environments in which infants and young children live and grow.⁶⁵ Once contracted, EED causes abnormal changes in the structure and function of the small intestine. It flattens villi and provokes a loss of villi tight junction making it harder for food and easier for disease to get in (Figure 10). It has been hypothesized that EED may be the primary causal pathway from poor sanitation to stunting as well as playing a role in the reduced efficacy of orally-administered vaccines such as polio and rotavirus.⁶⁶ Associated with poor WASH environment and usually asymptomatic, EED may help explain why purely nutritional interventions have failed to reduce undernutrition in many contexts over the long term.⁶⁷

FIGURE 10: DIFFERENCE BETWEEN HEALTHY (LEFT) AND EED-INFECTED INTESTINE (RIGHT)



Source: Web

64 - Humphrey (2009) “Child undernutrition, tropical enteropathy, toilets, and hand washing”.

65 - Humphrey (2015) “Preventing environmental enteric dysfunction through improved water, sanitation and hygiene: an opportunity for stunting reduction in developing countries”.

66 - CMAM Forum (2014) “Environmental Enteric Dysfunction- an Overview”.

67 - Bery et al (2015) “Horizontal challenges: WASH and Nutrition integration”.

3. CONTRIBUTING WASH-RELATED DISEASES



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Besides Faecally Transmitted Infections such as diarrhea, intestinal parasite infections and EED, there are other WASH-related diseases known to be associated with decreased immunity and undernutrition.

Evidence shows that malaria is associated with various nutrient deficiencies as well as underweight status in children under five. Large numbers of children suffer and die from malaria due to lack of protein energy, zinc, vitamin A and other micronutrients. Comparably to diarrhea, malaria and undernutrition form a vicious circle of disease and further deterioration of nutritional status.⁶⁸ An inadequate WASH environment, such as standing water caused by poor drainage and uncovered water tanks, facilitates the creation of mosquito breeding sites and the spread of malaria.

Along similar lines, **acute respiratory infections (ARI)**, aggravated by poor hygiene practices, lead to the loss of body weight. Malnourished children with severe ARI, such as pneumonia, have a higher mortality risk than healthy children.⁶⁹ In addition, it has been demonstrated that ARIs prevent improvement of vitamin A status in young infants leading to micronutrient deficiency.⁷⁰ A poor WASH environment facilitates the spread and transmission of **Neglected Tropical Diseases (NTDs)**, such as trachoma, dengue, chikungunya, etc., which are the underlying causes of stunting, wasting and micronutrient deficiencies. At the same time, poor nutrition increases susceptibility to NTD infection. The combination of NTD infections and undernutrition perpetuates a cycle of disease, undernutrition and poverty.⁷¹

68 - Erdhart et. al., 2006.

69 - Rodriguez et al, 2011.

70 - Rahman M et al. (2016) "Acute Respiratory Infections Prevent Improvement of Vitamin A Status in Young Infants Supplemented with Vitamin A"

71 - Global Network on Neglected Tropical diseases (2015) "Hunger, Nutrition and NTDs".

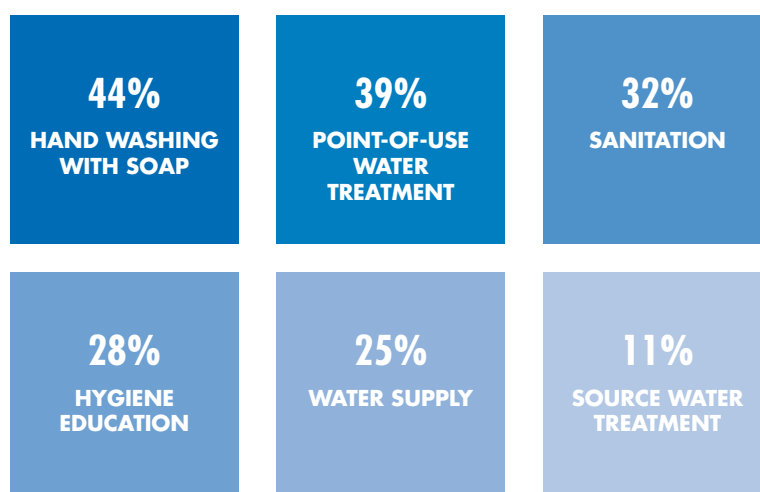
4. WASH INTERVENTIONS EFFECTS ON HEALTH



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During past decades, numerous publications and studies have reported that improvements in drinking water, sanitation facilities and hygiene practices have positive effects on disease reduction, particularly in less developed countries. When carried out effectively, WASH interventions have the potential to interrupt transmission of pathogens, reduce disease burden and bring significant health and non-health benefits.

FIGURE 11: REDUCTION IN DIARRHEAL MORBIDITY - (% per intervention type)

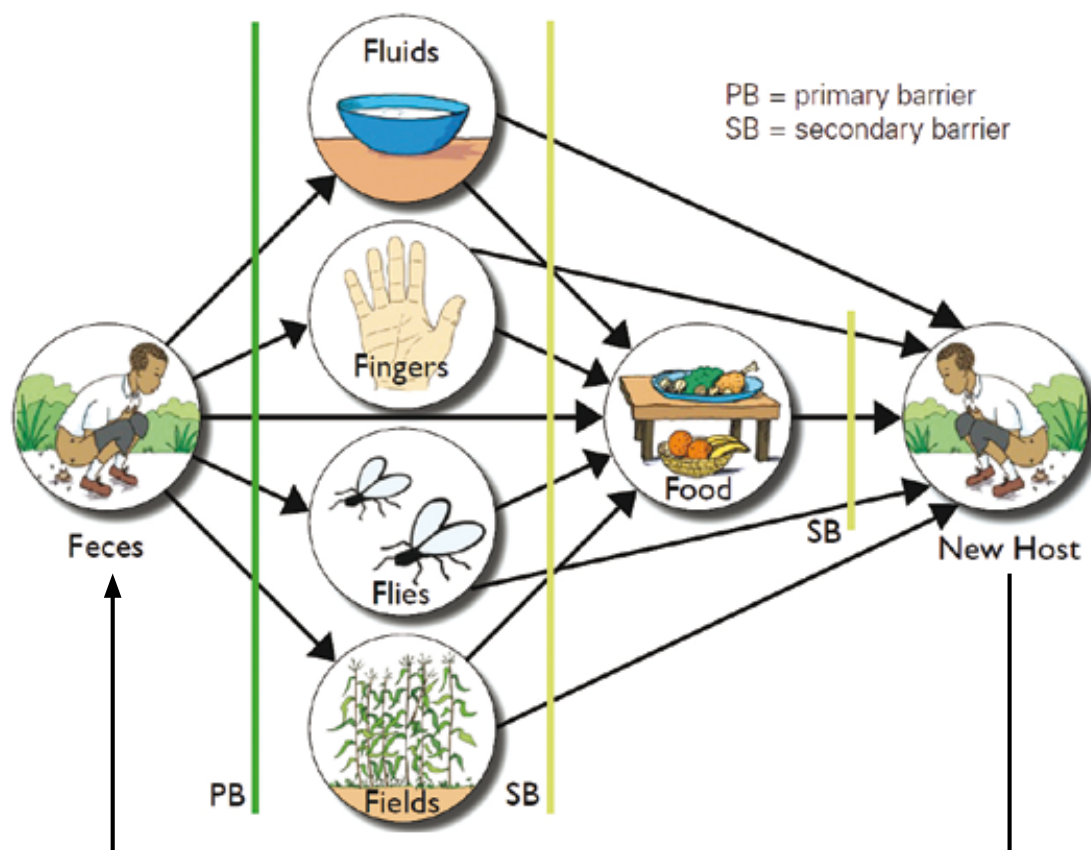


Source: Fewtrell et al. (2005)

Sanitation, coupled with good hygiene, acts as a fundamental **'primary barrier'** to isolate fecal matter from the general environment. However, once fecal matter is in the environment, it can easily be spread directly to hosts, and indirectly to food, through fingers, flies, fluids, and in fields or floors. Therefore, **'secondary barriers'** are needed to protect the public exposed to such contamination. Good hygiene practices, particularly hand washing with soap, serve as vital secondary barriers to the spread of diarrheal, respiratory and possibly other infectious diseases as they prevent pathogens from reaching the domestic environment and food, and their subsequent ingestion (Figure 12).⁷²

⁷² - World Bank Group (2015) "Sanitation and Hygiene: Why they matter?".

FIGURE 12: THE F-DIAGRAM - Fecal-oral routes of diseases transmission and how WASH can prevent it.



Source: Perez et al. (2012), adapted from Wagner and Langlois (1958)

Understanding fecal-oral diseases transmission routes is essential. Implementing individual or multiple WASH interventions depends on whether **each transmission pathway** (fluids, fingers, flies, etc.) alone is sufficient to maintain fecal-oral disease in the population. If that is the case, single-pathway interventions will have minimal benefit. This is especially true for emergencies and epidemics, where environmental conditions favour the spread of communicable diseases. In this instance, water supply and/or water quality improvements may have minimal impact if not accompanied with improved excreta management and adequate hygiene behaviour.⁷³ It is also worth mentioning that diarrhea spreads by various interactive pathways and that WASH interventions need to be well harmonized and provide high coverage in order to be effective.⁷⁴

There is strong evidence of the positive impact of WASH interventions on **diarrheal morbidity**, especially among children under five.⁷⁵ As seen in Figure 13, the greatest reductions in diarrhea disease risk (up to 73%) can be achieved through services that provide a safe and continuous piped water supply and through sewerage connections that remove excreta from both households and community environments.⁷⁶ In addition, a meta-analysis of hand washing studies conducted in developing countries concluded that hand washing with soap can reduce the risk of diarrhea up to 48%.⁷⁷

*Nutrition and WASH integration implies focusing more on the **"field" transmission route** which usually receives less attention than other transmission routes as it concerns mainly young children (e.g. crawling among the animals and putting stuff in the mouth). This suggests considering a new range of WASH prevention measures (see "Baby WASH" concept, Chapter 4).*

NOTE

73 - Parkinson J (2009) "Review of the Evidence Base for WASH interventions in Emergency Responses"

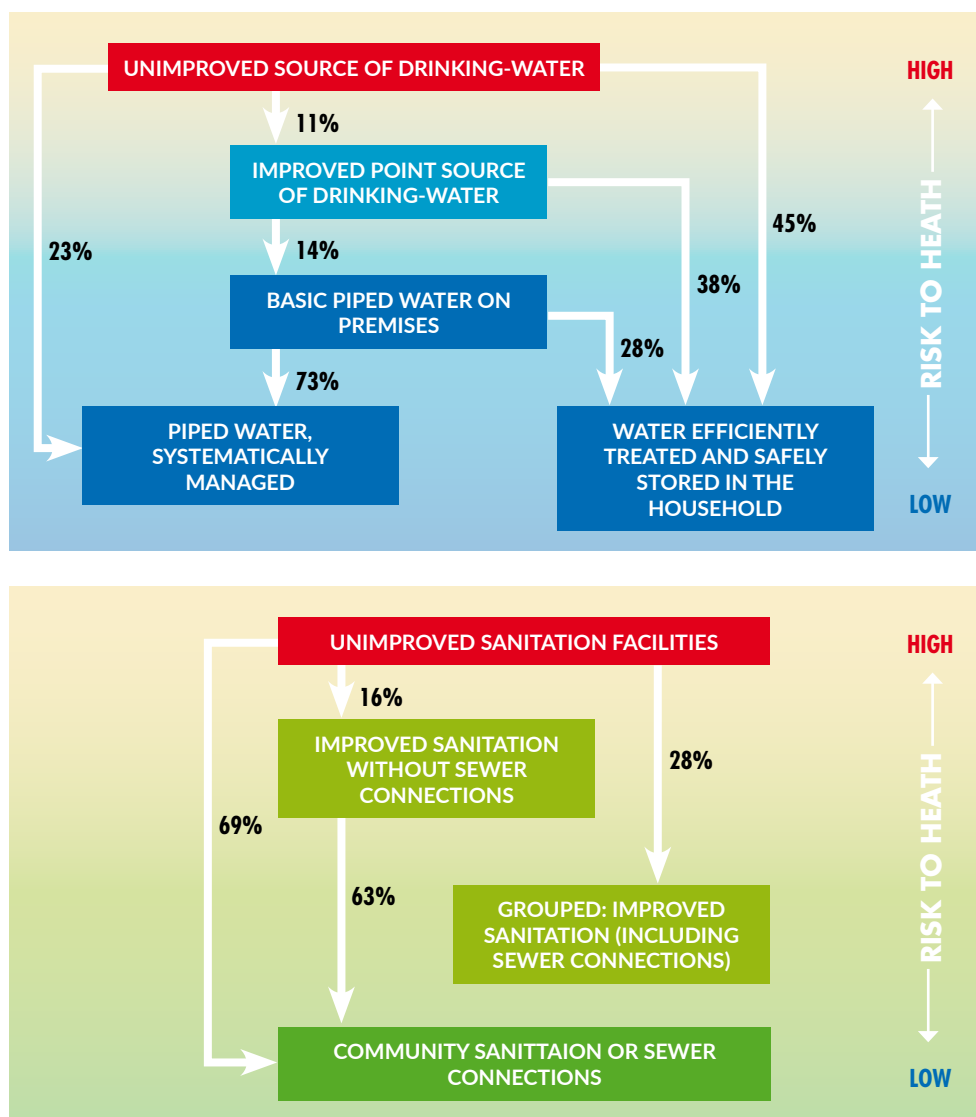
74 - UK Aid (2013) "Water, Sanitation and Hygiene evidence paper"

75 - Fewtrell et al., 2005

76 - WHO (2014) "Preventing diarrhea through better water, sanitation and hygiene: exposures and impacts in low- and middle-income countries"

77 - Brown et al., 2011

FIGURE 13: EFFECT OF IMPROVEMENTS IN DRINKING WATER AND SANITATION ON DIARRHEA DISEASE RISK



Source: WHO, 2014

Current research also confirms that water, sanitation and hygiene interventions prevent **intestinal parasitic infections** and other diseases associated with poor nutritional status.⁷⁸ For example, access to and use of facilities for the safe disposal of human excreta have been shown to reduce the risk of soil-transmitted nematode infections by 34% and use of treated water by 54%.⁷⁹ Children under five in households that received plain soap and hand washing promotion had a 50% lower incidence of pneumonia than in control groups.⁸⁰ Approximately 42% of the global malaria burden could be prevented by environmental management, including removing stagnant or slowly moving fresh water and drainage.⁸¹

The etiology of EED remains unclear. Nutritional deficiencies, specially zinc and vitamin A deficiencies, imbalances of gut microbiome, *Helicobacter pylori* presence and bacterial overgrowth, mycotoxins or HIV infection, seems to contribute to the multicausality of EED. EED has been associated with linear growth faltering in several studies and it is currently proposed as the primary causal pathway from poor sanitation and hygiene to stunting, rather than diarrhea or soil-transmitted helminths.⁸²

78 - Pruss-Ustun A et al (2008) "The impact of the environment on health by country: a meta-synthesis"

79 - Strunz et al, 2014

80 - Luby, 2005

81 - WHO (2016) "Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks"

82 - Baby wash and the 1000 days, a practical package for stunting reduction, ACF-Spain, 2017



KEY MESSAGES

Chapter 2

- Despite notable decline in infectious diseases, **poor WASH conditions remain associated with a significant proportion of deaths** (both neonatal and post neonatal) and disease among children under five.
- **The three main underlying causes of undernutrition**, namely unsuitable or insufficient food intake, poor care practices and disease, are **directly or indirectly related to inadequate access to water, sanitation and hygiene**.
- Inadequate WASH conditions facilitate ingestion of fecal pathogens which leads to **diarrhea, intestinal worms and environmental enteric dysfunction**, the three key pathways from poor WASH to undernutrition.
- **50% of undernourishment is associated with recurrent onsets of diarrhea**. Frequent illness impairs nutritional status and poor nutrition increases the risk of infection. This forms a **“vicious circle”** of recurring sickness and further deterioration of nutritional status.
- Other WASH-related diseases such as **malaria, acute respiratory infections and neglected tropical diseases** such trachoma, dengue, chikungunya **are known to be associated with decreased immunity and undernutrition**.
- Improvements in drinking water, sanitation facilities and hygiene practices have positive effects on disease reduction. **WASH interventions** have the potential to **interrupt transmission of pathogens, reduce disease burden and bring significant health and non-health benefits**.
- Beyond the impact on disease reduction, a growing base of evidence indicates that the **WASH environment can be critical in shaping children’s nutritional outcomes**. This is especially true for the effects of WASH conditions on stunting, while the impacts on wasting are still to be explored.
- **The evidence is sufficient to justify and support the integration of nutrition and WASH interventions**.

3

WASH'NUTRITION STRATEGY

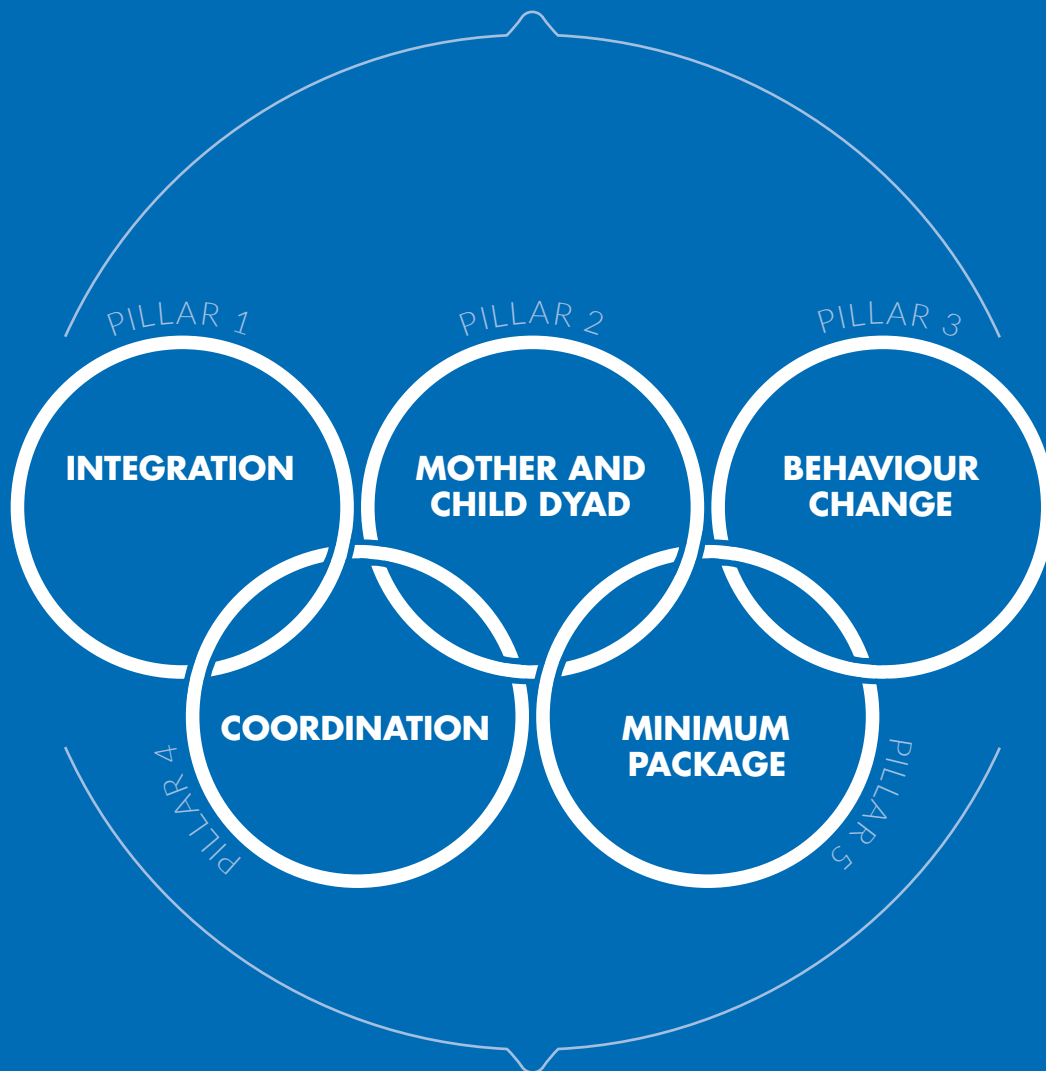
1. ALIGNING WASH AND NUTRITION PROGRAMMING
2. INTEGRATION
3. FOCUS ON THE MOTHER AND CHILD DYAD
4. EMPHASIS ON BEHAVIOUR CHANGE
5. COORDINATION OF STAKEHOLDERS
6. ENSURING A WASH MINIMUM PACKAGE

© ACF - Pakistan, 2015





MAINLY DEVELOPMENT CONTEXTS, BUT NOT ONLY...



MAINLY EMERGENCY CONTEXTS, BUT NOT ONLY...

.....
**BECOME A WASH'NUTRITION
OLYMPIC CHAMPION!**

1. ALIGNING WASH AND NUTRITION PROGRAMMING

“WASH’ Nutrition” refers to any type of intervention aiming at complementing the prevention (before the incidence of undernutrition) and the treatment of undernutrition (MAM and SAM) through the strengthening of access to water, sanitation and hygiene services. Aligning implies (re)defining the strategic orientations of WASH and nutrition programmes and identifying programmatic opportunities based on:

- context-specific needs and priorities;
- access and security;
- the mandate and capacities of the organization/mission;
- identified areas of common interest (e.g. 1,000-day window of opportunity);
- presence and capacities of other stakeholders already positioned in terms of WASH and nutrition integration;
- national laws, policies and strategies on WASH and nutrition;
- specific strategic positioning of key donors.

There are different options for aligning WASH and Nutrition:

- 1 By building an integrated strategy, produced in a collaborative way and based on a joint inter-sectoral analysis, planning and strategic thinking. The example in this regard is **ACF Nutrition Security Policy**,⁸³ an overarching long-term positioning that encompasses both preventive and reactive interventions in the nutrition, WASH, mental health and care practices, food security and health nexus;
- 2 By ensuring that a strategy for one sector includes important cross-cutting issues and specific objectives of another sector and identifies opportunities for integration. It means a proactive approach with all WASH, MHCP, health, nutrition and food security partners to ensure integration of nutrition objectives in all WASH projects from the outset.

NOTE

There is no single model that can be applied to all settings or “one size fit all” solution. The process of developing strategy is as the document itself. If the strategy is developed in a participatory and inclusive way, involving both sectors in the planning process, it is far more likely that integrated programmes will be implemented. Understanding the purpose and benefits of incorporating different WASH components into nutrition programmes and vice versa, helps clarify and align goals across sectors.

NOTE

Integrating WASH and Nutrition should be seen as a “two-way street”. Both sectors have a role to play in ensuring that issues/objectives of one sector are properly taken into account by another.

There are 5 main pillars of the WASH’Nutrition strategy initially designed by West and Central Africa WASH Regional Group in 2012 with the support of many partners. This strategy was adapted in 2015⁸⁴:

- 1 **Ensuring good geographical concentration of WASH projects in the areas affected by undernutrition, primarily in the areas with a high prevalence of GAM.**
- 2 **Focusing on the “mother/caretaker – malnourished child” dyad** and following them from nutrition centres to home so as to prevent the vicious circle of “diarrhea/nematode infections/EED – undernutrition” and associated diseases.
- 3 **Placing emphasis on behaviour change**, knowing that provision of hardware only (access to water and sanitation facilities) brings little benefit to health if it is not accompanied with suitable hygiene behaviour.
- 4 **Improving coordination** and enhancing partnership among relevant ministries (nutrition, health, food security, water resources and sanitation), humanitarian organizations and other relevant stakeholders so as to ensure the integration of health and nutrition goals in all WASH projects from the start.
- 5 **Ensuring and reinforcing the principle of WASH minimum package** (this will be discussed in more detail later in this Chapter) both in health and nutrition centres as well as in the households/communities affected by undernutrition.

BOX 3: WASH’NUTRITION TARGETING

WASH’Nutrition strategy was initially designed to the targeting of children under five and of particular interest in humanitarian contexts with acute undernutrition. This was especially true for pillar 4 on coordination and pillar 5 on WASH minimum package. However, the methodological approaches of the strategy, the five pillars, can also cover other types of undernutrition and be adapted to development contexts where both undernutrition rates and WASH conditions are of concern.

83 - ACF (2014) “Nutrition Security Policy”

84 - West and Central Africa Regional WASH Group (2015) “WASH in Nut” Strategy for Sahel

2. INTEGRATION

Better alignment allows WASH and nutrition programmes to maximize their impact, increase cost-effectiveness and sustainability, and create greater benefits for the beneficiaries.

There are many ways in which WASH and nutrition programmes could integrate. The level of integration should be decided on the basis of sector capacities and context-specific conditions. Even when strong synergies are not possible, due to, for example, funding constraints or activity timetables preventing different sectors from operating as a single programme, there are still options for aligning interventions as long as there is a good coordination, communication and collaboration between sectors. Figures 14 illustrates different levels and types of integration that may be appropriate in different circumstances.

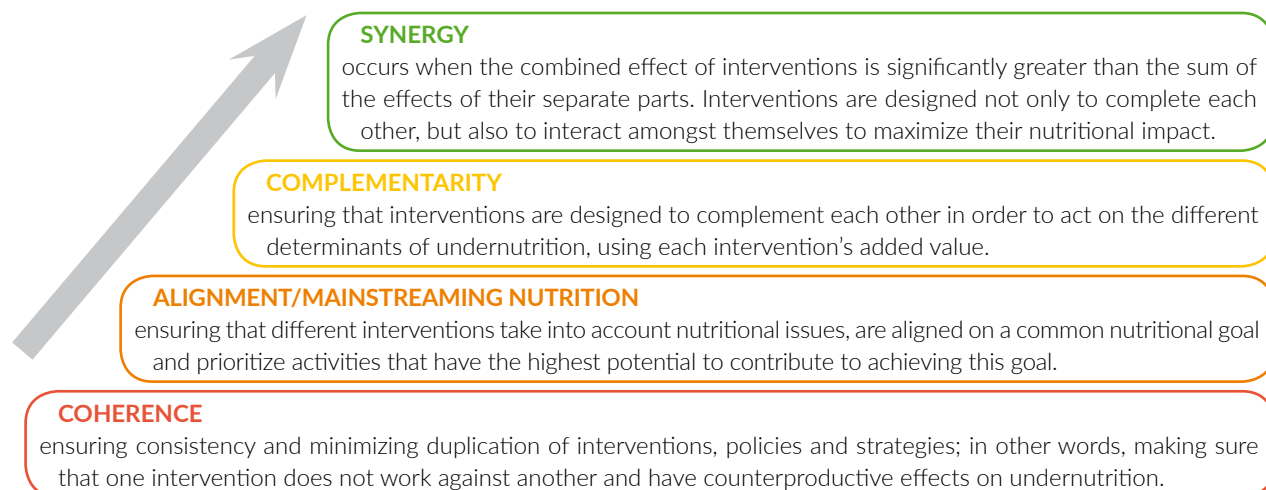
This guidebook defines integration as a way of working in which WASH and nutrition sectors operate in synergy.

NOTE

From the operational point of view, WASH and nutrition sectors work in synergy when:

- There is **joint situation analysis and planning**;
- There are unified and **integrated programme components** aiming at preventing/reducing undernutrition: one or more **indicators** incorporated into the project objectives of another sector and/or there is a **common specific objective** for both sectors;
- There is a joint, synchronized delivery of interventions in the **same geographical area, targeting the same beneficiaries** (individuals, households, communities);
- There is **regular and significant communication** between WASH and Nutrition actors, a well-coordinated management and reporting structure;
- There is joint **monitoring and evaluation** of implemented activities.

FIGURE 14: INCREASING LEVELS OF MULTI-SECTORAL INTEGRATION



Source: ACF (2014) "Nutrition Security Policy"

2.1. GEOGRAPHICAL CO-SITING OF WASH ACTIVITIES IN NUTRITIONALLY VULNERABLE AREAS

The use of relatively low-cost and easy-to-apply mapping techniques to overlay various key indicators to better understand the relationship between WASH conditions and undernutrition rates can help improve decision-making for interventions and programming.⁸⁵ This approach can be used at any geographical level (household, community, district, region, etc.) as an

85 - Ramos M. and Kendle A., ECHO Amman and Save the Children (2014) "Integrated programming: Mapping of nutrition and WASH"

assessment, programme design and/or monitoring tool, but primarily, it could help ensure good geographical concentration of WASH projects in the areas with high prevalence of undernutrition. Depending on the context, there can be different ways of defining **the priority intervention targeting**:

- ❶ **High GAM prevalence*** and high rates of associated diseases such as diarrhea and malaria when data are available – response to nutritional emergencies to support lifesaving interventions;
- ❷ **High stunting prevalence*** – longer term impact, more development-oriented programming;
- ❸ **Areas where nutritional status is likely to deteriorate** – programming focusing on prevention of undernutrition, therefore not waiting for high prevalence cut-off values to intervene.

**See Chapter 1 for prevalence cut-off values of public health significance*

Integrated WASH and nutrition mapping implies looking at some **key indicators**, which can be obtained from the secondary data such as KAP⁸⁶ surveys and annual reports and producing a visual example of their interaction:

- Prevalence of GAM/SAM or stunting
- Access and distance to safe water source
- Access and use of adequate and safe sanitation facilities
- Hygiene practices within the population, including hand washing at critical times
- Feeding and care practices for infants and young children
- Prevalence of diarrheal diseases/nematode infections/EED
- Prevalence of stagnant water (marshland, rice cultivation, large rainfall creating standing water) and badly managed solid waste⁸⁷
- Proportion of health structures lacking basic WASH services

In addition, data on patient origin kept at nutrition or health centres can be used to trace back to **identify villages where hotspots of undernutrition exist**. Intelligent targeting of WASH programming on this basis is an effective way to plan community WASH activities. The resulting maps provide contextually specific, evidenced-based information that could be used in various ways with the aim of achieving greater nutritional impact. For example, integrated maps could demonstrate the strong link between nutritional status and the WASH environment within an area and highlight where certain key interventions would be likely to have the greatest impact on undernutrition.⁸⁸

➤ EXAMPLE FROM THE FIELD 1 ◀

Mapping of nutritional status and WASH infrastructure in households with children under five years of age in Bangladesh

Since 2006, Terre des hommes (Tdh) has been working to prevent acute undernutrition in the Kurigram District of northern Bangladesh. The first programme to integrate Nutrition and WASH interventions was supported by UNICEF, the World Food Programme (WFP) and the Swiss Water and Sanitation Consortium (2011-2013). As a novel approach for WASH/Nutrition, the project utilized Geographic Information Systems (GIS) mapping by linking the database for nutritional status of children under five years with the database for household WASH infrastructure. In the peri-urban slum of Ward 1 (Kurigram Municipality), Tdh produced seasonal maps of household prevalence of SAM and MAM, overlaying the location of project-supported household toilets and households with access to project tube wells. Although project funding did not permit 100% access to improved water source and toilets in Ward 1, the visualization of WASH infrastructure with cases of acute undernutrition helped identify neighbourhoods of concern for closer follow-up.

From 2013-2015 the integrated programme was scaled-up to cover large rural areas affected by floods in partnership with ECHO, WFP and the Swiss Water and Sanitation Consortium. The team used GIS mapping to represent SMART survey results at the Union Level.

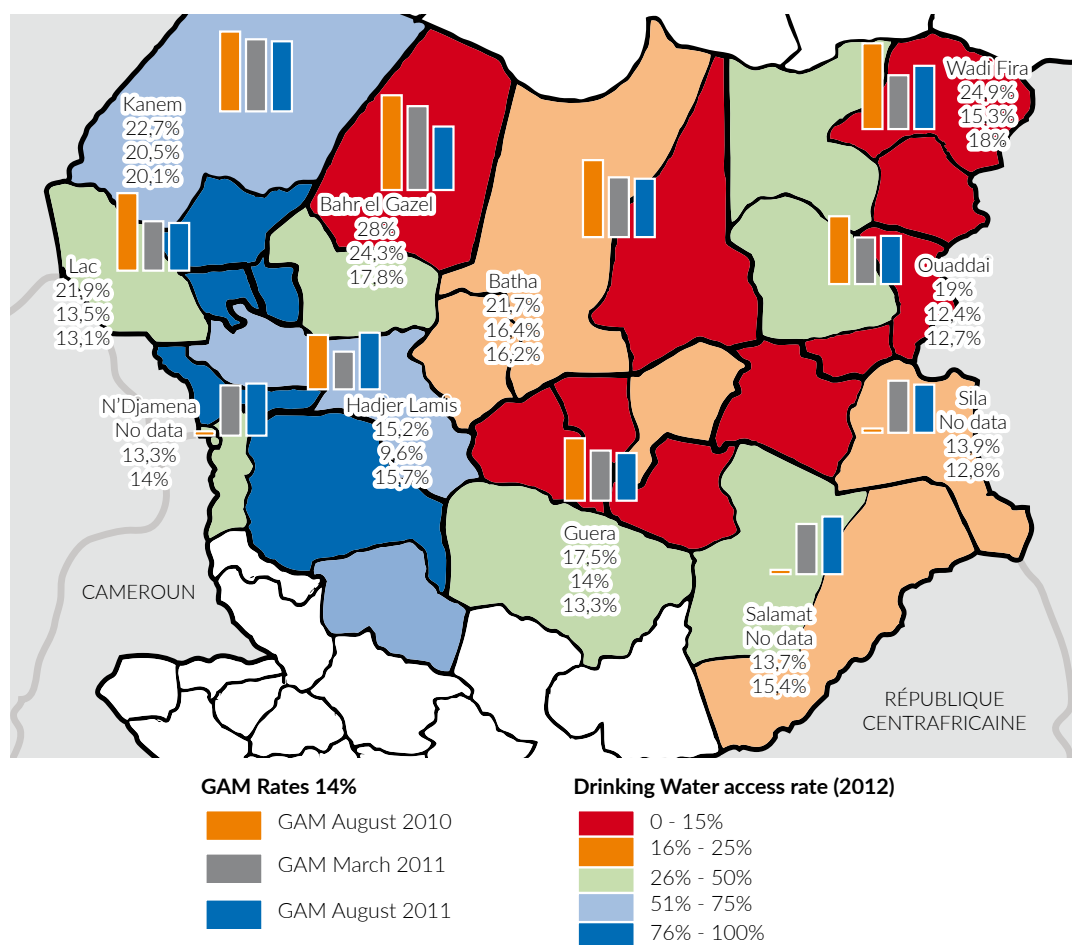
In response to severe flooding in 2015, Tdh's next step in Kurigram District is to enhance collaboration with local authorities through a household census in flood-affected areas. The census will assist authorities to take decisions for resource allocation during relief and recovery interventions. In addition to demographic data, Tdh's teams plan to map child nutritional status, early and high-risk pregnancies, birth registrations as well as WASH infrastructure and household location with respect to flood risk. As WASH infrastructure is costly, GIS mapping of census information is planned to help identify pockets of acute undernutrition where efforts and resources could be concentrated toward safely managed water and sanitation.

86 - Knowledge, Attitude and Practice

87 - These conditions are vectors for breeding sites and increase the risk of diseases like malaria and dengue

88 - Ramos M. and Kendle A., ECHO Amman and Save the Children (2014) "Integrated programming: Mapping of nutrition and WASH"

MAP 4: OVERLYING GAM RATES WITH ACCESS TO DRINKING WATER IN CHAD



Source: Ramos M., Fillon P., Global WASH Cluster Rapid Assessment Team, March 2012

2.2. INTEGRATED ASSESSMENTS

Joint assessments of different technical sectors are more likely to foster a comprehensive understanding of the situation and encourage an integrated response. Joint field assessments can also be a great way for staff to learn about each other's sector and discover areas of common interest.

The starting point for integrated WASH and nutrition assessments is to agree on the scope of the assessment, the main indications to be looked at and the research methods to be used. Generally, needs assessment begins with reviewing existing country assessments, studies and health statistics. Knowing the basics about the extent and location of undernutrition, diarrhea disease, access to water, sanitation and hygiene, food and economic security can help WASH and nutrition programme managers to prioritize where to implement integrated field assessments.

Conducting joint assessments requires careful planning (itineraries, activities, contacts to meet, etc.) and coordination, meeting regularly as a team to share findings, identify areas of common interest, draw conclusions and define the content of the assessment report.

Some assessment questions will be sector-specific (e.g. assessing groundwater resources or breastfeeding practices) and will require specialist skills and approaches. But there are also many cross-cutting issues and areas of common interest which are likely to be included in both WASH and nutrition assessments.

A number of qualitative participatory methods could be used to explore knowledge, attitudes and practices of people in the areas where joint WASH and nutrition interventions are to be implemented. For example, conducting activities such as three-

pile sorting⁸⁹ or focus group discussions would enable WASH and nutrition teams to get a better insight into the practices of different community groups (men, women, children), compare their perceptions on certain issues and validate what the community's real needs are. This would also help analyse the potential obstacles for implementation and sustainability of integrated projects. Participatory approaches offer a good opportunity for identifying key people in the community (traditional and religious leaders, doctors, teachers, etc.) and learning about cross-cutting issues such as age, gender, disability, etc.

Finally, in order to properly define integrated WASH and nutrition interventions, it is important to understand the capacity of relevant stakeholders, especially institutional and local. This will determine capacity-building activities that should be conducted and barriers to engaging different partners in the implementation process. In addition, based on the results of these analyses, WASH and nutrition teams will be able to define and implement suitable advocacy initiatives.

An example of a WASH questionnaire to be included in nutrition assessment can be found in Table 4. The questions are examples only, but it is important to consider a number of questions for each presented category: household drinking water, sanitation, hand washing, and food hygiene, as each one is associated with a fecal-oral transmission route.

Conducting an anthropological study is a very useful way to increase understanding of social and cultural determinants in the population and helps integration by providing a more comprehensive picture of the context. For example, an anthropological study contacted by ACF in Cameroon and Chad in 2012 showed that men's opinion on the taste of water had a great influence on the use of chlorine in the households. Issues like this should be taken into account when designing diarrhea prevention strategies (ACF, 2012).

NOTE

BOX 4: SEASONAL CALENDAR

To facilitate information sharing, joint thinking and a common vision, a collaborative tool such as a seasonal calendar could be used. On a basis of available information, this calendar identifies a seasonality of undernutrition along with variations in the local context that affect nutrition security: climatic factors and weather patterns (e.g. seasonal floods), food prices in the local markets, employment opportunities, water availability, communicable diseases etc. This calendar can show, for example, that some months see a higher level of **diarrhea** due to the dry season and that the onset of rains brings **malaria**, possibly affecting household health and increasing expenditure on medicine. These are the months when undernutrition is more likely to increase. "Seasonal peaks" of wasting for example, induced by the deterioration of one or several above mentioned risk factors, are observed in Africa, Asia and Latin America.

By constructing and analysing seasonal calendar jointly, different sectors (Nutrition, Health, WASH, Food Security and Livelihoods) can develop a comprehensive and shared understanding of various factors influencing nutrition security and adjust their programming to respond in the most effective way. An example of a seasonal calendar developed by ACF can be found in the Programmatic resources section of this guidebook.

Source: ACF (2014) "Nutrition security policy" & World Food Programme (2014) "Nutrition sensitive programming: What and why?"



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89 - Participatory tool to help a group of people discuss common water, sanitation and hygiene practices and beliefs

TABLE 4: INCORPORATING WASH ELEMENTS INTO NUTRITION ASSESSMENTS AND VICE VERSA

INTEGRATING WASH ELEMENTS INTO NUTRITION ASSESSMENTS	
HOW?	AN EXAMPLE QUESTIONNAIRE
➤ Involve WASH colleagues for technical support on WASH aspects of the assessment. ➤ Collect only WASH-related data relevant to nutrition programming. ➤ Analyse WASH information using a WASH lens and share findings with WASH colleagues/other relevant parties for their action. ➤ Check for functionality of WASH facilities during household interviews. ➤ Assess barriers to WASH-related behaviours e.g. hand washing.	Household Drinking Water 1. Where do you get your drinking water from? 2. How many times do you fetch water per day? What containers do you use? 3. What quantity of water is consumed at the household level? 4. Do you treat your drinking water? If so, how? 5. Where do you store treated drinking water? 6. How do you serve/give people water to drink (pour from jug, dipper, etc.)? Sanitation 1. Do you have a latrine? Can you show it to me? 2. Who uses the latrine? 3. How often do family members use this latrine? 4. Does anyone in your house need help to use the latrine? 5. Do your children use the latrine? If not, where do they defecate? Hand Washing 1. Where do you wash your hands? Can you show me? 2. When do you wash your hands? 3. How do you wash your hands? Food Hygiene 1. Where do you prepare food for cooking? 2. Do you wash the food preparation surfaces? When do you wash them? How do you wash them? 3. Do you wash your food before cooking? Which foods do you wash before cooking? 4. Where do you store (cooked/prepared) food? For how long? 5. Do you reheat stored food?
MAKING WASH ASSESSMENTS MORE NUTRITION -SENSITIVE	
HOW?	NUTRITION DATA RELEVANT TO WASH PROGRAMME
➤ Use data from the health management information system (HMIS) and the demographic health surveys (DHS) as references when planning WASH interventions.	HMIS and DHS reports are available for most countries and contain valuable health information. DHS country reports are prepared every 4 to 5 years and are on the Internet. HMIS data can be obtained from the Ministry of Health in country. Nutrition data relevant to WASH programmes include a list of nutrition centres, list of health facilities lacking basic WASH services, prevalence of diarrhea, nematodes infections, malaria and other WASH-related diseases known to be linked to undernutrition, prevalence of wasting/stunting among children under five, GAM rates, number of admitted SAM cases for the treatment, deworming coverage, percentage of pregnant women and children under five who are anemic, information on micronutrient deficiencies within the population, etc.

Source: Concern Worldwide (2014) "How to better link WASH and nutrition programmes",
USAID (2013) "Integrating water, sanitation and hygiene into nutrition programming"

A short description of other analytical tools that can help WASH and nutrition teams to develop a shared vision of factors relating to undernutrition and priorities for action, such as **Link-NCA** and **MIRA**, can also be found in the Programmatic resources section.

2.3. FORMULATION AND FINANCING OF INTEGRATED PROJECTS

The formulation of integrated activities can either take the form of building a joint integrated project, or incorporating specific objectives, activities and indicators of one sector into the project proposal of another (e.g. including nutrition-sensitive indicators such as child weight/height, anemia in WASH projects). The decision will depend on the context, the capacities of the NGO/mission and the outcomes of previously conducted needs analysis. Different elements such as the existence of coordination mechanisms between two sectors, capacity of actors already working on the issue of WASH and nutrition integration, on-going advocacy initiatives, perceptions of national and local authorities in this regard, etc. also play an important role in the decision-making process. Where resources and funding are constrained, WASH and nutrition implementers can start small pilot activities and gradually increase the integration. At times, opportunities for scaling-up may arise as programmes expand and adapt to the context.

Objectives, results, activities and indicators in the logical framework will depend on the type of the project chosen:

- WASH interventions are integrated into prevention and treatment of undernutrition
- WASH interventions are integrated into prevention of undernutrition only
- WASH interventions are integrated into treatment of (acute) undernutrition only

A logical framework for an integrated project can have only one joint specific objective or “shared” purpose, measured by indicators relating to its specific aspects. For example: ***“The mothers/caretakers in 950 households in Balkh province improved their hygiene and infant and young child feeding practices through increased knowledge and better access to WASH infrastructure, products and services.”***

Examples of specific objective indicators:

- 75% of the targeted population wash their hands with soap and water at critical times
- 70% of the target population demonstrate adequate and hygienically safe child feeding practices

Under a single shared purpose, integration can also be achieved by creating synergies between the results produced by different sectors. Once expected results have been determined, the project activities required to achieve those results have to be defined. Here WASH and nutrition teams can come up with **joint activities** and think of ways to **integrate their resources**. This includes various options such as joint training for field staff, sharing methodologies or transport for the field work, etc.

Even though the timeframes of WASH and nutrition teams may be very different, it is still possible to work in an integrated way if the timetables for interventions are developed together. Joint planning of activities and resources can help harmonize implementation, avoid overlaps and identify opportunities for mutual support. Activities and resources scheduling is a useful tool for this. This is a simple diagram of planned activities (derived from the logical framework) over a given time period, identifying their start and end dates, with the resources needed to carry out those activities (human resources, materials, equipment). This makes it easier to see how different activities and resources fit together and to identify potential constraints such as two activities requiring the same resource at the same time or delays of the whole project that would occur if certain activities take longer than planned. An example can be found in the Programmatic resources section as well as a simplified example of a logical framework for the project with a multi-sectoral approach to ensuring nutrition security.⁹⁰

The cost calculation for WASH and nutrition integrated projects is always context specific and it will depend on the results of needs assessment, identified problems, intervention duration, etc. What is feasible in West Africa with \$1 is different from what can be done for the same amount of money in South Asia (e.g. WASH infrastructure is generally cheaper in Asia and reaches a higher number of people).

90 - Example taken from ACF US project in Pakistan

If the budget available for WASH activities is low, the recommendations are to:

- Prioritize provision of a WASH minimum package for the affected households (see Pillar 5 of the WASH'Nutrition strategy) and awareness-raising sessions for mothers/caretakers of children admitted to SAM treatment programme.
- Include interventions to ensure sustainable access to safe water, adequate sanitation and hygiene items and products in the health facilities (see Pillar 5 of the WASH'Nutrition strategy and Chapter 4 for example activities in the health and nutrition centres). Priority has to be given to the health structures which have the largest admission of SAM cases and those receiving inpatients.

If the budget available for WASH interventions is higher, in addition to what is recommended above:

- Include WASH activities in the most affected communities, or in the case of a prevention approach, in the communities most vulnerable to undernutrition (see Chapter 4 for example activities at the community level).
- Include interventions aiming at strengthening construction/rehabilitation work in health care facilities and expending the coverage of supported health structures.
- Include barrier analysis to ensure greater impact of hygiene promotion and behaviour change activities (see Pillar 3 of the WASH'Nutrition strategy).

It is worth noting that local, inexpensive, more sustainable solutions such as soap and chlorine production and social marketing should be preferred over distribution of the same items. Similarly, investments in hard, sustainable WASH infrastructure should be prioritized as replacements of poorer quality infrastructural parts often cost more than one more sustainable building.

In recent years, the number of donors who incorporate multi-sectoral components into their funding strategies has increased. Without claiming to be exhaustive, the Programmatic resources section provides a brief overview of several funding agencies which encourage the integration of WASH and nutrition actions. Also, an example of budget elements for an integrated WASH and nutrition project⁹¹ can be found in the Programmatic resources section.

In the Democratic Republic of Congo, adding the smallest WASH component to an ACF emergency nutrition project managed to claim about 16% of the budget for the most basic package (WASH kits for the children admitted to SAM programme, provision of temporary solutions for water treatment and storage at health centres, a few rehabilitations of infrastructure, for latrines especially. In Nigeria, a similar approach managed to obtain 40%. Therefore, cost calculations and budgeting are always context specific.

NOTE

2.4. COMMON BARRIERS, CHALLENGES AND NEEDS FOR SUCCESSFUL INTEGRATION

While the impact of WASH on nutrition and vice versa is acknowledged, numerous difficulties in implementing integrated programmes for improved health outcomes still remain. In other words, unless WASH or nutrition indicators are included in project objectives, there is little incentive to work towards an integrated goal.⁹² WASH and nutrition programme managers can use the information from Table 5 for project planning, to prepare for challenges they might encounter and better understand what conditions are necessary for successfully integrated programmes.⁹³

91 - Example taken from the ACF mission in Nigeria, 2014/15

92 - Teague et al (2014) "Water, sanitation, hygiene, and nutrition: successes, challenges, and implications for integration"

93 - Based on the study conducted by Teague et al (2014) in 6 countries and 10 organizations

TABLE 5: COMMON BARRIERS AND CHALLENGES IN WASH AND NUTRITION INTEGRATION

	BARRIERS AND CHALLENGES	RECOMMENDATIONS
FUNDING	➤ Funding is often intended for a single purpose, such as WASH or nutrition, but not both. ➤ Funding streams for WASH and nutrition programmes come separately from a donor with different goals or different donors. ➤ Restrictions on what funding can be used for. These types of restrictions do not allow nutrition programmes to incorporate WASH activities and vice versa. ➤ Pilot funding received for integrated projects is often not enough to really show an impact or take the programme to scale.	➤ Donor support and encouragement for WASH and nutrition integration. ➤ More flexible funding that will create an enabling environment for integrating WASH and nutrition programmes. ➤ Increase the amount of funding for integrated programmes. ➤ Present multi-sector project to two or more donors.
COORDINATION AND COMMUNICATION BETWEEN SECTORS	➤ Lack of regular communication, discussions and meetings between WASH and nutrition sectors. ➤ Lack of comprehensive integration strategy. ➤ Inadequate stakeholders coordination.	➤ Clear strategic framework for integrating programmes. ➤ Stronger collaboration between the key stakeholders in the WASH and nutrition sectors. ➤ Creating an environment that is conducive to collaboration between programmes and sectors rather than competition. ➤ Better information exchange e.g. nutrition sector systematically shares the key nutrition data e.g. lists of nutrition centres, admitted cases for the treatment, surveys, assessments, studies, results, etc. with WASH sector to ensure better targeting of interventions.
EVIDENCE OF IMPACT	➤ Limited available evidence of effectiveness and cost-effectiveness of multi-sectoral approaches on nutrition, which limits the formulation of evidence-based integrated interventions to maximize nutritional outcomes. ➤ Lack of evidence-based tools and guides for multi-sectoral project management.	➤ More examples of successfully integrated programmes to garner support for integration and to serve as a guide for design and implementation of new integrated projects.
STAFFTIME, CAPACITY AND INTEREST	➤ As each sector is still learning about its own most strategic interventions, it is difficult to prioritize integrated interventions, and decide with limited time and resources which activities have the most impact. ➤ Knowledge on integrating programmes is a key challenge, in addition to a lack of training. ➤ Insufficient knowledge-sharing among sectors.	➤ Better knowledge sharing and training on WASH and nutrition integration.
M & E	➤ Each sector has a specific set of indicators and approaches to measurement. ➤ Project managers are focused on their project indicator board as they are judged by the results obtained in terms of fulfilling the indicators objectives.	➤ Establishing common WASH and nutrition indicators for WASH and nutrition teams so they feel responsible in other domains too and not just their own.

Source: Concern Worldwide (2014) "How to better link WASH and nutrition programmes",
USAID (2013) "Integrating water, sanitation and hygiene into nutrition programming"

3. FOCUS ON THE MOTHER AND CHILD DYAD

Jovana Dodos © ACF – Senegal, 2015



WASH and nutrition integrated projects should be focused on the areas facing the highest prevalence of undernutrition and where limited access to safe drinking water, sanitation facilities and poor hygiene practices are known underlying causes of poor nutritional status.⁹⁴ **The priority target populations are communities, families and individuals** who are the most affected and vulnerable to undernutrition and inadequate WASH conditions. Special attention should be given to the mother and child dyad in relation with the **“1,000-day window of opportunity”** as the prevention of undernutrition during this period is crucial.⁹⁵

TABLE 6: ILLUSTRATIVE CRITERIA FOR POPULATION TARGETING

DEVELOPMENT CONTEXTS	EMERGENCY CONTEXTS
➤ HH with children under 5 suffering or recovering from SAM/MAM ➤ HH with pregnant lactating women (PLW) with infants, malnourished PLW and PLW living with HIV or other chronic illness such as tuberculosis ➤ Food insecure HH ➤ Poor HH living below the poverty line (less than 1.25 dollars a day) ➤ HH with inadequate childcare capacity e.g. with children 0-59 months old left alone or in the care of another child under 10 ➤ HH with poor access to safe water, improved sanitation and hygiene	➤ Refugees ➤ Internally Displaced People (IDPs) ➤ Emergency affected populations ➤ Conflict-affected residents

94 - ACF (2014) “Nutrition security policy”

95 - Ibid

3.1. WHY TARGETING CHILDREN, PREGNANT AND LACTATING WOMEN AND CARETAKERS AS A PRIORITY?

In the general population, children under five and pregnant and lactating women are among the most vulnerable to undernutrition and diseases.⁹⁶

Young children have small energy stocks and they have to be fed more frequently to “refill the tank”. This explains why in the periods of stress and food shortage children are the first to be affected. It also explains why diseases can have a greater impact on children’s nutrition status.⁹⁷ During illness, the body has to spend more energy to recover, which increases the need of nutrients intake. On the other hand, a sick person has no appetite and loses weight. This results in the vicious cycle between illness and undernutrition.⁹⁸

The 1,000 days between the beginning of pregnancy and a child’s 2nd birthday is the most critical, since growth failure occurs almost exclusively during this period and the diarrhea burden is high. Between 6 and 24 months, children are usually no longer protected by exclusive breastfeeding and are **more exposed to disease and infection through contaminated environment, primarily food and water**.⁹⁹ It is proven that severe acute malnutrition peaks within this period before 24 months as a result of inadequate infant and young child feeding practices and high risk of exposure to infections.¹⁰⁰

THE MOTHER/CHILD DYAD

Refers to a mother and her offspring from conception through fetal life up to 3 years and it presents the basic human unit (Derrick B, Bo V, 1997). Health problems all over the world are closely connected to the vulnerability of the mother/child dyad to inadequate or inappropriate nutrition, infections and other factors. Because of the intimate relationship between the two, abnormality in one can and often does affect the other.

BOX 5: DIFFERENT AGE STAGES AND WASH PROGRAMMING

- 1 **New-born or neonate:** child under 28 days old
- 2 **Infant:** child less than 12 months old
- 3 **Toddler:** child aged between 12 and 24 months (<2)
- 4 **Young children:** 2 to 5 years old

Practical implementation of WASH interventions for better nutritional status should bear in mind that very **different technical solutions and approaches are appropriate for different age groups**. New methodologies to facilitate effective usage of nappies and potties are currently under development by Save the Children and by the BABY WASH group led by World Vision, together with supporting tools, excreta disposal options and washing and cleaning modifications. Links with Infant and Young Child Feeding (IYFC) and neonatal health practitioners will also help to promote an integrated approach that targets the most vulnerable age group, during the first 1,000 days of life.

Health and well-being of a pregnant and lactating woman is directly related to the growth and health of her infant.¹⁰¹ During pregnancy and breastfeeding, a woman has an increased need of nutrients and extra energy, which are necessary to meet the nutritional needs of her baby. If undernourished, the maternal body uses its natural reserves to restrict growth and development of the fetus. Restricted growth in the womb, due to maternal undernutrition, is estimated to be responsible for more than a quarter of all new-born deaths.¹⁰² Inadequate food intake before and during pregnancy increases the risk of delivering an undernourished baby. Low-birth-weight babies are particularly vulnerable to undernutrition and diseases throughout their childhood, adolescence and into adulthood.¹⁰³ Undernutrition during pregnancy, affecting fetal growth, is a major determinant of stunting and can lead to consequences such as nutrition-related non-communicable diseases in adulthood.¹⁰⁴ When it

96 - ACF (2012) “The Essential: nutrition and health”

97 - ACF (2012) “The Essential: nutrition and health”

98 - ACF (2012) “The Essential: nutrition and health”

99 - IPIN (2014) “Integrated programming for improved nutrition”

100 - USAID (2015) “The 1,000 days window of opportunity: Technical guidance brief”

101 - Ibid

102 - Lancet (2013) “Nearly half of all child deaths caused by malnutrition”

103 - ACF (2012) “The Essential: nutrition and health”

104 - USAID (2015) “The 1,000 days window of opportunity: Technical guidance brief”

comes to breastfeeding, the quantity of milk produced for each feeding decreases if the mother is severely malnourished.¹⁰⁵

Given the high vulnerability and indivisible connection between the two, integrated WASH and nutrition strategies and interventions should protect and support the “mother – (malnourished) child” couple and encourage integrated service delivery for both.

In addition to the close relationship mother and child have, **children are also dependent on other adults – influential caretakers** such as fathers, grandmothers, older siblings, etc. - for their general needs and care (hygiene, feeding, health). Being in close contact, mothers/caretakers and their children are sharing water, food, household environment and other resources. For that reason, interventions proposed under the second pillar of WASH’Nutrition strategy go **beyond the figure of a mother** and aim at targeting “mother/ **influential caretakers** - (malnourished) child” dyad.

Note that **prevention activities** focus on the “**mother/caretaker-child**” dyad while **interventions accompanying the treatment** target children who are already malnourished and therefore focus on **the** “mother/caretaker – **malnourished child**” dyad.

➤ EXAMPLE FROM THE FIELD 2 ◀

“1,000-day strategy” and WASH in Senegal

Since 2012, ACF mission in Matan region, Senegal has been implementing a project which aims at strengthening the prevention and management of severe acute malnutrition cases through an integrated approach. Within the framework of this project, special focus has been given to pregnant and lactating woman, children less than 2 years old and implementation of the 1,000-day strategy. The main hygiene promotion efforts are designed around nutrition activities, which are jointly implemented at the community level and in health posts. Nutrition interventions, which intend to improve essential family and young child feeding practices, include WASH awareness-raising components: hand washing at critical moments, proper use of the latrine, safe drinking water consumption, health and hygiene of a new-born, body and oral hygiene, clean and healthy living environments and use of mosquito nets.

➤ EXAMPLE FROM THE FIELD 3 ◀

“WASH 1,000 strategy” in Ghana

Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING), aims at improving nutrition through “**WASH 1,000 strategy**”, a multifaceted approach that stresses the importance of key household behaviours during the first 1,000 days between the mother’s pregnancy to the child’s second birthday. “**WASH 1,000 strategy**” focuses on four key behaviours:

- ➊ Ensuring the child has a safe and clean play space
- ➋ Safely disposing of human and animal feces
- ➌ Hand washing at critical times
- ➍ Using only boiled or treated water for the child’s consumption.

Main WASH activities are concentrated in the communities affected by high undernutrition rates. Mobilizing affected communities to build latrines is one of the methods used to improving sanitation. Installing tippy taps or simple hand washing stations near latrines and in households promotes hand washing after using the latrine and before meals is another WASH 1,000 goal. Learn more about the project: <https://www.spring-nutrition.org/>

Chapter 4 provides various examples from the field showing how to integrate WASH and nutrition interventions at different levels and settings while focusing on the key target group: mother/influential caretakers – (malnourished) child dyad.

105 - UNICEF (2015) “Related maternal nutrition”

4. EMPHASIS ON BEHAVIOUR CHANGE



Marielle Labadens © ACF – Senegal

The third pillar of WASH'Nutrition strategy calls for **“placing emphasis on behaviour change**, knowing that provision of hardware only (access to water and sanitation facilities) brings little benefit to health if it is not accompanied with suitable hygiene behaviour.”

4.1. WHAT IS BEHAVIOUR CHANGE AND WHY IS IT NEEDED?

Behaviour change interventions and processes are at the core of many humanitarian aid initiatives, in highly diverse operational areas: health, nutrition, WASH, shelter, child-care and food security. Behavioural factors and psychosocial **variables such as knowledge, attitudes and social norms influence the effectiveness of interventions** and a well-planned behaviour change initiative can act as a powerful “magnifier” of the programme impact in these areas.¹⁰⁶

Behaviour change is a research-based consultative process for addressing knowledge, attitudes and practices. It provides relevant information and motivation through well-defined strategies, using a mix of media channels and participatory methods. The behaviour change process can be divided into two stages: **initiating** behaviour change and **maintaining** behaviour change.¹⁰⁷

One shared aspect of the work of the WASH and nutrition sectors is that they both aim at influencing people's behaviour in order to reinforce practices that prevent undernutrition and protect health. That being the case, Chapter 4 of this guidebook discusses how WASH and nutrition sectors could work together to identify the most important common areas to promote behaviour change, e.g. food preparation and food hygiene education, and harmonize their approaches when targeting the same population. Using an **integrated approach to behaviour change should reduce overburdening and complexity in messaging** target audiences and **increase the chances for adapting promoted practices**.

BOX 6: IMPROVING CHILDREN'S PARTICIPATION IN WASH BEHAVIOUR CHANGE PROGRAMMES

Children represent 50% or more of a crisis-affected population (48% of Syrian refugees, 60% of refugees in South Sudan, 49% of IDPs in Bangladesh as per UNHCR 2013 data). Working with children (age 2 to 12) presents a great opportunity to change behaviours with appropriate age-specific hygiene promotion, which can be implemented in partnership with schools, child friendly spaces, temporary learning spaces, mother and baby corners and in the community itself. A large variety of activities involving games, competitions, role play and clubs are available.

Young children are more adaptable than adults and it is more likely that they will be influenced by behaviour change communication activities, whether WASH-related, or related to other sectors. A variety of sources report that children can be successful in influencing changes in the behaviour of their younger siblings and parents. Implementers should therefore consider maximizing the participation of children in WASH programmes and move beyond passive inclusion of children in hygiene promotion (Save the Children, 2014).

106 - ACF (2013) “ABC-Assisting Behaviour Change, Part 1: Theories and Models”

107 - UNICEF (2015) “Communication for Development (C4D)”

BOX 7: ASSISTING BEHAVIOUR CHANGE (ABC) MODEL

To improve its capacities in developing more participatory, sustainable and effective approach to behaviour change, ACF developed a 10-step model for Assisting Behaviour Change – ABC. The model results from ACF's theoretical and practical analysis of behaviour change in its programmes and draws on other existing models. The ABC model is designed to serve as a practical guide for implementing programmes with a behaviour change objective. The 10 steps presented in Figure 14 are crucial elements that must be taken into account when designing and implementing behaviour change interventions. Each step gives us important information for triggering, facilitating and maintaining a behaviour change process. Each step is necessary for promoting behaviour change, but is not sufficient on its own. The guidance provided through this approach can be applied across various technical sectors, including the WASH, nutrition and health sectors.

- ACF Assisting Behaviour Change (ABC) Manual: Part 1
http://www.actioncontrelafaim.org/sites/default/files/publications/fichiers/acf_abc_part_1_2013_gb.pdf
- ACF Assisting Behaviour Change (ABC) Manual: Part 2
http://www.actionagainsthunger.org/sites/default/files/publications/ACF_Manual_Assisting_behaviour_Change_Part2_Dec13.pdf

TABLE 7: TEN STEP MODEL FOR ASSISTING BEHAVIOUR CHANGE (ABC)

ACF 10- STEP MODEL FOR ABC		
1	Analysis of way of life and current practices Understanding the context and the reference points of our population: what are their practices, and the meaning and the consequences of these practices on the community and on individuals' lives?	ANALYSIS
2	Analysis of community perception of the problem What is their perception of what we consider "the problem"? Is it perceived as a problem or just as a new event? Is it perceived as a temporary or a lasting event?	
3	Analysis of causal attribution What is the cause attributed to the problem? Is it an internal or an external cause?	
4	Analysis of change phase Is the population already in a process of change? If yes, at which stage are they and who or what are the resources for facilitating the process	
5	Analysis of behaviour and its determinants We refer to the model developed by Fishbein and Ajzen, 1975, because it provides a useful reflection of the complexity of the performed behaviour	
6	Analysis of barriers, benefits and resources for BC process What are the barriers (practical, social, cultural, psychological etc.) identified by people that are an obstacle to the process of change? What are the benefits already perceived? Who are the groups or what are the facts that can facilitate the process? What is known about the benefits and barriers?	
7	Design the programme (approach and activities) taking into consideration the data collected in the analysis phase	DESIGN
8	Support the process of change – change the intervention according to the stage of change For example, if people are in the 'resistance stage' then you have to address the reasons for their resistance first. Refer to the Change Curve, adapted from the Kubler Ross 'stages of grief' model (see appendix 7.8 of Part 1)	MONITORING & EVALUATION
9	Sustaining behaviour change – ritualization New behaviours or practices need to fit in with cultural and traditional values and a phase of transition and ritualization is necessary to maintain BC. A (self) monitoring system should be planned and in place.	
10	Evaluation of the BC process Evaluating the process and the changed behaviour, with suitable measures and indicators.	

4.2. BARRIER ANALYSIS

Barrier Analysis was developed in 1990 by Tom Davis based on the Health Belief Model and the Theory of Reasoned Action. This is a rapid assessment tool used in community health and other community development projects to *"identify behavioural determinants associated with a particular behaviour so that more effective behaviour change communication messages, strategies and supporting activities (e.g., creating support groups, changing community norms, creating alternative activities) can be developed"*.¹⁰⁸

Barrier Analysis **can be used at the start of a behaviour change programme to determine key messages and activities for intervention.**

It can also be used in an ongoing programme focusing on behaviours that have not changed very much despite repeated efforts, in order to understand what is keeping people from making a particular change.

In Barrier Analysis, a survey is conducted using questions to identify potential determinants that can block (or enable) people from taking action that could improve their own or their children's lives (e.g. practicing exclusive breastfeeding or treating water at home). Twelve potential determinants are studied including perceived self-efficacy/skills, perceived social norms, access, and perceived positive consequences of adopting the behaviour. The responses of two groups are compared – those that are currently adopting the behaviour under study – called the **Doers** – and those that are not currently adopting the behaviour under study – called the **Non-doers**. Comparing the responses of these two groups helps to know which of the possible determinants are most highly associated with the behaviour, and thus potentially more important to influence in order to increase adoption and maintenance of the behaviour. The recommended sample size for a Barrier Analysis study is about 45 Doers and 45 Non-doers and generally takes 2-3 days.

The results obtained from Barrier Analysis can be used to make changes in programme design to reach certain groups with specific messages, to decrease identified obstacles and to make it easier for people to adopt and do the behaviour.

NOTE

A behavioural determinant is a reason why someone does or does not do something. Therefore, they can be both positive - "promoters" or "enablers" and negative - "barriers".

LEARN MORE

- Narrated Presentation on Barrier Analysis Process:
<http://caregroupinfo.org/vids/bavid/player.html>
- A Practical Guide to Barrier Analysis:
<http://www.fsnnetwork.org/practical-guide-conducting-barrier-analysis>
- Barrier Analysis questionnaires:
<http://www.fsnnetwork.org/barrier-analysis-questionnaires-0>

5. COORDINATION OF STAKEHOLDERS



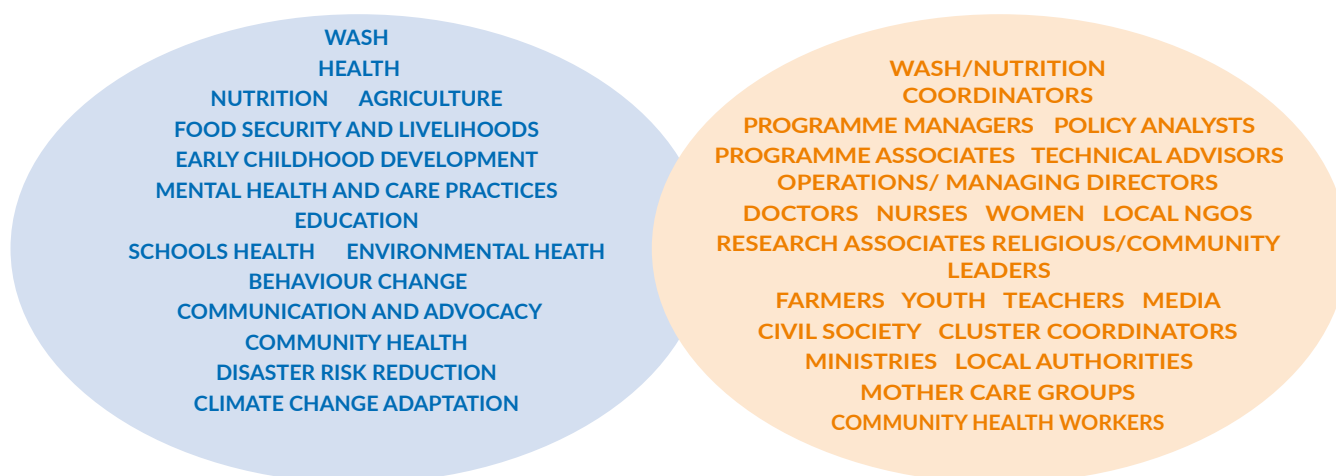
Recognition of the relationship and interdependence between WASH conditions and nutritional status has been gaining momentum in both sectors over the last few years. It became clear that achieving desired improvements in child's health and nutrition outcomes will require looking at the bigger picture and encouraging multiple sectors and stakeholders to work in collaboration towards the common goals.

Depending on the context and specific in-country situation, different stakeholders could be identified as the potential partners for planning and implementing integrated activities. These could be UN agencies, donors, academic institutions, international NGOs, national/local organizations known to integrate projects or known to collaborate with other organizations in WASH and nutrition programming, ministry representatives connected to WASH and nutrition programmes, beneficiaries, community and religious leaders, media, etc. **Selection of stakeholders/partners depends on the specific characteristics of the project/activity and local context.** Different stakeholders can be involved to different purposes and at different phases of the project. It may not be feasible or appropriate to engage with all potential stakeholders, so stakeholder mapping and prioritization prior to planning and implementation of integrated activities is advised.

108 - Food for the Hungry (2004) "Barrier Analysis Facilitator's Guide": http://barrieranalysis.fh.org/annex/Barrier_Analysis_Facilitator_Guide.pdf

Figure 15 provides an overview of the potential stakeholders and actors that could be involved in WASH and nutrition integration based on their position and expertise.

FIGURE 15: RELEVANT STAKEHOLDERS FOR WASH AND NUTRITION INTEGRATION



5.1. STRENGTHENING COMMUNICATION AND COORDINATION AMONG THE KEY STAKEHOLDERS

Strong coordination, close collaboration and awareness of the technical and programme issues important for the other sector are the essential parts of integrated WASH and nutrition programming. Many opportunities can be opened up by a project management cycle for working in synergy and pooling experiences, from joint assessments to joint monitoring and reporting. However, seizing these opportunities requires establishing regular and efficient communication and coordination mechanisms as well as increasing information-sharing between the sectors. This could be achieved in various ways:

- 1 Developing working groups/coordination bodies at multiple levels to guide integration efforts such as:**
 - Improving coordination and information flow between central and district levels
 - Reviewing WASH and nutrition policies and identifying the opportunities for alignment
 - Strengthening or developing strategies for WASH and nutrition integration and advocating for their approval by the relevant ministries/regional governments
 - Reviewing existing assessments, health statistics, studies, local experiences of best practices for implementation and prioritizing where to implement integrated activities and how to best allocate resources
 - Conducting integrated assessments and problem/solution analysis
 - Drafting joint project proposals and funding applications
- 2 Establishing a working relationship between WASH and nutrition project staff, for example:**
 - Information exchange workshops for WASH and nutrition programme managers (as well as colleagues from other sectors) about ongoing projects, programme priorities, challenges and lessons learned
 - At the operational level, weekly basic meetings for WASH and nutrition project staff for simple reporting on what has been done and what are the plans for the coming weeks; this could encourage asking significant questions about each other's activities and making suggestions for improvement
 - Designing tools for joint monitoring and reporting as well as establishing clear flow charts and communication plans
- 3 Joint training for WASH and nutrition project staff:**
 - Attending joint training provides a greater understanding for WASH and nutrition technical staff of the purpose of integrated interventions, different components of the joint project, their contribution and working methods with colleagues from other sector
 - Joint training on hygiene promotion and infant and young child feeding practices, for example, can increase staff skills

4 Signing memorandum of understanding (MOU) between WASH and nutrition programme managers:

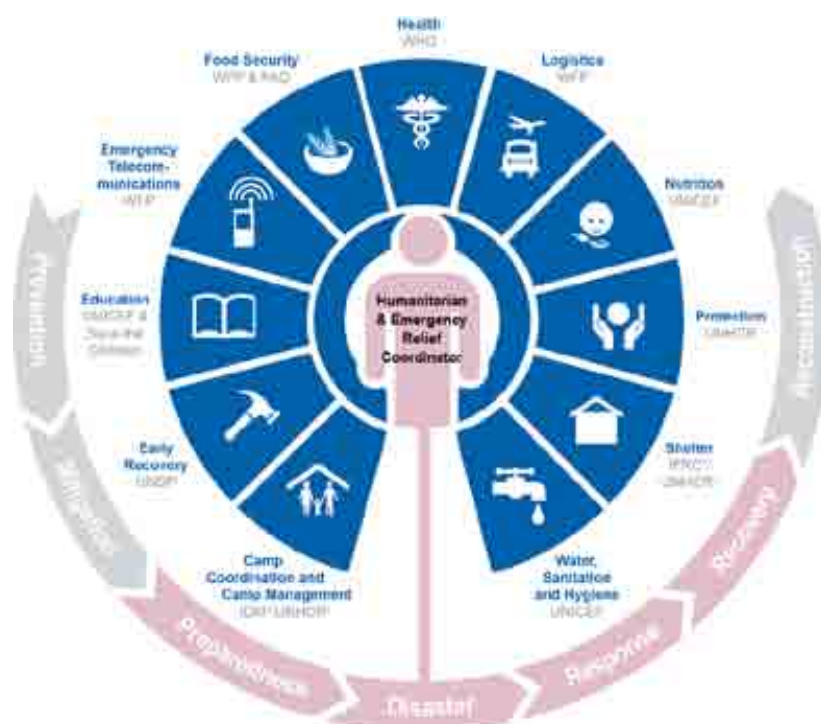
- This helps to define how programmes can work together more formally. Such documents might include agreements on the roles and responsibilities under the joint project, for example, a WASH sector to be engaged in infrastructure improvement and a nutrition programme to introduce hygiene practices in the project area
- Another example of how MOU can be used is to define what components each sector commits to provide during the project implementation such as technologies, facilitators, promotional materials, etc.

Field coordinators have a strong role to play in ensuring strategic integration at the field level. If they provide strong leadership and have high expectations of joint work, they can make a big difference. They can promote operational integration internally and with external stakeholders in the programme area. For example, field coordinators can “push” sectors to intervene in the same communities, ensure that there is a unique data base for WASH and nutrition projects, encourage joint mapping of WASH and nutrition locations, etc.

5.2. CLUSTER APPROACH AS A COORDINATION MECHANISM

In 2006, as an attempt to increase coordination among humanitarian actors and improve coherence in humanitarian response, the United Nations implemented a coordination mechanism called the Cluster Approach. Clusters are groups of humanitarian organizations, both UN and non-UN, in each of the main sectors of humanitarian action, e.g. water, health and logistics, which have clear responsibilities for coordination. Good coordination means less gaps and overlaps in the assistance delivery and ensuring various organizations are synchronized to work together to achieve a common objective, thereby enabling a more coherent, effective, and efficient response. Both nutrition and WASH have their own cluster, meaning that this mechanism is suitable for ensuring a coherent and complementary approach of two sectors in response to a humanitarian crisis. For example, the cluster approach could be used to engage WASH and nutrition sectors in joint strategic planning or advocacy activities and, above all, ensuring that roles and responsibilities of each sector are clearly defined. Here it is important to emphasize that there is no “one size fits all” solution to inter-cluster management. Due to the varying size, scope and complexity of crises and cluster response, the choice of a management approach must be adapted to needs, and may change as the response evolves at the national and sub-national level.¹⁰⁹

FIGURE 16: HUMANITARIAN CLUSTERS AND THEIR COORDINATION



Source: UNOCHA (2016)

109 - Humanitarian response (2013) “Humanitarian Clusters”

WASH, nutrition and health responsibility and accountability matrix (<http://educationcluster.net/intercluster-topics/evaluating-practice/>) defines the responsibilities and accountabilities of each cluster during emergency response in areas of potential overlap, especially as they relate to the prevention and control of infectious diseases. The matrix has been developed through a broad consultative process, but can be revised as necessary at field level, following consideration of the specific contexts and available resources. It should be used as a starting point to negotiate specific responsibilities and improve coordination and collaboration among health, nutrition and WASH field staff during emergency operations. Note that capacities across health, WASH and nutrition sectors may vary depending on the context and therefore responsibilities for each activity could also vary – what is important is that there is clarity of responsibilities and coordination for all activities.

6. ENSURING A WASH MINIMUM PACKAGE



Jana Asenbrenrova © ACF-DRC

The fifth pillar of WASH'Nutrition strategy calls for **“ensuring and reinforcing the principle of WASH minimum package both in health & nutrition centres and at the household level in the communities affected by undernutrition”**. The WASH minimum package should not be confused with “WASH kit”, which usually contains different water treatment and hygiene items such as Aquatabs and soap, and is deployed in emergency contexts. This section provides a detailed explanation of what a WASH minimum package is together with a set of recommendations on how to implement it in practice. Adherence of the targeted population to the Wash minimum package should be closely monitored.

6.1. WASH MINIMUM PACKAGE FOR HOUSEHOLDS

Table 8 presents a set of responses needed to ensure that mother/caretakers and (malnourished) children have a reliable access to safe water in sufficient quantities, adequate sanitation facilities and can practice good hygiene at home. Note that the content of the WASH minimum package should be **adapted to specific in-country situations as well as social and cultural norms**. Items available at the local market should be prioritized in order to ensure sustainability.

TABLE 8: WASH MINIMUM PACKAGE FOR HOUSEHOLDS

WASH package component	INDICATORS	EXAMPLES OF ACTIVITIES
ACCESS TO SAFE DRINKING WATER - Quantity - Quality - Transport - Storage - Use	- Household has 15 litres/person/day available during crisis and minimum national standards apply at other times - Household treats water for drinking (when necessary) 0 fecal coli forms per 100 ml at point of use - taps and drinking water containers - Household safely stores (in clean covered containers) and serves (without risk of contamination) drinking water - Animals cannot access water supply points - Fetching water is <30 minutes, including waiting time as well as travel (this might be challenging in some rural contexts)	- Training and follow-up on HH water treatment during home-to-home visits or visits to nutrition centres. Even if there is a safe community water point, HH water treatment should be promoted due to contamination risks during transport and storage. - Provision of local (preferred) or imported HWTS products;¹¹⁰ in development contexts, HWTS-like water filters are preferred over Aquatabas or chlorine that are often used in emergencies. - At the community level, provision of water systems with wells or boreholes equipped with hand pumps, or connection to a supply system. This should be combined with water safety plans to ensure ongoing safe water solutions. - Installation or rehabilitation of water points to provide easier access - Distribution of containers for (children's) drinking water (Jerry Cans, feeding bottles, etc.) and 2 cups with handles (for hanging), 1 each for dipping and drinking
HYGIENE - Personal hygiene e.g. hand washing - Food hygiene	- Mother/caretaker knows the critical times¹¹¹ for hand washing - Mother/caretaker uses soap or ash and water for hand washing at critical times - Mother/caretaker has soap or ash for hand washing in key locations (toilet and cooking place) - Mother/caretaker uses safe drinking water for washing fruit and vegetables and for preparing food/drinks for children	- Behaviour change activities to support households putting into practice the key hygiene behaviours - Awareness-raising with visual aids and participatory demonstrations on the key hygiene practices - Integration of key nutrition messages in hygiene promotion, food hygiene education - Provision or construction (home-made) of hand washing kits like tippy-taps (e.g. pierced can or bottle with soap in a net [450g/pers./month])
SANITATION Defecation with safety and dignity, hygienic for both user and environment	- No practice of open defecation by the household members - Absence of animal and human feces around homes, especially around children's playing areas - Household practices safe disposal of children's feces - Presence of a system for hand washing with soap or ash and water in or near the latrine - Household uses well-maintained improved sanitation - HH controls disease vectors e.g. mosquitos	- Social mobilization for improved sanitation (e.g. CLTS, sanitation marketing, PHAST) - Rehabilitation or construction of improved family latrines (no flies, feces or odours) with hand-washing facilities; This could be done by beneficiaries through CLTS, for example - Distribution of family latrine maintenance kits (gloves, bucket, brush, shovel, small local pot for ash) - For nomadic groups, awareness-raising about the safe burial of feces (e.g. safe distances from water points and homes, "cat pit/hole" methodology) - Awareness-raising on malaria prevention and control, safe and sustainable waste disposal and management

The indicators from Table 8 **could be documented through surveys** (KAP, sanitary or observation) **to report the percentage (%) of households reaching the indicator.**

110 - Recommended treatment methods and products http://www.who.int/household_water/scheme/products/en/

111 - Before preparing food or cooking; Before eating or feeding a child; After cleaning a child's bottom; After defecation

The **WASH minimum package** for households contains a combination of WASH service delivery and awareness-raising around the importance of safe hygiene practices. This “package” is not an ideal situation, but a **minimum needed to prevent WASH-related diseases and keep the mother and child (as well as other household members) healthy**. More can be promoted depending on the resources available and local context. Ensuring the WASH minimum package for the households is particularly important during the SAM treatment, as it has been demonstrated that access to safe water is critical for the efficiency of the treatment itself, and for the prevention of further undernutrition episodes.¹¹² However, the objective of WASH and nutrition integrated interventions is not only to accompany the treatment, but also to prevent a relapse of SAM cases and undernutrition for other children under five in the community. For that reason, the “minimum package” as defined can be applied to all households (with or without undernourished children) as it is based on the essential hygiene promotion messages that could be disseminated to prevent undernutrition and initiate long-term behaviour change. Depending on the type of the project, context (emergency or development) and available resources, **interventions can either have an approach focused on households affected by undernutrition and “mother/caretaker - malnourished child” dyad or a broader, preventive approach in communities where undernutrition persists**.

The indicator for drinking water quality at the household level is **“0 fecal coli forms per 100 ml at point of use”**. This is of particular importance when focusing on the households with SAM cases and children under the age of two. However, when targeting the broader population (the whole community), zero tolerance may seem over ambitious and hard to achieve from the operational point of view. In this case, the primary objective would work towards ensuring a proper water source/system at the community level and then improving the quality of water at point of use through different household water treatment methods adapted to the population and specific context. The evolution of water quality (reduction of E-coli) could be a good indicator for monitoring the success of hygiene promotion activities. In addition, it is worth mentioning that hygiene promotion programmes are often too focused on water collection, treatment and storage and a more balanced approach in favour of other aspects of hand washing, sanitation and food hygiene is needed. To achieve substantial coverage and thus obtain results in terms of decreasing WASH-related diseases, distribution activities can only be a part of the solution. Knowing that people are less likely to use and maintain latrines or hand-washing stations if they are not building them themselves or at least participating in their cost, **programme-based interventions should instead focus on supporting households putting into practice the desired WASH behaviours**. For example, demonstrating the use of Aquatabs, discussing why it is important to treat drinking water with household members and tracking how many households decided to purchase them in the end. When necessary, such as in emergencies, distribution operations could be organized. Once the household WASH minimum package is in place, the **conditions should be followed up and monitored on a regular basis**. A simple tool (checklist) containing the main indicators that can help verify if the *WASH minimum package* in households exists and is functional or not can be found in the Programmatic resources section, at the end of this guidebook.

6.2. WASH MINIMUM PACKAGE FOR NUTRITION AND HEALTH FACILITIES

In the light of WASH and nutrition integration, it is important to distinguish two types of nutrition centres and target them with suitable WASH interventions:

- 1 **In-patient** facility for intensive treatment in a hospital or health centre (in the case of geographic isolation) with accommodation and medical care for severe acute malnutrition or moderate acute malnutrition **with medical complications**;
- 2 **Out-patient** Therapeutic Programme Centre/Severe out-patient nutritional rehabilitation centre or Supplementary Feeding Centre/Moderate out-patient nutritional rehabilitation centre or nutrition/feeding centre/health centre without accommodation (visit of a few hours but often after a long journey) for severe acute malnutrition or moderate acute malnutrition.



©Jovana Dodos, ACF Senegal, 2015

Picture 1: Water treated with chlorine for SAM in-patient care

112 - ACF studies in the Democratic Republic of Congo, Pakistan and Chad

In remote regions, where infrastructure is poor and access to health care is limited, **mobile teams** are usually set up for identifying and treating SAM and MAM children on the spot as well as for referring cases who need special care to the health centres. These mobile clinics should also be supported with suitable WASH minimum packages (Table 9).

Note that **a set of WASH responses depends on the structure and function of the nutrition centre** (in-patient, out-patient or mobile clinics). In order to effectively address deficient WASH services in health care and nutrition facilities, the extent of the problem should be estimated so **the actions where needs are greatest could be prioritized**. Thus, the assessment of WASH conditions in health care facilities should be conducted and the situation followed up and monitored on a regular basis.

TABLE 9: WASH MINIMUM PACKAGE FOR HEALTH AND NUTRITION CENTRES

WASH package component	INDICATORS	EXAMPLES OF ACTIVITIES
ACCESS TO SAFE DRINKING WATER - Quantity - Quality - Transport - Storage - Use	▶ Drinking water has 0.5-1 mg/l residual chlorine or 0 E. Coli/100 ml if other water treatments are used. ▶ Sufficient storage water storage capacity (5 l/outpatient/day and 40 l/inpatient/day). ▶ No toilets within at least 30 m of the water source. ▶ For in-patient only: 45 to 90 l/patient/day (including water for the accompanying person); alternatively, WHO and national standards could be used as a reference. ▶ Nutritional products distribution point (unprepared food): 0.5 l/person/day. ▶ Nutritional products distribution point (food prepared on site): 15 l/person/day.	▶ Chlorination of clear water (NTU* < 20) by solution with HTH, Aquatabs or bleach. ▶ Treatment of turbid water (NTU* > 20) with sachets of P&G Purifier of Water. ▶ Adequate water storage and protection after treatment. ▶ Installation of water systems with wells or boreholes equipped with hand pumps, or connection to a supply system (exceptionally water trucking could be considered). ▶ Promotion of household water treatment. <i>* Nephelometric Turbidity Units</i>
HYGIENE - Personal hygiene e.g. hand washing with soap and water or hand rubbing with alcohol based hand rubs - Food hygiene	▶ Soap in all installations. ▶ A hand washing station with minimum 20 litres minimum volume, equipped with clear water and soap (or, ≥ 50 mg/l FRC at all time). ▶ Hand washing with soap and water or alcohol based hand rubs. ▶ Visible updated posters are available in the health centre at critical points (waiting rooms, toilets). ▶ Regular hygiene promotion sessions are organized. For in-patient only: ▶ 50 people maximum /shower /day. ▶ Private showers with separation by gender. ▶ Showers lit by night. ▶ Washing lines and drying areas in use with protective areas for the cooking utensils. ▶ Washing areas are equipped with a proper drainage preventing stagnant water and are not accessible to animals. ▶ Clean places and tools to prepare therapeutic milk.	▶ Capacity-building and training of health staff - it can contribute to the sustainability of interventions. ▶ Maintenance of hand-washing stations with fresh, treated water/soap; installation of drainage systems or recipient to collect waste water. ▶ Construction of showers with separation by gender and drainage to soak away pits. ▶ Construction of washing lines and dish-drying areas. ▶ Hygiene promotion of key practices: Hand washing with soap and water at critical times; Maintenance and cleaning of latrines, ensuring an absence of feces in all installations; Demonstration of techniques for treatment and protection of household drinking water. ▶ Distribution of household hygiene and water treatment kits to mothers at the beginning of the treatment (out-patient) and when leaving the nutrition centre (500 g soap for hand washing; 1 jerry can for water carrying; household water treatment products for at least 2 months).

SANITATION

- Defecation safety and with dignity, hygienic for both user and environment
- Adequate waste management
- Vector disease control

- No open defecation around the health post.
- Contamination-risk-free latrines (against runoff water and flood, minimal distance from the water source of 30 m and 1.5m above the aquifer, more than 30m from food preparation/consumption sites with easy access).
- **For in-patient:** 20 people max / latrine / day.
- **For out-patient:** a minimum of 4 toilets (in rural and remote areas, at least 2 toilets separated by gender).
- Separate toilets for patients and staff.
- Separate toilets by gender.
- Available potties for small children.
- Waste in facilities is placed in different waste containers (plastic or metal) depending on the type: non-sharp non-organic waste, organic waste, sharp waste.
- No visible untreated medical waste.
- There is no suitable place for mosquito breeding within a radius of 3km around the health centre.
- All beds occupied by patients fitted with impregnated mosquito nets.
- Construction of improved latrines, with no feces, flies or odours, with separation by gender and hand washing stations.
- Latrines lit by night and slab cleaned daily with a chlorine solution (0.2%). Chlorine should not be put in pits.
- Distribution of potties for small children and/or trowel/spade for feces collection & disposal in latrine.
- Construction of walled or fenced waste disposal areas.
- Weekly cleaning and maintenance of waste pits, dustbins, medical waste bins, incinerators, etc.
- Cleaning of puddles, stagnant water, etc. so as to reduce mosquito breeding sites around health facilities.

LEARN MORE

- For more detailed guidelines see ACF (2014, updated 2016) "WASH Minimum Standards and guidelines for rural health facilities and nutritional centres in resource-poor environments."

➤ EXAMPLE FROM THE FIELD 4 ◀

Ensuring the WASH minimum package in health care facilities in Mali

Since 2013, Terre des hommes (Tdh) has worked in partnership with the Malian Ministry of Health and Public Hygiene in Segou Region to improve nutrition in 376 villages in the Macina and Markala Districts. In addition to community-based water, sanitation and hygiene initiatives, the ongoing project—supported by ECHO, UNICEF and the Swiss Water and Sanitation Consortium—promotes systems for a minimum and basic level of WASH service in 33 primary healthcare facilities. This includes support to government medical staff and village-based management associations (ASACO) for:

- 1 Upgrading health facility infrastructure to achieve the WASH minimum package per the WASH'Nutrition strategy;
- 2 Introducing training manuals for hygiene/disinfection protocol and biomedical waste management, including support for training and on-site learning;
- 3 Monitoring risks to environmental sanitation in health facilities using a self-evaluation tool with regional health authorities in Segou.

The monitoring tool focuses on hygiene practices and use of water and sanitation infrastructures, with special consideration for maternity wards and Outpatient Nutrition Recovery and Education Units (URENAS) for children with severe acute malnutrition. Periodic joint-monitoring enables the Segou Regional Health Directorate to analyse risk trends, support decision-making and chart progress.

Current Phase (through August 2017)

The current project cycle calls for greater involvement of the Regional Health Directorate and health facility staff in the monitoring process in the light of the standards proposed by WASH in Health Care Facilities – Global action to provide universal access by 2030 led by WHO & UNICEF (www.washinhecf.org). Tdh is a member of the monitoring task team and will test proposed indicators and mobile data collection applications in Mali. Tdh will also continue to:

- 1 Support ASACO in managing the WASH minimum package, including financial administration and maintenance;
- 2 Advocate and support training for all health facility staff on facility-based medical waste management;
- 3 Share project manuals and monitoring tools with the practicing community at the national level.

Experiences in Mali will also be shared among similar Tdh programmes in Bangladesh, Burkina Faso, Guinea, Mauritania and Nepal.

TABLE 10: WASH MINIMUM PACKAGE FOR MOBILE CLINICS

WASH package component	INDICATORS	EXAMPLES OF ACTIVITIES
ACCESS TO SAFE DRINKING WATER - Quantity - Quality - Transport - Storage - Use	➤ Drinking water available and has 0.5- 1mg/litre residual chlorine. ➤ No toilets within at least 30 m of the water points.	➤ Promotion of household water treatment. ➤ Chlorination of clear water (NTU<20) by solution with HTH, Aquatabs or bleach. ➤ Treatment of turbid water (NTU>20) with sachets of P&G Purifier of Water. ➤ Installation of protected water storage.
HYGIENE - Personal hygiene e.g. hand washing with soap and water or hand rubbing with alcohol based hand rubs - Food hygiene	➤ Soap in all installations. ➤ Visible posters and regular hygiene promotion sessions.	➤ Maintenance of hand washing stations with water and soap. ➤ Hygiene promotion of key practices: hand washing with soap and water at critical times; Maintenance and cleaning of latrines, ensuring an absence of feces in all installations; Demonstration of technique for treatment and protection of household drinking water. ➤ Distribution of household hygiene kits to mother/caretakers at the beginning of treatment (500g soap for hand washing; 1 jerry can for water carrying; household water treatment products for at least 2 months).
SANITATION - Defecation safety and with dignity, hygienic for both user and environment	➤ No open defecation around the intervention site. ➤ Toilet area with potties for small children. ➤ Waste is adequately disposed of	➤ Construction of a hygienic toilet area for patients with potties for small children. ➤ Distribution of potties for small children and/or trowel/spade for feces collection & disposal in latrine. ➤ Ensuring proper disposal of waste generated during the activity.

The indicators from Table 9 and 10 could be documented with surveys to report on the percentage (%) of health and nutrition centres meeting these minimum criteria.

A simple checklist containing the main indicators for verifying if the WASH minimum package in health and nutrition centres exists and is functional can be found in the Programmatic resources section. This tool could also be used to rank facilities according to the need for intervention.

For all health facilities (in-patient, out-patient and mobile clinics), trained staff should be assigned to water supply, the preparedness and renewal of chlorinated water and the disposal of solid and medical waste.

6.3. WASH MINIMUM PACKAGE AS A CONTRIBUTION TO SAM TREATMENT

In addition to the essential role it plays in complementing undernutrition prevention strategies, the WASH minimum package should be implemented to support the treatment of acute undernutrition in all its forms (SAM and MAM).

Various studies have tried to demonstrate the importance and added value of integrating the WASH component in the treatment of SAM. For example, in 2013 in the Democratic Republic of Congo, ACF conducted a comparative study in order to assess whether the addition of point-of-use water treatment product at the household level to the standard treatment of children suffering from SAM has positive effects on nutritional recuperation. The results indicate that, as compared to the control group, children in the intervention group had a shorter length of stay in the treatment programme (26.4 days versus 30.4 days). Average daily weight gain was also higher among the intervention group than in the control group, at 7.3g/kg/day and 6.6g/kg/day respectively. It has also been estimated that a 4-day reduction in treatment duration would be able to cover approximately 90% of the supplementary cost of adding water purifiers. Studies with large sample sizes and alternative intervention options to improve household water quality are currently being conducted by ACF in Pakistan and Chad and should strongly support the evidence in this area.

The management of SAM encompasses two levels of intervention:

Ambulatory treatment: SAM is diagnosed and related treatment intakes provided at the health unit level, but the care is ensured by the family at household level.	
Supporting ambulatory SAM treatment mainly consists of providing affected households with a WASH minimum package to ensure safe access to water supply and hygiene for the duration of the treatment: ➤ 450g of soap/p/month for each member of the family until the end of the SAM treatment. ➤ Consumables to ensure <5 NTU turbidity and ≥ 0.5 mg/l Free Residual Chlorine (FRC) for drinking water for 15l/p/day in each household. ➤ A 20l capacity bucket with a lid and a tap.¹¹³ ➤ A 20l rigid jerry can with a cap.¹¹⁴	
Intensive/inpatient treatment (estimated at about 15% of SAM cases): provided when severe complications are diagnosed. The beneficiary is hosted in the facility until complications are treated. Once addressed, the beneficiary starts regular ambulatory treatment.¹¹⁵	
Within the framework of SAM treatment, the WASH minimum package consists of securing the following WASH-related services involved in the appetite test provided to admitted children: ➤ Access to safe drinking water. ➤ Hand washing with clear water and soap.	
It can include long-lasting outputs dedicated to the intensive care and treatment of SAM-affected children with complications. See also WASH minimum package for nutrition and health centres and how to strengthen the access to WASH services in in-patient facilities	
This WASH minimum package can be completed by additional interventions such as “Extended or Complete Package”. This intervention consists of extending the minimum package beyond the sole duration of the SAM treatment until the end of the high relapse-risk period (60 days on average). It consists mainly of renewing the consumables involved in access to safe water and hygiene practices (see also WASH follow up and monitoring of SAM relapse cases in Chapter 4).	

Source: ECHO (2016)

The extended package consists of:

- 450g of soap /p/month for each member of the family.
- Consumables to ensure <5 NTU turbidity and ≥ 0.5 mg/l FRC for drinking water for 15l/p/day for each person of the household until end of the high relapse-risk period (60 days on average).¹¹⁶

This complementary intervention cannot be considered as stand-alone strategy and must be considered as an opportunity to extend the care involved in the WASH minimum package.

¹¹³ - In addition to another 20l bucket (with lid) and pre-treatment filter cloth for high turbidity water treatment

¹¹⁴ - ECHO's Technical Issue Paper (2016) "WASH'NUT"

¹¹⁵ - ECHO's Technical Issue Paper (2016) "WASH'NUT"

¹¹⁶ - Ibid



KEY MESSAGES

Chapter 3

- Better alignment and integration allow WASH and nutrition programmes to **maximize their impact, increase cost-effectiveness, sustainability, and create greater benefits for the beneficiaries.**
- Integrated **mapping of nutrition and WASH indicators** provides contextually specific, evidenced-based information to better understand population needs and ensure more **focused geographical integration** of the interventions.
- **Joint assessments** of different technical and operational sectors are more likely to obtain **a more comprehensive understanding of the situation** and encourage an integrated response.
- The formulation of integrated activities can either take the form of **building a joint integrated project, or incorporating specific objectives, activities and indicators of one sector into the project proposal of another** (e.g. including nutrition-sensitive indicators such as child weight/height, anemia in WASH projects).
- The priority target populations are **communities, families and individuals** who are the most affected and vulnerable to undernutrition and inadequate WASH conditions. It is recognized that the focus should be placed on the **“1,000-day window of opportunity”** as prevention of undernutrition during this period is crucial.
- Given the high vulnerability and indivisible connection between the two, integrated WASH and nutrition strategies and interventions should protect and support the **“mother/caretaker – (malnourished) child”** couple and encourage integrated service delivery for both.
- There is a set of responses that can help ensure and reinforce the **principle of WASH minimum package both in health and nutrition centres as well as at the household level** so as to protect the “mother/caretaker – (malnourished) child” dyad from infection and disease.
- In addition to the essential role it plays in complementing undernutrition prevention strategies, the **WASH minimum package should be implemented to support the management of acute undernutrition in all its forms** (SAM and MAM).
- **Placing emphasis on behaviour change** in the households for the “mother/caretaker – malnourished child” couple and in the communities affected by undernutrition is essential, knowing that provision of hardware only (access to water and sanitation facilities) brings little benefit to health if it is not accompanied with suitable hygiene behaviour.
- **Strong coordination, close collaboration** and awareness of the technical and programme issues important for the other sector are the essential parts of an integrated WASH and nutrition programming. **Cluster approach** is a suitable mechanism for ensuring a coherent and complementary action of two sectors in a response to a humanitarian crisis.

4

INTEGRATING ACTIVITIES AT DIFFERENT LEVELS AND CONTEXTS

1. AT THE INDIVIDUAL AND HOUSEHOLD LEVEL
2. AT COMMUNITY LEVEL
3. AT INSTITUTIONAL LEVEL (HEALTH CENTRES & SCHOOLS)
4. AT NATIONAL LEVEL
5. INTEGRATING INTERVENTIONS IN EMERGENCIES

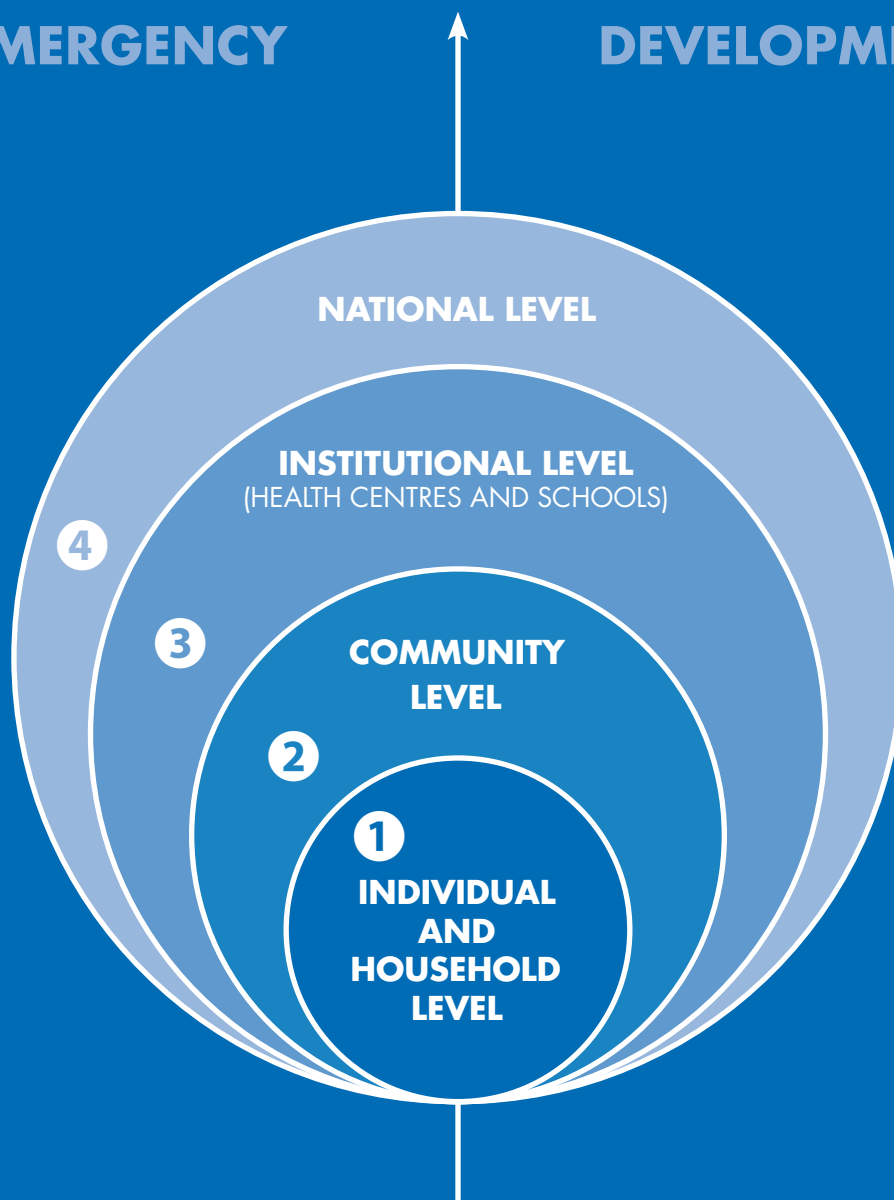


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EMERGENCY

DEVELOPMENT



.....

**INTEGRATING WASH AND NUTRITION
AT DIFFERENT LEVELS AND CONTEXTS**

1. AT THE INDIVIDUAL AND HOUSEHOLD LEVEL

Jana Asenbrennerova © ACF-DRC



WASH and Nutrition interventions can be integrated at many levels, starting from the individual and household level with the focus on (malnourished) children and pregnant women, for example, all the way up to the national level, where WASH and nutrition policies and strategies are aligned in order to guaranty better health and non-health outcomes for the population. Chapter 4 discusses different approaches to WASH and nutrition integration depending on the level of intervention, setting and context. Special attention is given to aligning WASH and nutrition interventions in emergencies.

On the following pages of this subchapter you will find several examples from the field showing how WASH and nutrition components can be integrated at the individual and household level to target the “mother/all influential caretakers – (malnourished) child” dyad and ensure better nutrition and health outcomes. Different approaches such as “Baby WASH”, “Clean Household approach” and “Small Doable Actions” will be discussed. Special attention is given to the key WASH behaviours needed to block fecal-oral transmission and prevent disease, namely:

- correct hand washing with soap (or ash if soap is not available) at key times
- sanitation and safe disposal of child feces
- treating, storing and drinking water safely (for infants after 6 months of exclusive breastfeeding)
- practicing safe food hygiene
- ensuring a safe clean environment (e.g. clean play space)

1.1. IMPORTANCE OF PERSONAL HYGIENE AND HOUSEHOLD ENVIRONMENT

An unhealthy environment, including poor access to water, sanitation and hygiene, is an underlying cause of undernutrition. Contamination of the household environment by human and/or animal feces, which can often be found in low-income contexts, is a major source of pathologies such as diarrhea, worms infections and EED.

Households are where young children and their mothers/caretakers spend a lot of time. Infants and young children crawl, play and are fed in the domestic environment. All these present an opportunity for exposure and ingestion of pathogens early in life, in the critical window of growth and development, if the household environment is not kept clean. Besides domestic hygiene conditions, **caregiver hygiene behaviours together with infant and young child feeding practices** are known to be associated with poor liner growth.¹¹⁷ Therefore, household WASH interventions that address caregiver hygiene behaviours and prevent children from consuming contaminated food and water are essential for ensuring good nutritional outcomes.

117 - Ngure et al. (2014) “Water, sanitation, and hygiene (WASH), environmental enteropathy, nutrition, and early child development: making the links”

1.2. BABY WASH CONCEPT: PREVENTING FECAL EXPOSURE AMONG YOUNG CHILDREN

Contamination of the domestic environment with animal and human feces can often be found in poor households worldwide. Human and animal feet carry feces deposited in the open, bringing diverse microbes and pathogens into the domestic environment and close proximity to infants and young children.¹¹⁸ Infants and young children in resource-poor contexts frequently crawl on contaminated soil and surfaces and are continually exposed to poultry feces. A study in Peru found that toddlers' hand contact with poultry feces occurred, on average, 3 times, and feces-to-mouth episodes happened 4 times during 12 hours of in-depth observation. Likewise, fecal contamination of infant and young children's play areas was reported in 66% of households in Bangladesh. About half of the mothers reported seeing a child touch or eat animal feces in the previous two weeks.¹¹⁹ In addition to a lack of knowledge about the environmental risks that babies are exposed to, most caregivers have time constraints and carry out multiple tasks simultaneously, which limits their capacity to attend to random hand-washing events. Thus, fecal contamination of children's play and feeding environments is a constant and cumulative health risk during the critical window of a child's growth and development.¹²⁰

*The SHINE study in Zimbabwe found that *E. coli* intake from ingestion of chicken feces is 4,000 times greater than that from either untreated drinking water or soil!*

NOTE

Common WASH interventions generally focus on improving sanitation, point-of-use water treatment and hygiene promotion. For example, hand-washing interventions usually focus on hand washing by mothers and other caregivers, but most frequently the hands that enter an infant's mouth are his or her own.¹²¹ In short, standard WASH interventions are not designed to interrupt the primary vectors of fecal-oral transmission for children within the first 2 years of life, the critical window for stunting, anemia and poor child development. They do not address the important vectors of soil, poultry feces, and infant foods, providing a clean play and infant feeding environment.¹²²

BOX 8: BABY WASH MESSAGES

- 1 Safely dispose of all animal and human feces;
- 2 Wash hands with soap after fecal contact and before preparing food, eating food, or feeding children;
- 3 Protect children from ingesting soil and animal feces;
- 4 Freshly prepare children's food, or reheat to boiling prior to feeding;
- 5 Give children (after 6 months of exclusive breastfeeding) only drinking water that has been treated with an appropriate household water treatment method.

Example from the SHINE study, Zimbabwe (2014).

The essential goal of baby WASH is to interrupt the key fecal-oral vectors of babies' hands and hand-to-mouth activity, paying attention to animal feces as well as human feces. This is more specific, age-targeted approach, which does not replace general household WASH interventions (which do reduce overall contamination of the household environment) but complements them with more targeted interventions for very young children:

- Safe disposal of child feces
- Infant food hygiene
- Management of animal waste
- Hygienic play areas

118 - Curtis et al. (2000) "Domestic hygiene and diarrhea – pinpointing the problem"

119 - Ngure et al. (2014) "Water, sanitation, and hygiene (WASH), environmental enteropathy, nutrition, and early child development: making the links"

120 - Ibid

121 - Ngure et al. (2014) "Water, sanitation, and hygiene (WASH), environmental enteropathy, nutrition, and early child development: making the links"

122 - Ngure et al. (2014) "Water, sanitation, and hygiene (WASH), environmental enteropathy, nutrition, and early child development: making the links"

FIGURE 17: ALLOCATE A PROTECTED SPACE FOR CHILDREN TO PLAY, LIMITING THE LIKELIHOOD OF THEM INGESTING SOIL OR ANIMAL FECES



Example of a WASH interactive tool used for weekly hygiene promotion sessions in nutrition centres for mothers/caretakers of severe acute malnutrition cases admitted to a CMAM programme in the ACF mission in Chad (Ouadinut project, 2015).

1.3. THE CLEAN HOUSEHOLD APPROACH TO REDUCE STUNTING AND IMPROVE CHILD'S HEALTH

Understanding that the bulk of environmental pathogens for children under 2 come from dirty play spaces, dirty hands and unclean water, Save the Children developed “The Clean Household Approach” which combines several household WASH interventions aiming at decreasing the risk of diarrheal disease and stunting.¹²³

FIGURE 18: THE CLEAN HOUSEHOLD APPROACH



Source: Save the Children (2015) “Recent research and Save the Children experience”

The clean household approach operates in four principal areas: Demand Creation (supply of WASH products and services must meet the demand to achieve outcomes), behaviours (WASH behaviours are equally important as WASH “hardware”), WASH Product and Service Supply and Enabling Environment (unless enabling factors - legal, finance, access - are in place, none of the above can work).¹²⁴

LEARN
MORE

- To find out more about the Clean Household Approach please follow the link:
http://www.savethechildren.org/atf/cf/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/CLEAN_HOUSEHOLD_APPROACH.PDF

123 - Save the Children (2015) “Clean Household Approach”

124 - Save the Children (2015) “Clean Household Approach”

1.4. "SMALL DOABLE ACTIONS" FOR IMPROVING WASH CONDITIONS AND NUTRITION OUTCOMES

"Small Doable Actions" is an effective approach for addressing communities that are facing constraints with finding sufficient resources by themselves to initiate improvements in their WASH services and facilities or adopt expensive, "ideal" solutions from the start. This approach **encourages households to move step by step in adopting better WASH practices**, with a minimum need for additional resources. It involves:

- 1 Assessing current household WASH practices;
- 2 Identifying existing good WASH practices to be reinforced or modified;
- 3 Identifying feasible incremental steps that move people from a current practice toward the ideal practice;
- 4 Identifying practices to be improved and negotiated with family member(s).¹²⁵

For example, an interim step or small doable action from not washing hands with soap and water after visiting the toilet, to washing hands correctly with ash after visiting the toilet. Although the behaviour might not be an "ideal" practice, a broader number of households are likely to adopt it because it is considered feasible within the local context. The "Small Doable Actions" approach has the potential to lead to further improvements in behaviour, when/if resources become available.¹²⁶



© Arno Coerver, Malteser Interventional, 2015

Picture 2: Example of "Small Doable Action" for hand washing from Myanmar
Plastic bottles with screw caps filled with water, and a hole pierced in the bottom, can provide a convenient flow of water when the screw cap is loosened to let air in and allow water to flow from the hole. After washing the hands, simply tighten the screw cap again and the water flow will stop.

LEARN MORE

- More about "Small Doable Actions" approach:

http://www.fhi360.org/sites/default/files/media/documents/Sol_681_014421.pdf

1.5. IMPROVING HYGIENE PRACTICES: HAND WASHING AT CRITICAL TIMES

When done properly and at critical times (Box 9), hand washing has a huge potential to prevent diarrhea and other fecal-oral diseases. Good hand-washing practice should include water, a washing agent such as soap or ash and a drying phase (or alternatively, hand rubbing with an alcohol-based solution). While hand washing at any time would be a good practice and beneficial, nutritionists do not recommend the promotion of hand washing before breastfeeding. IYCF tries to remove as many barriers to breastfeeding as possible, so adding hand washing would be creating another barrier and would reduce the times and commitment of mothers to exclusively breastfeed.

In a household setting, a hand washing station or other enabling products such as "tippy taps" should be located in close proximity to the latrine or the food preparation area. Hand-washing stations influence individuals' opportunities to adopt a behaviour, regardless of their ability and motivation to do so. An emerging hypothesis is that convenient and easy access to both water and soap at critical times is a key behavioural determinant of hand washing with soap among women and children. If a busy mother needs to look for soap before preparing a meal, or a child does not have easy access to water and soap after using the latrine, the probability of hand washing with soap actually taking place is lower.¹²⁷

125 - WASHPlus (2014) "Integrating Safe Water, Sanitation, and Hygiene into Infant and Child Nutrition Programmes; A Training and Resource Pack for Uganda"

126 - Ibid

127 - WSP (2010) "Insights from Designing a Hand washing Station for Rural Vietnamese Households"

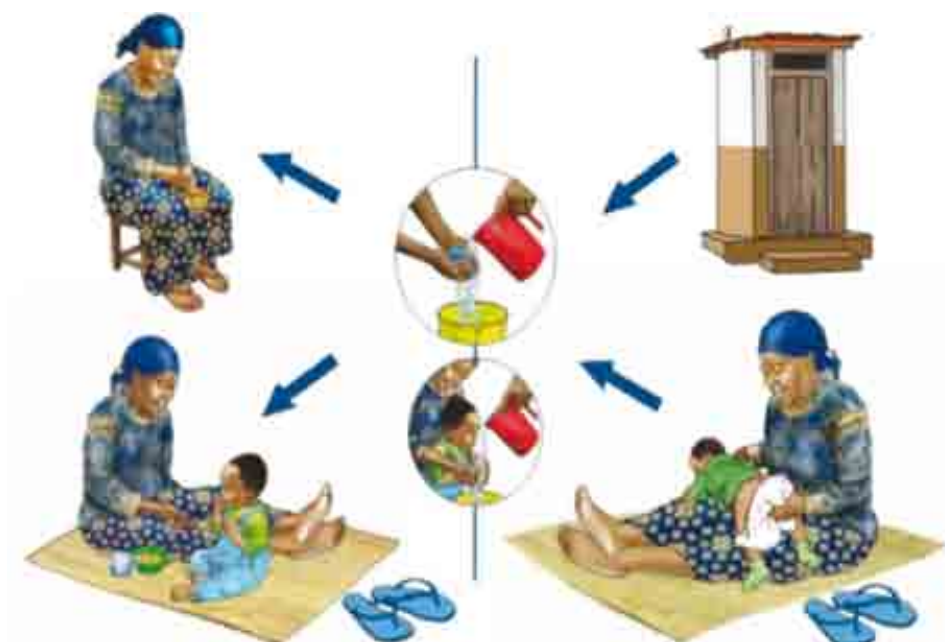
BOX 9: FIVE CRITICAL TIMES FOR HAND WASHING WITH SOAP

- 1 After defecation
- 2 After cleaning a baby's nappy/ handling children's feces
- 3 Before preparing or cooking food
- 4 Before eating
- 5 Before feeding a child

More about hand washing: <http://www.globalhandwashing.org>



FIGURE 19: A COUNSELLING CARD HIGHLIGHTS WHEN TO WASH HANDS WITH SOAP



Source: WASHplus (2015) "WASH and Nutrition in Mali".

► EXAMPLE FROM THE FIELD 5 ◀

Negotiating improved WASH and nutrition practices with mothers of infants in Mali

The USAID-funded WASHplus programme in Mali was designed as an integrated WASH and nutrition programme from the start. District officials from the Ministry of Health identified the 180 intervention communities as areas with high rates of stunting and extremely poor access to and use of sanitation facilities. In addition to traditional nutrition-specific interventions such as the management of moderate acute malnutrition, WASHplus is using the "Small Doable Actions" approach to negotiate improved WASH and nutrition practices with mothers of infants. Working through community health workers, WASHplus promotes an integrated set of "Small Doable Actions" that support the following improved WASH and nutrition conditions in the targeted households: **hand washing with soap, safe disposal of feces, safe water treatment and storage, exclusive breastfeeding and complementary feeding**. Community health workers use the counselling card (Figure 19) to explain to caregivers when to wash hands. After 30 months of implementation, the project has some impressive results:

- Over 9,500 latrines built or rehabilitated by households
- Almost 11,000 hand-washing stations installed by households
- 76% of target villages certified as open-defecation free
- 20,000-30,000 water treatment tablets purchased/distributed to target households each month
- 40% fewer health centre admissions reported for severe undernutrition with complications from intervention villages

1.6. SAFE DISPOSAL OF CHILD'S FECES

To date, safe disposal of children's stools hasn't received enough attention in sanitation programmes. This is mainly because many cultures consider the stools of infants fed on breast milk as not harmful, or at least less harmful than those of adults, because they are smaller, their feces smell less and so on. However, due to a much higher prevalence of diarrhea, soil-transmitted helminthes and other pathogens in children, child stools often pose a greater health risk than those of adults.¹²⁸ Most of the time **latrines are not designed in a "child-friendly" manner** and thus cannot be used by small children (they might be afraid to use them due to the risk of falling in, smells, the fear of dark spaces, etc.).¹²⁹ Given that nappies, child-sized potties and washing machines are not available in many poor settings, defecation on the floor is common and potentially seen as the most practical option until the child is potty trained. As a result, latrine use by children is low and unsafe child feces disposal behaviour was reported by caregivers even in the households using improved toilets or latrines.¹³⁰

For all these reasons, children's feces should be treated with the same concern as adult feces, using safe disposal methods. Child-friendly potties have been identified as the tools that can facilitate caregivers' hygienic management of children's feces. Hygienic management implies that feces:

- do not come into contact with the household environment;
- are transported in a device that facilitates easy disposal in the latrine without direct contact with hands;
- are disposed of in an improved latrine.

Children's sanitation products should be easy to clean, and additional materials and equipment may be needed to ensure that the child can be washed, wastewater can be disposed of hygienically and caretakers wash their hands.¹³¹ Improving sanitation for children up to the age of 24 months, thus targeting the critical 1,000 day window of opportunity, plays a significant role in reducing the risk of EED and stunting.¹³²



© Julia Rosenbaum, FHI360/WASHPlus project, 2015

Picture 3: Mother familiarizes her child with a potty

Source: "WASH and Nutrition in Bangladesh"

➤ EXAMPLE FROM THE FIELD 6 <

Disposing child feces safely in Bangladesh

WASHplus worked with implementing partners and households in southwestern Bangladesh to identify a set of "Small Doable Actions" for disposing of child feces safely. These "Small Doable Actions" encourage mothers to practice particular actions to ensure that children's feces are put in the latrine. The concept that resonated with mothers was "**Poo's Final Address**"— making sure that no matter where the young child first defecated, his/her feces reached the latrine. This resulted in segmenting children into four age cohorts:

- Infant/lap child – under 6 months
- Crawling baby 6–12 months
- Toddler – 1–3 years
- Young child 3–6 years

As an example of the practices identified in the crawling baby cohort, mothers are encouraged to do the following: let the child poop wherever they want, then use the trowel/hoe to take feces to the latrine; sit the child on the potty (even when not pooping) to familiarize the child with the potty.

128 - Brown et al. (2013) "Water, sanitation, hygiene and enteric infections in children"

129 - Ibid

130 - World Bank Water and Sanitation Programme (2015) "Ensuring Safe Sanitation for Children"

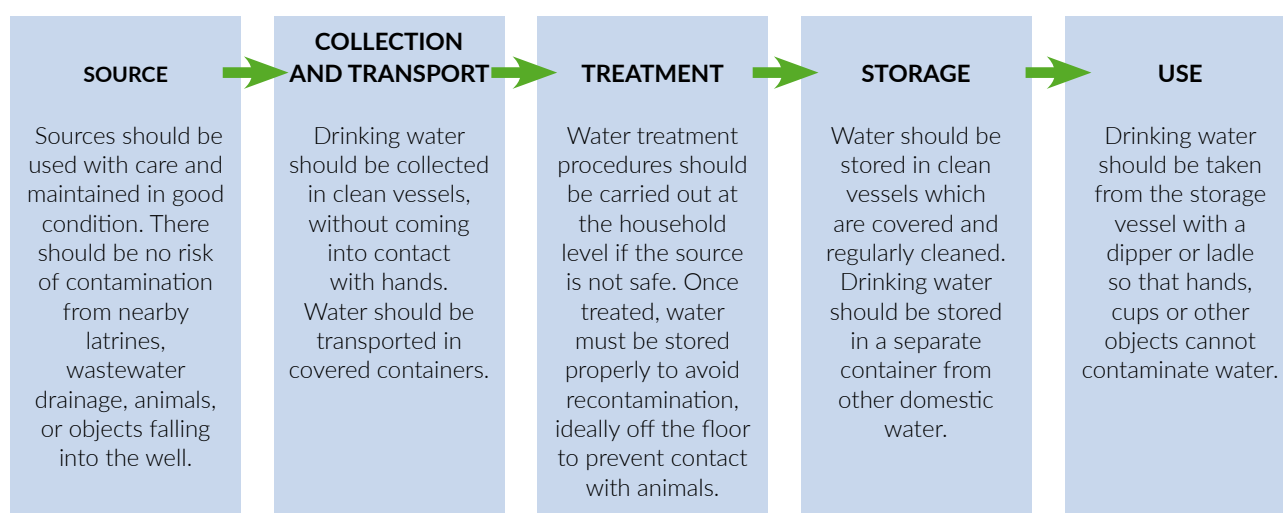
131 - Molly K. Miller-Petrie et al. (2016) "Infant and Young Child Feces Management and Enabling Products for Their Hygienic Collection, Transport, and Disposal in Cambodia"

132 - Share/UNICEF (2015) "The impact of poor sanitation on nutrition – policy brief"

1.7. HOUSEHOLD WATER TREATMENT AND SAFE STORAGE

Improving water quality at the point of consumption or use (household-level water treatment) has great potential to protect children from waterborne disease, including pathogens that cause diarrhea disease. Research findings show a much stronger protective effect for water quality interventions at the household level than at source level on diarrheal disease outcomes - up to 40%.¹³³ To remove pathogens and ensure **good quality of water for drinking purposes**, several effective, simple and relatively low-cost **"point of use" interventions** could be applied: chlorination, boiling (not recommended practice in areas where deforestation is an issue), solar disinfection via heat and UV radiation, filtration with different types of filters, combined chemical coagulation, flocculation, and disinfection. Not all household water treatment devices are effective at removing pathogens and protecting health. WHO regularly evaluates the performance of household water treatment technologies and the list of those that meet WHO standards can be found here: http://www.who.int/household_water/scheme/products/en/. Safety of water should be closely monitored (e.g. Free residual chlorine in case of chlorination treatment).

Water can be contaminated at the source, in the home, or during the journey in between. A water source that is not protected, a dirty container, or unwashed hands can easily turn water, even water that looks and tastes clean, into something that makes people ill. Therefore, **promotion of household water treatment and safe storage for improved nutrition should take into account all steps in the water chain:**



The **quantity** of water delivered and used for households is an important aspect that influences health. When the basic service level¹³⁴ has not been achieved, due to, for example, long distances and time involved in water collection, basic personal and household hygiene cannot be assured. Increasing water quantity by providing more storage, using rainwater collection jars or connecting households to water access points, results in increased health and non-health benefits such as time saved for child care, food preparation and productive activity (including education), and decreased time lost to sickness.

► EXAMPLE FROM THE FIELD 7 ◀

Purified water leads to a healthy lifestyle and improved nutritional status of children in Tando Muhammad Khan - a story from the ACF mission in Pakistan

In the small village of Waliu Kolhi in the southern Sindh province of Pakistan, Bahumal and his family know that clean water is a key component in the fight against undernutrition. In their home, they have been using a strikingly simple, yet all the more innovative method to purify their drinking water for the past few months. Farm worker Bahumal, 30, remembers how the children in his village used to be constantly suffering from diarrhea. The disease weakened the children as their bodies were rapidly losing many vital nutrients. Germs and bacteria consumed with drinking water made the villagers sick. «We were not aware that diarrhea comes from the water we drink.» said Bahumal. Families of Waliu Kolhi, Bahumal had to take their children to the hospital frequently and the children had become undernourished due to lack of nutrients. These children were immediately referred to ACF's ongoing Outpatient Therapeutic Programme in the area where they received live-saving treatment.

133 - Brown et al. (2013) "Water, sanitation, hygiene and enteric infections in children"

134 - Consult WHO standards or SPHERE standards for emergencies

ACF field team visited Bahumal's village while identifying communities vulnerable to undernutrition in the district of Tando Muhammad Khan. After finding that the water sources from which the villagers were obtaining drinking water was not safe to drink, ACF WASH promoters introduced Bahumal and the other villagers to «Chuli filter». The Chuli filter is a water heating unit cum stove that enables people to heat their water thereby reducing bacteriological contamination while at the same time cooking thereby reducing the need for additional fuel to heat water separately.

Bahumal and the others learned how to build a helical coil of copper pipe into the outer walls of their traditional clay stoves, locally known as «Chulah». The pipe carries water from a container through the walls of the Chulah while the villagers cook food on it. The fire inside the stove heats water to 70°C (158°F) while it is slowly flows through the copper pipe coil. By maintaining this temperature, harmful germs and bacteria in the water are inactivated. When it flows out of the tap on the other end of the pipe, the water is drinkable and safe.

For the children of Waliu Kolhi, the simple concept of the Chuli filter has made a major change to their lives. «Since we learned how to build and use a Chuli filter, hardly any of the children in the village get sick with diarrhea. » Bahumal explains. «They don't have to visit the hospital frequently nor do they need any kind of treatment because they are not undernourished anymore. »

Seeing the success and positive impact of the use of Chuli Filter on the nutritional and health status of children in the village, Bahumal decided to become part of the programme being implemented by ACF and funded by ECHO in Sindh and KP. Bahumal received training from ACF and became part of the community volunteers in TMK to create awareness among villagers on the importance of using of clean drinking water and its link with nutrition as well as demonstrating the use of the Chuli Filter to the communities.

1.8. FOOD HYGIENE EDUCATION

It is well established that good hygiene is the single most cost-effective means of preventing infectious diseases. Household food hygiene plays a vital role in ensuring good health and nutrition outcomes, especially for children under 5, given that they are more vulnerable to contaminated food and related health complications such as diarrhea. A study in Vietnam reported that the risk of diarrhea was significantly higher for the children of those mothers who prepared food for cooking somewhere other than the table than those who prepared it on the table. Also, higher rates of underweight and stunting were found among children of mothers who did not practice hand washing with soap at critical times, (including before preparing and handling the food and feeding the child). Therefore, interventions aiming at improving food hygiene behaviours can have positive health and nutrition outcomes. Primary target groups for such kind of activities are mother/caretakers, considering the crucial role they play in preparing and serving food as well as feeding the children.¹³⁵

BOX 10: 5 KEYS TO SAFER FOOD BY THE WHO

A document called “5 Keys to Safer Food” describes actions families should take in the kitchen to maintain safe food. These actions are especially important during child weaning:

- 1 Keep food preparation areas clean, including hands, surfaces, and utensils
- 2 Separate raw and cooked food
- 3 Cook food thoroughly
- 4 Keep foods at safe temperatures
- 5 Use safe water and raw materials

“Five Keys to Safe Food” posters, available in 87 languages:

http://www.who.int/foodsafety/areas_work/food-hygiene/5keys-poster/en/

Food hygiene training materials:

<https://foodhygiene2010.wordpress.com/category/categories/iectraining-materials/>

135 - Hasan M (2015) “Food Hygiene Education (FHE) for the rural households in Bangladesh”, Centre for Development Research (ZEF), University of Bonn

Food hygiene implies maintaining proper hygiene conditions throughout the food preparation, processing, serving and storing processes. **Demonstrations of food preparation** for improved nutrition provide a good opportunity to link nutrition and food hygiene education. Project staff should ensure that demonstration sites for food preparation have safe drinking water that is stored in clean containers (e.g. buckets with a lid and tap that reduce the potential for contamination through contact with the water) as well as hand-washing stations complete with water and soap. Demonstrations should always begin with the staff washing hands in front of the participants. **Hand washing with soap** should be incorporated into all counselling and promotional materials as **“step 0”** before preparing any food and/or feeding a child.¹³⁶ This task involves promotion of a designated place for hand washing with soap and water located near areas where food is prepared and children are fed.

BOX 11: BREASTFEEDING – THE ULTIMATE HYGIENE INTERVENTION

Breast milk is a hygienic substance that provides all the liquid and food an infant needs up to the age of six months. As long as the child is allowed to ‘feed on demand’ and has no physical problems that affect suckling, the child will receive all the nutrition she or he requires for the first six months of life without ever having to put his or her lips to a potentially contaminated water or food source (although young children do tend to put a lot of other contaminants in their mouths that could put them at risk – see Baby WASH section). Furthermore, while children will require some water from six months onwards, breast milk can continue to be a child’s primary source of liquid up to the age of 12 months, thus reducing the risk of infection from contaminated water for a further six critical months. It also costs nothing whereas infant formulas can be expensive.

On these grounds alone, breastfeeding could be considered one of the most effective hygiene interventions available in the WASH toolkit, particularly as it is targeting a group most vulnerable to infection-related mortality. In addition, however, breastfeeding has the following benefits over formula feeding: increased immunity (passed from mother to child) and a healthy digestive tract (the proteins in breast milk are easily digested as opposed to those in infant formula and animal milk, which can often abrade the stomach or intestinal lining) for the child; bonding between mother and child; it also promotes recovery of the uterus and delays the return of fertility for the mother post-delivery.

FIGURE 20: POSTER USED TO DISCUSS KEY FOOD HYGIENE PRACTICES BY ACF CHAD



- Wash hands before preparing food, eating and feeding child
- Wash area where food is prepared and utensils before and after use
- Wash raw vegetables and fruits with clean, treated water to remove germs and insects
- Separate raw meat, poultry and sea food from other food during preparation and storage
- Cook food thoroughly, especially meat, poultry, eggs and sea food
- Reheat cooked food thoroughly before use
- Keep animals and insects such as flies away from kitchen area and food
- Store the foods to be given to your baby at safe temperatures in a hygienic place, avoiding giving him/her food leftovers
- Covering food to protect from flies, dust and dirt

136 - USAID (2015) "WASH and Nutrition: Water and Development Strategy – Implementation Brief"

MAM prevention and Food Hygiene Education in Senegal

The ACF mission in Senegal has been implementing a PROCONU (Programme Communautaire Nutritionnel) project, whose objective is MAM prevention through a combination of nutrition and hygiene promotion activities at the community level. Mothers with children at risk of MAM, who are the main target group of the project, are receiving training on how to prepare a nutritious meal with the ingredients available at the local market. As a part of the intervention, they participate in **culinary demonstrations which are combined with teachings about good hygiene practices** – food hygiene, safe food preparation and storage, hand washing at critical times, safe child feeding practices, hygiene at the household level, etc. In addition, the “role model mothers” who have adopted good food hygiene practices in their own homes and have healthy children are involved in culinary demonstrations to help raise awareness among other mothers. The training lasts 14 days, after which several visits to the households of the beneficiaries are organized to monitor if good food hygiene practices are sustained and if any corrections are needed.

1.9. PROVISION OF WASH ITEMS TO THE AFFECTED HOUSEHOLDS

Self-supply and distribution of WASH items (home water treatment products, soap, hand washing stations, etc.) to the families/ households of undernourished children is another relevant activity that could be undertaken in the framework of WASH and nutrition integrated programming. In this case, the beneficiaries should be the same ones targeted by nutrition activities, so as to ensure a joint health, nutrition and hygiene promotion package for the most vulnerable. Apart from supporting already affected families, provision of WASH items to the households with children under five at risk of undernutrition can play a part in undernutrition prevention programmes.

Usually, prior to distribution, awareness-raising sessions on drinking water quality and the hazards of fecal contamination are organized as well as demonstration sessions on hand washing and household water treatment. These sessions are often conducted with the assistance of community health workers who speak the local language and different kinds of visual aids to better present the main hygiene messages (e.g. hygiene promotion flipchart or picture box). The content of WASH kits should be simple, with items available at the local market so as to ensure appropriateness of the intervention and provide an opportunity to refill the stock (buy locally at affordable prices) once the distributed items have been used up.

Note that in development settings, provision of WASH items is not recommended. Instead, income-generating activities, soap and chlorine production, social marketing and similar should be prioritized.



© ACF mission in Burkina Faso, 2014

Picture 4: Hygiene and water treatment kits given to the families of SAM children in Tapoa province, Burkina Faso

1.10. MONITORING OF HOUSEHOLD WASH CONDITIONS IN CASE OF SAM RELAPSE

A certain proportion of children discharged as cured from nutrition programmes have a new event of acute undernutrition soon after the successful discharge - a relapse. Many factors could contribute to SAM relapse including lack of access to nutritious foods, inadequate care practices, illness of caretaker, high infections disease burden in the community, etc. WASH-related diseases, such as repeated bouts of diarrhea, are known to be a risk factor for wasting relapse. That being the case, in the settings where prevalence of severe acute undernutrition is high, regular visits to the households of the relapse SAM cases could be organized. The purpose of these visits is to investigate household WASH conditions i.e. access to water and sanitation, water treatment and storage practices, use and maintenance of toilets by adults and children, general hygiene in the household, hand-washing practices of mother/caretakers, etc. and investigate if there is an association between poor WASH conditions at the household level and the SAM relapse. This information can help the project team to better shape WASH interventions and focus on specific issues in the households that are contributing to worsening of children's nutritional status and put them in risk of relapsing.

Similarly to SAM relapse, the GEMS study¹³⁷ recommends specific monitoring and follow-up care of diarrhea episodes. Changing the way diarrheal disease care is delivered to include longer-term monitoring and nutritional rehabilitation could improve child health and survival. In particular, instituting a follow-up visit after the initial treatment, either in a healthcare setting or at home, could dramatically improve health outcomes.¹³⁸



KEY MESSAGES

Key messages on WASH and nutrition at the individual and household level:

- Household WASH interventions that address **caregiver hygiene behaviours** and **keep children from consuming contaminated food and water** are essential for preventing diarrhea, nematodes and EED and ensuring good nutritional outcomes.
- Standard WASH interventions do not address the important vectors of soil, poultry feces, and infant foods, such as providing a clean play and infant feeding environment. The essential goal of **Baby WASH** is to interrupt the key fecal-oral vectors of babies' hands and hand-to-mouth activity, paying attention to animal feces as well as human feces. This is a more specific, age-targeted approach, which **does not replace general household WASH interventions but complements them with more targeted interventions for very young children.**
- **Interventions aimed at preventing and reducing EED, particularly through baby-targeted WASH interventions may be crucial to global stunting-reduction efforts.**
- Different approaches can be used to encourage households to adopt better WASH practices, with a minimum need for additional resources. WASH and nutrition interventions can be harmonized and integrated by using approaches such as **"Small Doable Actions"** or **"The Clean Household"**.
- Key WASH behaviours needed at the household level to block fecal-oral transmission and prevent disease are: **correct hand washing with soap at key times; using hygienic latrines and safely disposing child feces; treating, storing and drinking water safely as well as practicing safe food hygiene.** Improving these key behaviours can help prevent undernutrition.
- **Follow-up and monitoring of diarrhea episodes and SAM relapse cases** can help WASH teams to better address specific issues at the household level contributing to worsening of children's nutritional status.

137 - Global Enteric Multi-Centre Study (2014) <http://medschool.umaryland.edu/GEMS/>

138 - Ibid

2. AT COMMUNITY LEVEL



Mariele Labadens © ACF – Senegal, 2015

Providing access to water and sanitation facilities and promoting good hygiene practices in the communities presents an integral part of the integrated approach to preventing and treating undernutrition. Both WASH and nutrition programmes typically focus on the most vulnerable populations – communities without sanitation facilities or access to safe water, regions with high wasting/stunting prevalence, very poor areas with persistent communicable diseases and so forth. That being the case, this subchapter provides suggestions on how WASH and nutrition programmes can **better interlink their efforts when reaching out to the same communities** and identifies opportunities for systematic integration of WASH and nutrition projects at the community level.

BOX 12: LINKING WASH AND NUTRITION WHEN DELIVERING OVERALL COMMUNITY SERVICES

*A community accesses a number of services (health, education, agriculture, etc.) provided by different institutions: government, private sector, international humanitarian organizations. These services are delivered by a fleet of employees and volunteers such as nurses, community health workers, pharmacists, birth attendants, teachers, early child development workers, agriculture extension workers, model farmers, religious leaders (of particular importance in Muslim cultures as there are numerous references to hygiene and food in the Koran), private sector vendors of hygiene items and household water treatment products, food markets, etc. They all play important roles in improving the WASH and nutrition conditions of the community. Even though the majority of these actors do not have a WASH or nutrition specific focus, they are **important multipliers of WASH and nutrition information and key stakeholders** to involve in integrated programmes.*

2.1. COMMUNITY ACCESS TO WASH FOR IMPROVED NUTRITION

Community access to safe water in sufficient quantities, improved sanitation and hygiene promotion are all equally important. A combination of these elements is required to maintain dignity, protect community members from WASH-related infectious diseases such as diarrhea, malaria and cholera, and improve health and non-health outcomes. The relationship between community access to WASH and improvements in education and disaster-risk reduction, both important for ensuring nutrition security, is well acknowledged.¹³⁹

Thus achieving nutritional impact on children and pregnant women implies implementing comprehensive and holistic WASH programmes in the communities¹⁴⁰ and addressing many barriers related **to the access and uptake** of safe water, sanitation and hygiene services and behaviours:

- **WATER:** improving accessibility and quality of drinking water, construction and rehabilitation of improved water resources, building the capacity of water committees to operate, maintain and financially manage water sources, promoting point-of-use water treatment and safe storage, designing community Water Safety Plans, etc.
- **SANITATION:** generating demand for improved sanitation through community-led approaches and sanitation marketing, construction and rehabilitation of improved latrines for the community members, etc.
- **HYGIENE:** promotion and demonstration of safe hygiene practices – i.e. hand washing with soap, food hygiene, menstrual hygiene management, safe stool disposal, solid waste management, etc.

Many of these common, community-oriented WASH activities could be designed to be nutrition sensitive. For example, WASH committees, set up to ensure that the water source is well managed, can also cover the maintenance of WASH facilities in health and feeding centres. Having a health worker appointed as a member of a WASH committee can help better align WASH with nutrition efforts. Nutrition and food security activities such as promoting vegetable gardens or livestock husbandry to diversify the diet require a lot of water. Providing information to the communities on how to construct low-cost WASH facilities using their own resources e.g. hand washing stands like tippy taps, latrines, dish racks, low-cost rain water harvesting systems (where applicable) or use of grey water for growing vegetables is another example in this area. The same applies to preventing contamination of water sources/treating water at source during rainy seasons and diarrhea peaks.¹⁴¹

In addition to making community WASH interventions nutrition-sensitive, there are numerous opportunities for delivering key WASH and nutrition activities together, in an integrated manner, when targeting the same communities. This can help save resources, identify areas of overlap (e.g. discussing food hygiene practices when promoting healthy and nutritious foods) and reinforce them through joint communication channels.¹⁴²

2.2. INTEGRATING WASH INTO NUTRITION COUNSELLING AND HEALTH PROMOTION

Integrating WASH into nutrition counselling and health promotion aims at reducing undernutrition cases within the targeted communities by addressing underlying causes of undernutrition: poor hand washing practices, poor fecal management, unsafe water treatment and storage at the household level, etc.

When communicating with the community, both the WASH and nutrition sectors rely on influential community members (community health care workers, midwives, trained birth attendants, community volunteers, etc.) to deliver related services and health messages, as they are usually the first point of contact with pregnant women and mothers of children under two. WASH and nutrition activities are often targeting the same beneficiaries and aiming at the same result i.e. increasing knowledge and practice of hand washing with soap at critical times, yet their efforts are often poorly coordinated and interventions poorly harmonized. On this account, Table 11 provides various examples on how to easily target pregnant women and mothers of young children with WASH messages through nutrition counselling and health promotion channels and better harmonize messages across sectors directed at the same community.

Nutrition, hygiene and health promotion is not just about passing messages but rather enhancing appropriate behaviour change.

NOTE

139 - ECHO, FAO (2014)

140 - Either already affected by high undernutrition rates or at risk of undernutrition (poor WASH conditions, persistent infectious diseases, etc.). See the section on geographical co-siting of WASH activities in nutritionally vulnerable areas

141 - Concern Worldwide (2014) "How to better link WASH and nutrition programmes"

142 - WHO/UNICEF/USAID (2015) "Improving nutrition outcomes with better water, sanitation and hygiene"

TABLE 11: INTEGRATING WASH INTO NUTRITION COUNSELLING AND HEALTH PROMOTION

Selected WASH behaviours, the most relevant for nutrition and health counselling	HOW?	REFERENCE MATERIALS
➤ Hand washing with soap at critical times ➤ Point-of-use water treatment ➤ Hygienic use of latrine ➤ Safe disposal of child feces ➤ Food hygiene education	➤ Community-based outreach visits through health care workers present a good opportunity to promote desired WASH behaviours. For instance, growth monitoring and promotion or complementary feeding and encouraging a proper diet can be promoted together with hand washing with soap at critical times, including demonstrations to reinforce these behavioural practices and emphasize safe drinking water along with dietary diversity. ➤ For example, the ACF mission in Burkina Faso initiated community-based prevention and treatment of diarrhea with ORT/Zinc, combined with WASH kits distribution and hygiene promotion. Community health workers trained on both key WASH and nutrition behaviours organized a comprehensive communication and awareness-raising campaign in targeted villages to get the message across about the prevention and treatment of diarrhea with ORT/Zinc and importance of adopting good hygiene practices (hand washing at critical times, household water treatment) for improving the health and well-being of children. ➤ Desirable WASH and nutrition practices can be demonstrated during family counselling. Hand washing can be incorporated into all counselling and promotional materials as the first step before preparing food, eating or feeding a child. ➤ Promotion of nutrition-sensitive WASH actions can be provided during community group sessions or club meetings or in marketplaces, religious centres or schools, knowing that people may be more likely to perform and adopt a desired behaviour if people that they respect do so.	➤ Nutrition, Hygiene and Health Promotion Training: https://www.humanitarianresponse.info/en/system/files/Nutrition%252CHygiene%2520%2520and%2520Health%2520Promotion%2520Training%2520Guide_%2520Training%2520for%2520Trainers.pdf ➤ ACF guide on integrating WASH and MHCP activities for better humanitarian projects: http://www.actioncontrelafaim.org/sites/default/files/publications/fichiers/integrating_wash_and_mhcp.pdf ➤ UNICEF nutrition counselling materials in English and French: http://www.unicef.org/nutrition/index_58362.html

2.3. COMMUNITY ENGAGEMENT IN SAFE EXCRETA DISPOSAL AND IMPROVING HYGIENE

Community engagement in water and sanitation service delivery is the key for ensuring project sustainability and accountability.¹⁴³ 'Engagement' refers to a range of activities and approaches that are undertaken at various degrees by different actors, ranging from public consultation to active participation in the design and delivery of projects.¹⁴⁴ Different WASH community engagement approaches, such as CLTS or PHAST (Participatory Hygiene and Sanitation Transformation, see Example from the field 9), could be used to improve hygiene behaviours, reduce diarrhea and other diseases and improve nutrition and health outcomes.

NOTE

Total sanitation is defined as zero open defecation and 100% of excreta hygienically contained (Cairncross, 2006). The elimination of open defecation is associated with a decrease in stunting of 4 to 37 % in rural and 20 to 46 % in urban settings (Ejemot, et al., 2008).

➤ EXAMPLE FROM THE FIELD 9 <

Using Care Group Volunteers to communicate health messages to mothers - an example of integrated WASH and nutrition messaging from Mozambique

The project was carried out by Food for the Hungry/Mozambique (FH/M), in collaboration with the Ministry of Health and with additional technical support from staff at Food for the Hungry's Global Service Centre. The project took place from 2005–2010 in 7 districts of Sofala Province, which have a combined population of 1.1 million people. FH/M selected the project area because it had high levels of undernutrition and low coverage of key child-survival interventions. The area is almost entirely rural, and many villages are at considerable distance from a health facility.

With the help of community leaders, FH/M first identified all pregnant women and mothers of children under 24 months old in the project area (the beneficiaries of the project). They then organized these mothers into blocks of 12 households and asked each group to elect a Care Group Volunteer (CGV) who would serve and promote behaviours with mothers throughout the project. Approximately 12 CGVs met together in a Care Group every 2 weeks with a paid project supervisor (called "promoter") to learn a child survival health message or skill. Over the following 2 weeks, each CGV then met with the 12 pregnant women/mothers of children under 24 months old for whom she was responsible (from 12 nearby households) to share the messages and skills they had learned, using a flipchart with drawings to assist in conveying the behaviour change messages. CGVs met with these women either individually during one-on-one home visits or in small groups in their catchment area (with follow-up home visits to those who missed the small-group meetings). They delivered the entire set of messages over approximately a 2-year period. In the early intervention area, the messages were delivered twice.

International and local staff from FH/M developed the series of 24 messages collaboratively that CGVs delivered to promote good nutrition (exclusive breast feeding, complementary feeding, vitamin A supplementation, taking iron/folic acid supplements during pregnancy and lactation, deworming children every 6 months, etc.) and to prevent and control diarrheal disease (promotion of safe water and hand washing as essential nutrition actions, proper disposal of feces by constructing and using latrines to prevent diarrhea, teaching mothers how to use ORS). The following household behaviours promoted by the project all significantly increased when comparing endline with baseline measures:

- Improved nutrition (exclusive breastfeeding, appropriate complementary feeding, adding oil to weaning foods, and ingestion of vitamin A rich foods)
- Diarrhea treatment (provision of increased fluids for childhood diarrhea, continued feeding with diarrhea, and knowledge of how to prepare ORS correctly)
- Diarrhea prevention (hand washing and point-of-use water purification in the home)

Besides having mothers in the project areas improving their treatment and prevention of diarrhea over time, undernutrition among children 0–23 months old declined significantly and rapidly in the project areas, at about 4 times the rate of decline among children 0–59 months old nationwide.

143 - WSUP (2013) "Getting communities engaged in water and sanitation projects: participatory design and consumer feedback"

144 - Ibid

Community Led Total Sanitation (CLTS) is one of the most widely used *Community Approaches to Total Sanitation*. It has been implemented in more than 21 countries around the world with lots of success.¹⁴⁵ The goal of CLTS programming is “the community-wide elimination of open defecation through awareness raising and affordable sanitation options”.¹⁴⁶ The basic premise is that sustainable sanitation could be achieved only if it is led and implemented by communities themselves. CLTS involves all the members of the community (village): men, women and children and it works only if the community members are collectively aware and understand the issues associated with open defecation practices. It consists of four major steps: pre-triggering, triggering, post-triggering and scaling up. The triggering process aims to generate a sense of shame and disgust which in turn mobilizes community members to take immediate action to end open defecation. Participants are guided to develop low-cost latrine designs and a sanitation plan for their village, and to immediately start latrine construction using local resources and expertise.¹⁴⁷

The CLTS approach could be used to build community understanding about the link between open defecation and inadequate sanitation and the risk of stunted growth and impaired cognitive development in their children, as another strong incentive for families to adopt practices. In addition, CLTS could be a platform to promote infant and young child feeding practices in the community, such as proper hygiene and sanitation related to management of child feces and the child’s immediate environment.

➤ EXAMPLE FROM THE FIELD 10 ◀

Incorporating CLTS in the “Programme to address acute undernutrition and localized food insecurity in two blocks of Madhya Pradesh” in India

While trying to implement a nutrition security project, Deutsche Welthungerhilfe project staff in India realized that they would not achieve the desired impact without tackling open defecation and other WASH-related issues in the targeted communities. Therefore, they **incorporated the CLTS approach in their CMAM programme** to better address the large scale incidence of SAM cases (without complications) and MAM among children in the 6 month to 5 year age group. Linked to the Total Sanitation Programme run by the Government of India (“Clean India” campaign), this project was conducted in 2015 by Jan Sahas Social Development Society, Dewas and supported by Welthungerhilfe and ECHO. Here you can find several highlights reported by the project staff regarding the integration of CLTS in the CMAM programme:

- Initially a CLTS specialist was hired to conduct a TOT on CLTS in the field with the project team, including nutrition field workers and Government village workers. In three villages the consultant worked with the field workers to organize community meetings and discussions. The team then conducted the CLTS with some support and feedback from the consultant.
- After the initial discussions with the community, the focus was on building household toilets as it was identified as one of the main priorities. Some families initiated toilet building on their own. Some started asking for ways and funds available to build them. Some of the families also started practicing hand washing and stopped throwing garbage in the open. As part of the project, sessions were organized with children in schools and mothers groups.
- The project team found difficulties in convincing communities on open defecation. There were a lot of arguments like “we go to defecate very far from our house and flies cannot come to our house”. In some of the villages geographical reasons (hard rock) demotivated villagers as it required lot of work to dig. Availability of water was one of the major challenges, as the area is drought prone.

This is a good example of using CLTS as an entry point for getting important nutrition messages across. However, it is still to be explored which exact CLTS steps could be made more nutrition- sensitive and what new tools or complementary strategies may be needed to strengthen nutrition-WASH through CLTS.

LEARN MORE

- More about community approaches to total sanitation:
http://www.unicef.org/socialpolicy/files/Field_Note_-_Community_Approaches_to_Total_Sanitation.pdf
- CLTS: A Trainer’s Training Guide available in English, French and Hindi:
<http://www.communityledtotalsanitation.org/resource/facilitating-hands-training-workshops-clts-trainers-training-guide>

145 - Ibid

146 - UNICEF (2009) “Community approaches to total sanitation”

147 - Ibid

Sanitation marketing (SM) uses commercial marketing principles to increase demand and facilitate supply of improved sanitation thereby increasing uptake. It endeavours to establish a sustainable supply mechanism to make it easier for users to gain access to improved sanitation products and services.¹⁴⁸ Sanitation marketing is suitable for most places from small rural communities to large urban settlements. Other benefits of SM include its ability to establish mechanisms to help to eliminate the barriers faced by households in acquiring improved sanitation and its use of user sanitation preferences as the basis for developing products and communication plans. The success of sanitation marketing lies in understanding the target market and getting the marketing mix (5 Ps) right – Product, Price, Place, Promotion and People.¹⁴⁹



© Deutsche Welthungerhilfe, 2015

Picture 5: Latrine built during CLTS activities in India

LEARN MORE

- Sanitation Marketing Toolkit:
<http://wsp.org/toolkit/toolkit-home>

Total Sanitation and Sanitation Marketing (TSSM) is the strategy which combines CLTS and SM. This approach provides an opportunity for SM to complement CLTS in areas where it is thought to be weak, and vice versa. TSSM has the potential to increase the uptake of improved sanitation in small towns and peri-urban settlements and achieve greater impact than implementing the two approaches separately.

Both CLTS and PHAST have well recognized limitations: insufficient follow-up, concerns about long-term usage rates, requiring a lot of time from the participants, risk of excluding certain groups and instigating conflicts within a community, shaming and disgusting the communities in the triggering phase that can infringe the human rights of recipients, etc. Nevertheless, they have shown potential as cost effective approaches for scaling up access to improved sanitation, especially in rural areas. Applying CLTS, SM or PHAST in the areas affected by high undernutrition rates could help address some of the known underlying causes of poor nutritional status and bring many other health benefits.

➤ EXAMPLE FROM THE FIELD 11 ◀

Participatory Approach Brings Great Change for Village Karo Mallah in Badin - a story from Pakistan

Karo Mallah is a small village with 34 households and a population of approximately 230 people. It is located in District Badin, part of Pakistan's Sindh Province. There is an ongoing nutrition emergency in the province in part exacerbated by the 2010, 2011 and 2012 floods and the now emerging drought crisis. Limited access to safe drinking water, sanitation facilities and poor hygiene practices are known underlying causes of acute undernutrition. The residents of Karo Mallah practiced open defecation. None of the houses owned a latrine. There was no clean drinking water available - the residents were drinking brackish water which put their health in continuous risk of water-borne disease.

The Participatory Hygiene and Sanitation Transformation (PHAST) approach in the village was implemented under the Pakistan Emergency Food Security Alliance V (PEFSA V), and funded by ECHO. Based on a participatory method, the approach encourages active participation in a group setting that is especially effective in the case of women who are generally reluctant to express their views due to cultural and societal barriers. As the first step of the PHAST methodology, the group discussed and identified health issues faced by their community. The residents of Karo Mallah identified diarrhea as a re-occurring disease. The next step was to conduct problem analysis which comprised of mapping water and sanitation points in the respective villages, discussing good and bad hygiene behaviour and understanding the spread of diseases. The primary challenges identified by the community were linked to water-borne diseases due to lack of availability of safe drinking water, open defecation and poor hygiene practices.

148 - USAID (2010) "Application of Total Sanitation and Sanitation Marketing Approaches to USAID"

149 - Ibid

Solutions to these included both construction and management of new physical facilities as well as adoption of safer individual and collective behaviours.

The community was persuaded to construct pit latrines utilizing locally available material. ACF's WASH team provided technical support to explore low-cost sanitation solutions. Since the construction of household level latrines was not affordable for the community, they built communal toilets. ACF provided complete sub-structure for easy latrines to two Extremely Vulnerable Individuals (EVIs) in the village. The rest of the beneficiaries were asked to select the 6 items (on average) that they would like to have from a list of 12 items that are required for an easy latrine. A community action plan for new facilities and behaviour change was prepared with the support of community members. As part of this, the Village Project Committee played a vital role in facilitating the residents of the village to use the facilities, ultimately improving sanitation practices. Currently, all the households are using communal latrines, at an average of 3 households per latrine. Each latrine was also provided with a hand-washing facility close to the toilet. Hand-washing facilities were arranged by the community utilizing local resources. Some of them kept plastic containers outside the latrine for hand washing; others made use of old steel containers for this purpose. Households that were able to afford soap used soap for hand washing; others washed their hands with water only.

"There has been a great change in our village. Our houses are clean and we use latrines, our children are also healthy and now regularly attend school." (M.Hassan)

2.4. VECTOR DISEASE CONTROL FOR BETTER NUTRITIONAL STATUS

Vectors are living organisms that carry infectious pathogens and can transmit infectious diseases between humans or from animals to humans.¹⁵⁰ Mosquitoes, for example, are a well-known vector for several diseases, most notably malaria. Others include ticks, flies, sand flies, fleas, triatomine bugs, etc.¹⁵¹

Vector-borne diseases account for more than 17% of all infectious diseases, causing more than 1 million deaths annually.¹⁵² Among others (dengue, yellow fever, Leishmaniasis, etc.), malaria prevention and control are of specific importance given their demonstrated relationship with undernutrition. Malaria and undernutrition form a vicious circle: "*malnourished children have weak immune systems, so their bodies are less able to fight diseases such as malaria, while children sick with malaria are more likely to become dangerously malnourished*".¹⁵³ Research evidence suggests that malaria control programmes alone may not have the desired impact on childhood mortality and morbidity without addressing undernutrition.¹⁵⁴ All these factors call for an integrated response.

It has been estimated that 42% of global malaria burden could be prevented by environmental management, including better management of water resources and sanitation facilities.¹⁵⁵ For example, reducing the mosquito population in households and communities by eliminating standing water (caused by poor drainage and uncovered water tanks) can be an important factor in reducing malaria cases.¹⁵⁶ Mosquitoes breed in pools of water that can be found near houses. Eliminating such sites would reduce mosquito populations that transmit malaria, due to lack of breeding sites. Draining pools of water, levelling land, constructing drains, and providing proper waste water management facilities can be carried out to eliminate mosquito breeding sites.¹⁵⁷

There are three main approaches to the environmental management of malaria that could be used to reduce human-vector-pathogen contacts and achieve optimal health status for a target population/communities (Table 12).¹⁵⁸

According to the latest WHO estimates, malaria kills more than 600,000 people every year, most of them children under 5. Around the world, malaria transmission occurs in 97 countries, putting about 3.4 billion people at risk of illness (WHO, 2014).

NOTE

The months of the 'hunger gap', when undernutrition is at its peak, often coincide with the rainy season, when mosquitoes breed and the number of malaria cases rises (Lewis S, 2013).

NOTE

150 - WHO (2014) "Vector borne diseases"

151 - Ibid

152 - Ibid

153 - Lewis S (2013) "Undernutrition and malaria: A vicious circle"

154 - Ehrhardt S et al. (2006) "Malaria, Anemia, and Malnutrition in African Children—Defining Intervention Priorities"

155 - WHO (2016) "Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks"

156 - Ibid

157 - Markle WH, Fisher MA, Smego RA. (2007) "Understanding Global Health"

158 - WHO (2016) "Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks"

TABLE 12: WHO DEFINITION OF ENVIRONMENTAL MANAGEMENT

	DEFINITIONS	EXAMPLES
ENVIRONMENTAL MODIFICATION	Long-lasting or permanent transformation of land, water and vegetation to prevent, reduce or eliminate vector or intermediate host breeding habitats (water related, vector-borne diseases) or environmental conditions which favour water-borne and water-washed disease transmission.	Grading, filling, drainage, land levelling, housing, urban drainage.
ENVIRONMENTAL MANIPULATION	Changes of environmental conditions to create temporary unfavourable breeding conditions for vector breeding or transmission.	Water level fluctuations, water velocity changes, flushing, weed clearing, salinity changes.
MODIFICATION OR MANIPULATION OF HUMAN HABITATION OR BEHAVIOUR	Any environmental manipulation of modification measures to reduce human-vector and/or human-pathogen contacts.	Bed nets, personal protection, house screening, safe bathing and laundry places, latrines, wastewater treatment, water supply.

Source: WHO (1982)

The choice of vector control methods to be applied in the target communities usually depends on the preferences of the population and local situation. It is essential that communities are well informed about the options available, and that they participate actively in choosing and implementing vector control activities that are appropriate to their circumstances.¹⁵⁹ Methods that are suitable in one place are not necessarily suitable elsewhere. For example, insecticide and insecticide-treated mosquito nets may be the preferred method for controlling malaria in one area while environmental management approaches may be more appropriate in another. Before investing resources in community-wide control efforts, advice should be obtained from health workers on the type of measures most likely to be successful under local conditions. Many factors need to be taken into account: the vector species and its behaviour, the compatibility of control methods with the local culture, affordability in the long term, the need for expert advice, etc.¹⁶⁰ Example from the field 12 shows how malaria prevention component can be integrated into nutrition programmes.

> EXAMPLE FROM THE FIELD 12 <

Addressing both undernutrition and malaria as public health problems in Nigeria

Doctors without borders (Medicine Sans Frontiers - MSF) is one of the organizations in the field addressing both undernutrition and malaria as public health problems and is integrating their prevention and treatment into the set of basic health measures targeting pregnant women and young children. They are currently employing this approach in northern Nigeria. In 2012, when a massive plan for treating undernutrition was prepared and implemented, other health needs were excluded, in particular malaria prevention and immunizations. The plan failed to take account of the fact that even if children are provided with appropriate nutrition, they can still be lost to malaria or respiratory infections. In August 2012, the rapid increase in rates of malaria corresponded to the unusual peaks in admissions to SAM treatment. Over 70% of children with SAM admitted to intensive inpatient services were confirmed malaria cases, compared to less than 10% during low malaria season. Thus it is likely that bouts of malaria contributed to undernutrition in vulnerable children. "A lethal combination" of malaria and undernutrition confirms that prevention and treatment of undernutrition will only be successful when the underlying diseases are addressed.

To help reduce overall child mortality, MSF teams are systematically screening and treating children for malaria and undernutrition, as well as vaccinating them against other childhood illnesses. At the same time, to increase the impact of the malaria prevention campaign, MSF teams are distributing mosquito nets treated with insecticide (an important means of controlling malaria) with a focus on children and pregnant women, the two most vulnerable groups.

159 - WHO (1997) "Vector control Methods for use by individuals and communities"

160 - Ibid

2.5. LINKING WASH, NUTRITION AND AGRICULTURE

It has been demonstrated that improving agricultural production alone will not translate into improvements in nutrition. In the past decades, many African countries have faced economic growth which was not accompanied with a reduction in nutritional indicators like stunting.¹⁶¹ This is because ensuring good nutrition requires more than just having enough food. Good nutrition also requires proper behaviours related to child feeding and child care as well as having access to and safely using drinking water, sanitation facilities and hygiene.

Good WASH practices are integral to good agricultural practices from planting through to post-harvest, and promoting them in food and agricultural systems can contribute to better health and improved nutritional status. The **objective of improved WASH from 'field to fork'** is to prevent exposure to contaminated food and water with the goal of improving health and nutrition.¹⁶² Some examples of activities that could be implemented in order to reduce the ingestion of pathogens due to agricultural practices are as follows:¹⁶³

- **Ensuring that irrigation runoff is not used for drinking water.** Irrigation water can be contaminated with pathogens from farm animals and toxins from pesticides and other chemical treatments. This water should remain separate from household drinking water. However, **runoff water can be used for nutrition-sensitive agricultural activities** like kitchen gardening.
- **Adopting a multiple-use water services (MUS) approach.** MUS is an approach designed to optimize water availability and quality at the community level in order to provide for domestic, agricultural, and household water needs, as well as addressing sustainable management of the water resource. Most freshwater withdrawal is for agriculture, but the use of rural and peri-urban water supplies for both domestic and agricultural use is common (e.g., drinking water, gardens, and livestock). Systems are not typically designed or managed for multiple uses, leading to problems with sustainability and environment or risks to human health. The MUS approach can be customized by adding additional sectoral activities to enhance benefits, for example: 1) adding the full WASH package with sanitation and hand-washing to complement the increased drinking water supply; and, 2) providing training and facilitating supply chains for adoption of improved horticultural practices (or supporting other productive uses of water). MUS is most appropriate in areas where water availability is limited or where only one water source is available to meet all the community's needs.
- **Reducing chemical contamination.** Chemical food contaminants include organic and inorganic fertilizers, pesticides, and fungicides. Irrigation water provides another pathway for contaminants – both chemical and biological. Improper application and disposal of chemical contaminants can result in increased morbidity and mortality in humans, especially those with immune systems already weakened by poor nutrition and/or health.
- **Safely collecting, composting and recycling human waste for use in agriculture.** Relatively low-cost approaches and technologies such as Ecological Sanitation (EcoSan) toilets, simultaneously improve public health (by providing essential sanitation services), increase agricultural productivity (by safely treating human waste through the process of composting and using it as a fertilizer) and mitigate environmental degradation.
- **The provision of hand-washing and toilet facilities in the field and processing facilities.**
- **Social and behaviour change communication on good hygiene practices,** such as hand washing after using the toilet and not handling food when sick. When in the field, if it is unrealistic to enforce toilet usage, other methods such as burying feces or the cat method can be promoted.

161 - USAID (2013) "Water, Sanitation and Hygiene: Essential components for food security"

162 - USAID (2015) "WASH & Nutrition: WATER AND DEVELOPMENT STRATEGY- Implementation Brief"

163 - Adopted from: USAID (2015) "WASH & Nutrition: WATER AND DEVELOPMENT STRATEGY- Implementation Brief", SOIL ecological sanitation in Haiti (2010) and ACF-US (2016)

BOX 13: REDUCING ANIMAL WASTE CONTAMINATION

Good practices are also essential in animal systems, and interventions focusing on containing animals and prevention of exposure of children's hands to fecal bacteria from contaminated floors and yard soil are just as, if not more, important than hand washing and water treatment. In one study, the highest microbial load for fecal-oral microbial transmission in children was found in the active exploratory ingestion of soil and chicken feces (Ngure et al., 2013). A secondary behaviour that affected environmental cleanliness was crawling on contaminated soil and floors.

Appropriate waste management, such as confinement of animals and poultry, can diminish the opportunities for contamination. With dairy animals, hygiene goes both ways, e.g., hands should be washed before and after milking to protect both milk and milker, as well as cleaning the udder and ensuring a clean bucket. Existing agriculture and WASH interventions do not address these fecal-oral contamination pathways and are failing to protect infants and young children from ingesting soil, feces, and other pathogens at a critical growth and developmental stage.

Note that agriculture is labour intensive and may alter the status of caretaker. As part of targeting, focus is on the primary caretakers i.e. mothers, who in some cultures work in the fields (e.g. women rice farmers in Southeast Asia). In this regards, it is important to emphasize that the messages on safe hygiene practices should also address the secondary caretakers such as older children and grandparents to ensure that the benefit from good hygiene is not cancelled by day-time bad practices. This point is true for agriculture, but also for any type of labour (e.g. women working in factories).

LEARN MORE

- Learn about Productive Sanitation and the link to the food security:
<http://www.susana.org/en/resources/wiki/factsheet-wg-5-food-security-and-productive-sanitation-systems#akvopedia>
- Sanitation safety planning, an effective framework and process to safely treat and reuse excreta and wastewater:
http://www.who.int/water_sanitation_health/publications/ssp-manual/en/

➤ EXAMPLE FROM THE FIELD 13 ◀

The NOURISH project in Cambodia

With funding from USAID and the U.S. Government's Global Hunger and Food Security Initiative Feed the Future, NOURISH works to accelerate stunting reduction by focusing directly on several of the key causal factors of chronic undernutrition specific to Cambodia—poverty, lack of access to quality food and nutrition services, unsanitary environments, and social norms and practices that work against optimal growth and development. NOURISH aims to improve the nutritional status and well-being of women and children in 555 under-served, rural communities in Battambang, Pursat, and Siem Reap provinces, uniquely integrating health/nutrition, water, sanitation and hygiene (WASH) and agriculture.

NOURISH is implemented through four over-arching strategies:

- ➊ **Improving community delivery platforms to support improved nutrition:** A major delivery platform supported by NOURISH is the community stunting-prevention programme that uses fixed locations for promoting children's growth, with referral and follow-up for sick and severely malnourished children through existing social support and health systems. NOURISH supports village health support groups (VHSGs) to deliver quality nutrition services and establish strong links to health centres. Collaboration with the agriculture sector offers opportunities to address food security constraints, and broad reach within the community to promote social and behaviour change for improved nutrition.
- ➋ **Creating demand for health, WASH, and agriculture practices, services, and products:** Conditional cash transfers (CCTs), vouchers, and social and behaviour change communications (SBCC) work to create demand for improved evidence-based practices, services and products. CCTs serve as an incentive for women to access nutrition services by addressing poverty-related constraints. Community-led total sanitation creates the demand for sanitation, and the provision of vouchers helps the poor to purchase agricultural (e.g. vegetables, fish) and WASH products (e.g. water filters, latrines, hand washing devices).

3 Using the private sector to expand supply of agriculture and WASH products: *On the supply side, NOURISH works with small and medium enterprises to increase the market for agriculture and sanitation products. Expanding the supply to meet the demand ensures that households and communities have access to agriculture and WASH products, which contributes to improved household and community diet diversity and sanitation practices.*

4 Enhancing the capacity of government and civil society in integrated nutrition: *NOURISH strengthens the capacity of partners in nutrition, agriculture, sanitation and hygiene activities through organizational development, mentoring, and advocacy. The project helps local leaders to encourage nutrition activities in the community, reinforcing social and behaviour change messaging and community structures for nutrition.*



KEY MESSAGES

Key messages on WASH and nutrition in the communities:

- Achieving nutritional impact on children and pregnant women **implies implementing, comprehensive and holistic WASH programmes in the communities** and addressing many barriers related **to the access and uptake** of safe water, sanitation and hygiene services and behaviours.
- There **are numerous opportunities for delivering key WASH and nutrition activities together, in an integrated manner, when targeting the same communities.** This can help save resources, identify areas of overlap (e.g. discussing food hygiene practices when promoting healthy and nutritious foods) and reinforce them through a joint communication channels.
- This includes integrating WASH, nutrition and health messaging, incorporating different WASH community engagement strategies (CLTS, PHAST, SM) into nutrition programming, vector disease prevention and control in the communities for better nutrition, etc.
- It has been demonstrated that improving agricultural production alone will not translate into improvements in nutrition. **Good WASH practices are integral to good agricultural practices** from planting through to post-harvest and promoting them in food and agricultural systems can contribute to better health and improved nutritional status.
- **Reducing animal waste contamination in** the community is essential for protecting infants and young children from ingesting soil, feces, and other pathogens at a critical growth and developmental stage.
- Private sector vendors of hygiene items, household water treatment products, food, religious leaders, farmer associations, nurses, community health workers, pharmacists, birth attendants, teachers, early child development workers, etc. are key stakeholders to target and to involve in community-based WASH and nutrition interventions.

3. AT INSTITUTIONAL LEVEL (HEALTH CENTRES & SCHOOLS)

Jovana Dodos © ACF – Senegal, 2015

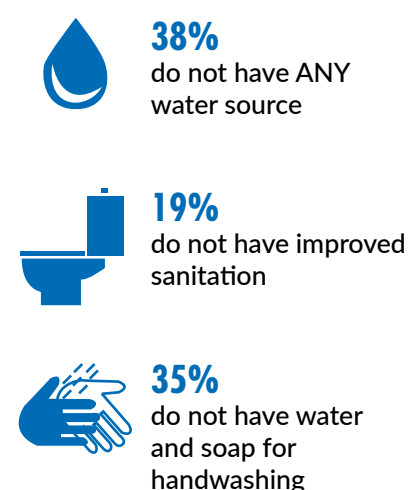


The provision of adequate water, sanitation and hygiene in health care facilities serves to prevent infections and spread of disease, protect staff and patients, and “uphold the dignity of vulnerable populations including pregnant women and the disabled”.¹⁶⁴ The consequences of poor WASH services in health care facilities are numerous. It has been estimated that 15% of patients develop one or more health care-associated infections during a hospital stay. Among new-borns, sepsis and other severe infections are major killers, estimated to cause 430,000 deaths annually. The risks associated with sepsis are 34 times greater in low resource settings. Lack of access to water and sanitation in health care facilities may discourage women from giving birth in these facilities or cause delays in care-seeking.¹⁶⁵

As vital and basic as they are, many health care facilities in low resource settings have no WASH services, severely compromising the ability to provide safe care and presenting serious health risks to both health care providers and those seeking treatment.¹⁶⁶ That being the case, WASH'Nutrition strategy calls for ensuring the WASH minimum package (see Chapter 3) in health and nutrition centres so as to protect the “mother/caretaker-malnourished child” from contracting infections and aggravating health and nutritional status.

In addition, WHO and UNICEF have developed a Global Action Plan on water, sanitation and hygiene in health care facilities with the goal of ensuring “that by 2030, every health care facility, in every setting, has safely managed, reliable water, sanitation and hygiene facilities and practices to meet staff and patient needs in order to provide quality, safe people-centred care, with particular attention to the needs of women, girls and children.”¹⁶⁷

FIGURE 21: GLOBAL COVERAGE OF WASH IN HEALTH CARE FACILITIES



Source: WHO (2015) “Delivering quality, people-centred health care for all”

164 - WHO/UNICEF (2015) “Water, sanitation and hygiene in health care facilities: status in low- and middle-income countries and way forward”

165 - Ibid

166 - WHO/UNICEF (2015) “Water, sanitation and hygiene in health care facilities: status in low- and middle-income countries and way forward”

167 - WHO/UNICEF (2015) “Water, Sanitation and Hygiene (WASH) in Health Care Facilities Global Action Plan”

3.1. IMPROVING WASH SERVICES IN HEALTH CARE FACILITIES

Access to WASH is critical for delivering quality health and nutrition services. Health facilities in low- and middle-income countries often lack basic requirements for good hygiene including safe reliable water supplies and adequate sanitation. Many countries lack policies and standards as well as sufficient human and financial resources for assuring an adequate WASH environment in health care settings.¹⁶⁸ In spite of this, there are many inexpensive interventions that could be implemented in order to decrease the risk of infection and ensure better health and nutrition outcomes. For example, establishing a hand washing station with soap and water will enable service providers to wash their hands before examination and before handling food or drugs. If piped water is not available in the facility, hospitals can facilitate hand washing and hygiene by setting up rainwater catchment systems and tippy taps that can be replicated at home.

Do-it-yourself models such as those made from used jerry cans or other containers are also appropriate. Small improvements in institutional latrines, using ash when soap is not available, etc. are all steps forward in upgrading the WASH service in health and nutrition centres.¹⁶⁹ For references, see Table 13 which presents the WHO standards on water, sanitation and hygiene in health care facilities. The establishment and enforcement of these standards is one measure for increasing access, improving services and ensuring better health for staff and patients. Example from the field 14 shows ACF's experience in implementing WASH activities in health centres in order to guarantee better nutritional outcomes for malnourished children receiving in-patient care.



Picture 6: Stock for medical waste built in a health care facility which does not have an incinerator

Jovana Dodos © ACF – Senegal, 2015

TABLE 13: WHO STANDARDS ON WATER, SANITATION AND HYGIENE IN HEALTH CARE

ITEM	RECOMMENDATION	EXPLANATION
WATER QUANTITY	5–400 l/person/day	Outpatient services require less water, while operating theatres and delivery rooms require more water. The upper limit is for viral haemorrhagic fever (e.g. Ebola) isolation centres
WATER ACCESS	On-site supplies	Water should be available within all treatment wards and in waiting areas
WATER QUALITY	Less than 1 <i>Escherichia coli</i> /thermotolerant total coliforms per 100 ml Presence of residual disinfectant Water safety plans in place	Drinking-water should comply with WHO Guidelines for Drinking-water Quality for microbial, chemical and physical aspects. Facilities should adopt a risk management approach to ensure drinking-water is safe.
SANITATION QUANTITY	1 toilet for every 20 users for inpatient setting At least 4 toilets per outpatient setting Separate toilets for patients and staff	Sufficient number of toilets should be available for patients, staff and visitors
SANITATION ACCESS	On-site facilities	Sanitation facilities should be within the facility grounds and accessible to all types of users (females, males, those with disabilities)
SANITATION QUALITY	Appropriate for local technical and financial conditions, safe, clean, accessible to all users including those with reduced mobility	Toilets should be built according to technical specifications to ensure excreta are safely managed
HYGIENE	A reliable water point with soap or alcohol based hand rubs available in all treatment areas, waiting rooms and near latrines for patients and staff	Water and soap (or alcohol based hand rubs) should be available in all key areas of the facility for ensuring safe hand hygiene practices

168 - WHO/UNICEF (2015) "Water, sanitation and hygiene in health care facilities: status in low- and middle-income countries and way forward"

169 - WHO/UNICEF/USAID (2015) "Improving nutrition outcomes with better water, sanitation and hygiene"

Improving WASH conditions in health and nutrition centres in Burkina Faso

Since July 2008, ACF has been implementing an undernutrition prevention and treatment programme in Tapoa province, which aims to improve the prevention, detection and treatment of acute undernutrition for children under five years and pregnant and lactating women. In line with its WASH'Nutrition strategy, ACF has been working on improvement of WASH conditions in nutrition centres in order to reduce the risk of hospital-acquired infections among children who receive in-patient care. The main activities undertaken within health and nutrition centres include:

- Provision of water treatment kits for 30 health centres and Nutritional Recovery and Education Centres coupled with training on their use
- Construction and rehabilitation of water wells, latrines, laundry areas and showers
- Training of 30 water point committees
- Organization of a consultation framework for the management of water points in health facilities
- Organization of a "Clean CSPA (Health and Social Promotion Centre)" competition to encourage and motivate health centre staff to develop good hygiene practices, safely manage and maintain water points and hand washing facilities, and clean yards and treatment rooms

Involvement of health care personnel in choosing technical solutions for latrines, hand-washing stations, showers, water treatment products, etc. has been the key component in ensuring appropriateness and sustainability of the interventions.

Some key items needed for the **services maintenance**:

- Chlorination consumables to secure <5 NTU turbidity and ≥0.5 mg/l FRC for drinking water, ≥50 mg/l FRC solution for handwashing and >0.5g/l FRC for surface, equipment, tool & latrines disinfection
- Tools and consumables to measure the quality of water (turbidimeter, pool tester, phenol red tabs for pH and DPD n°1 for FRC)
- Cleaning and disinfection tools (sprayer, sponges, cloth and broom)
- A buffer stock for repair and renewal of equipment (tap washer, buckets)

LEARN MORE

- WASH in Health Care Facilities by the WHO:
http://apps.who.int/iris/bitstream/10665/154588/1/9789241508476_eng.pdf
- UNICEF manual on design and construction of water supply and sanitation facilities in health institutions:
http://www.unicef.org/wash/schools/files/WASH_in_Health_Facilities_-_Design_Manual.pdf

3.2. BEHAVIOUR CHANGE IN HEALTH CARE FACILITIES

Health and nutrition centres present a unique opportunity to reach mothers/caretakers and their children on a regular basis and deliver integrated interventions. Many routine health services such as nutrition counselling, antenatal care and growth monitoring require repeated visits to health facilities. These visits can be used to reach mothers/caretakers with WASH and nutrition messages, promote desired behaviours and support the prevention of undernutrition. For example, community health workers, health care volunteers and other trained health personnel can conduct hand washing with soap and water treatment demonstrations while mothers/caretakers are waiting for medical appointments or when medicines are being distributed.¹⁷⁰ Health care providers can discuss topics such as fecal contamination, safe food preparation and improving WASH conditions at home with mothers/caretakers during routine check-ups, sick child visits, immunization days, etc.

170 - WHO/UNICEF/USAID (2015) "Improving nutrition outcomes with better water, sanitation and hygiene".



Picture 7: A Hygiene Promoter - Data Gatherer, conducts a session on personal hygiene for Abrab, 35, who has brought her son, Ajeeb, 12 months old, for follow-up at the CMAM site at the Centre for Maternal Nutrition and Child Health.

Integrated activities could also be implemented during SAM and MAM in-patient and out-patient treatment programmes. For example, hygiene promotion sessions for mothers/caretakers could be organized weekly in the health centres when ready-to-use therapeutic food (RUTF) is being distributed. This presents a good opportunity to negotiate improvement in care and hygiene practices so as to reduce the risk of WASH-related diseases during the treatment and keep children healthy once they recover from undernutrition. These sessions could include different activities such as water treatment demonstrations and group discussions on various relevant topics (Box 14).

Note that hygiene promotion sessions are usually accompanied with WASH kits distribution. If logistically feasible, visits to households during and soon after the nutrition treatment can be organized to provide refresher training on hygiene messages and the use of a WASH kit.

BOX 14: MAIN HYGIENE PROMOTION MESSAGES USED IN THE ACF MISSION IN CHAD DURING THE WEEKLY HYGIENE PROMOTION SESSIONS IN HEALTH CENTRES

- 1 Allocate a protected space for your child to play, limiting the likelihood of him/her ingesting soil or animal feces;
- 2 Wash your child with soap (hands, face) regularly;
- 3 Safely dispose of your child's feces in a latrine or bury it in a hole;
- 4 Wash your hands with soap after defecation, after using the toilet or being in contact with human or animal feces, before preparing/serving food and before feeding your child;
- 5 Store drinking water in a closed container, in a raised place, out of the reach of animals;
- 6 Drinking water provided to children over 6 months old should be treated with a suitable household treatment method;
- 7 Various messages related to food hygiene practices (safe food preparation and storage, cleaning the utensils and kitchen area, etc.).

Improving hygiene for better health and nutrition - hygiene promotion through the routine immunization programme in Nepal

This pilot project was initiated in 2014 by the Nepal Ministry of Health and Population, Child Health Division and WaterAid to determine an effective hygiene promotion intervention for nationwide implementation within the immunization programme. The pilot is being conducted in four districts – Bardiya, Jajarkot, Myagdi and Nawalparasi targeting 35,000 mothers/caretakers with 0-12 month-old children, around 1,200 health workers and 2,200 female community health volunteers. The pilot has been designed to define, test and implement a simple and scalable hygiene promotion package that can be delivered sustainably through the Nepali health system. While traditional hygiene education approaches frequently focus on delivery in community or school settings, the current hygiene promotion intervention will be delivered during immunization clinics. Nepali infants and their mothers/caretakers attend immunization clinics at least five times within the first year after birth to fully immunize their children. The intervention is based on the premise that time spent waiting in the clinics can be utilized to provide mothers/caretakers with further tools and skills to protect their child's health. It is also assumed that mothers/caretakers are more 'susceptible' to health-related messages in this context than in a normal community setting; and that the immunization sessions offer a more regular 'contact point' for mothers/caretakers and frontline health staff than usual. The hygiene promotion intervention is delivered by Female Community Health Volunteers (FCHVs), a primary health cadre who provides basic promotion and treatment at the community level. While FCHVs often provide volunteer support immunization clinics in addition to their routine roles, under the hygiene promotion project they undertake a formal role of conducting hygiene promotion sessions at the start of each immunization session once a month using a creatively-designed hygiene promotion intervention package.

This package goes beyond hand washing with soap and toilet use by further promoting nutrition-relevant behaviours such as exclusive breastfeeding for the first six months of life, thorough cooking and reheating of food, and water/milk treatment. This is done under a branded campaign titled "Clean Family, Happy Family". The premise of the campaign is that attending all five immunization sessions and practicing all five behaviours makes for an "ideal family", an inspirational goal to attain. The package tools include a mix of innovative, creative, simple-to-use promotion and demonstration aids (taking into account literacy levels of FCHVs and mothers/caretakers by using locally-produced illustrations, and sounds), games, story-telling, hand-washing rituals, competitions, commitment-making and certification for mothers/caretakers who have completed the programme. Additionally, to serve as reminders for practicing behaviours in the household setting, mothers/caretakers are also provided with branded visual aids that are used on a daily basis (fan for lighting fire and removing flies, wall mirror, and a bib for toddler feeding). Many of the tools and demonstration techniques are linked with emotional drivers and change in behavioural settings.

Sustaining the motivation and engagement of FCHVs is a crucial component of the programme. Therefore, emphasis has been placed on strengthening the skills of FCHVs through in-depth training, reinforcing social respect towards FCHVs, providing attractive and enjoyable tools, and ensuring that FCHVs are paid incentives per activity delivered as set out under Government norms.

If proven effective, the approach will be scaled up nationwide in tandem with the introduction of rotavirus vaccines through the immunization programme.

About the project: <http://www.wateraid.org/policy-practice-and-advocacy/hygiene-promotion-through-immunisation>

3.3. WASH KITS DISTRIBUTION IN HEALTH CARE FACILITIES

WASH kits distribution aims at ensuring access to safe water supply in the affected households and enabling mothers/caretakers of admitted children to perform good hygiene practices during and soon after nutrition treatment (see also Chapter 3 on the WASH minimum package to complement the treatment of SAM).

WASH kits should be provided at entry (admission) to the treatment in order to support the treatment rather than at exit (to reward or to give an incentive against dropping out). Ideally WASH kits should be available at the health facility, to be provided (by health/nutrition staff) directly with the first RUTF provision, or can be replenished for the second visit. Distribution volumes are usually quite small and easy to process, compared to an emergency distribution. The general trend is to keep the content simple, with the items available at an affordable price on the local market e.g. 500g soap for hand washing, 1 jerry can for water carrying and household water treatment products for at least 2 months.¹⁷¹ Some further guidance on **how to design the kit content**:

171 - West and Central Africa Regional WASH Group (2015) "WASH in Nut" Strategy for Sahel

- Keep it light, simple and low-cost, with a focus on soap, water quality and a hygiene practices leaflet;
- Check with Nutrition teams the average duration of treatment to estimate the relevant quantities of the items. SPHERE standards for soap: 200 g/p/month for hand washing/body hygiene, and 250 g/p/day for laundry soap.
- Household water treatment products will most likely be used by the entire family, as it is nearly impossible (and not practical) for the caretaker to prepare water for the sick child only, she will use the common container. Based on average consumption (ex. 3 l for drinking-cooking/person/day, i.e. approx. 20 l/household/day), calculate the expected amount of HHWT for the duration of the treatment (ex. 60 Aquatabs 67 mg for 2 months of treatment);
- If households do not have adequate water storage / transport, consider water containers;
- Mosquito nets for the sick child are strongly recommended in areas of high risk of malaria, if it is possible to provide them;
- Some agencies may be able to provide in-kind items (containers, nets). It is possible to consider cash-based/vouchers for basic supplies such as soap, buckets or bleach if local markets can provide them.



Picture 8: A hygiene and water treatment kit distributed to mothers/ caretakers of the children admitted to SAM outpatient treatment programme in the Matam region, Senegal

Jovana Dodos © ACF – Senegal, 2015

Some key recommendations and lessons learned regarding the WASH kits distribution:

- If the RUTF is provided at screening, then it may be better to wait for the second visit to provide a WASH kit so as to avoid complaints from parents whose child is not accepted in the programme.
- Distribution should be coupled with strong awareness-raising and training on how to use the kit properly. It is necessary to thoroughly explain the reason and purpose of the kit and to coordinate properly with the health staff. Content and free-of-charge information poster/flipchart must be posted in the facility and referred to while training beneficiaries on their use.
- Ensure training of health workers on key messages for awareness-raising during WASH kits distribution: household water treatment, key moments for hand washing, etc.
- Distance/travel/ease of transport must be taken into account. ACF recommends light kits with just soap and HHWT, which are easy to transport. If kits include buckets and other items, at the same time as RUTF, then separate distribution closer to the house might have to be considered if beneficiaries travel long distances to reach the health facility.
- Ensure monitoring of distribution, with lists of beneficiaries and post-distribution monitoring. Ideally beneficiaries of WASH kits should be in the lists of nutrition/RUTF beneficiaries, to avoid duplicating forms for the health centres and increasing errors.
- Monitoring of household chlorination can be mainstreamed to the monitoring of therapeutic feeding in order to reduce its related operational costs. Monitor the attractiveness of the WASH package which may capture populations from other health catchment areas.
- Incorporate systematic monitoring of distribution during household visits (check if distribution is effective and if the kit is used correctly).
- Recommend including WASH kits in the list of SAM treatment “products” so that there is only one chain for ordering, provision, transport and distribution, which is managed by the health staff who carry out SAM management.

3.4. WASH AND NUTRITION IN SCHOOLS

Schools are respectable and permanent community institutions. They are the most important places for children to play, grow, learn and to acquire essential skills for life. Promoting healthy habits in healthy learning environments allow children to make the most out of their education through better health. In addition, children benefit from school health interventions regardless of their background so that existing inequalities are reduced and all have better chances for a healthy and productive life.¹⁷²

School-based programmes target children above five years of age, who are not the primary target group of the WASH/Nutrition strategy and related interventions. However, **targeting school age children, adolescent girls in particular, provides a unique opportunity to work on undernutrition prevention on a long-term basis.** WASH and nutrition interventions that reach adolescents help create healthy habits that continue into adulthood. Addressing school age children can establish them as agents of change - various studies have shown that communities began to build latrines on their own as a result of promotional actions implemented through different school-based WASH programmes.¹⁷³

There are several examples of how WASH interventions could be implemented in school settings so as to positively impact children's nutritional status:

Some field experiences show that WASH kits distribution in health facilities can lead to an increase of beneficiaries during screening sessions, which consequently result in more SAM children being admitted to the nutrition programme. However, this activity can also lead to "fake" admissions, motivated only by the wish of getting the kits. On that account, it is very important to consider the potential adverse effects of distribution activities, as sometimes it might be better not to implement them.

NOTE

1) FIT FOR SCHOOL APPROACH - A LARGE-SCALE, INTEGRATED, COST-EFFECTIVE AND EVIDENCE-BASED PROGRAMME THAT BRIDGES THE GAP BETWEEN SECTORS

Large numbers of school children in South-East Asia suffer from diarrhea, acute respiratory diseases, worms and dental caries, illnesses that are preventable and caused mainly by poor hygiene. These diseases seriously impair a child's physical and cognitive development and have a negative impact on their ability to learn. Launched in the Philippines in 2008, the Fit for School approach focuses on effective school health programmes that can be financed locally and implemented using the resources of the education sector.

The approach enforces evidence-based preventative measures such as teeth brushing, hand washing with soap and regular deworming to address high-impact diseases among school children. These measures are combined with improved access to WASH facilities in schools.¹⁷⁴ Daily teeth brushing with fluoride toothpaste and hand washing with soap are integrated into the children's normal school day in the form of group activities run by teachers. These daily routines have a lasting effect on hygiene practices and supplement traditional forms of health education, which are based on knowledge transfer only. The children are also dewormed twice each year. This activity is also performed by school teachers. The programme involves improving water supplies and sanitary services, where parents and the community are actively involved in the construction of washing facilities or the provision of clean water to schools without access. Improving access to water and providing sanitary facilities suitable for children in the participating schools create a healthy school environment which is essential for improving long-term health.¹⁷⁵

In schools where the Fit for School approach was implemented, 20% fewer children were underweight, the number of new cases of caries had fallen by 40%, serious worm disorders had halved, and there were 30% fewer illness-related absences compared to schools employing traditional health education.¹⁷⁶ The programme also helped to greatly improve access to water

FIGURE 22: THE FIT FOR SCHOOL ACTION FRAMEWORK



Source: web

172 - GIZ (2014) "Fit for School approach - Improving health for better education and child development"

173 - UNICEF Nepal (2006) "Guidelines on School led Total Sanitation"

174 - Fit for school: Benzian & al, http://www.fitforschool.international/wp-content/uploads/Fit_for_School_Action_Framework_Benzian_et_al_2012.pdf

175 - GIZ (2014) "Fit for School approach - Improving health for better education and child development"

176 - GIZ (2014) "Fit for School approach - Improving health for better education and child development"

and sanitary facilities within the school environment. The functioning and cleanliness of school toilets and washing facilities had been significantly improved in the programme schools.¹⁷⁷

More than a million children benefited from the Fit for School programme in the Philippines and the approach has been extended to Cambodia, Lao and Indonesia.¹⁷⁸

2) SCHOOL-LED TOTAL SANITATION

School-led total sanitation (SLTS) is a comprehensive programme package to achieve universal sanitation (toilet) coverage in schools and communities followed by sustainable hygiene behaviours. It emphasizes the complete elimination of open defecation from the school catchment areas schools as a prerequisite for improving hygiene and sanitation.¹⁷⁹ Participatory tools used empower communities to see improved hygiene and sanitation as a matter of dignity, health and development; and open defecation as a matter of disgust and shame. Participation, synergistic efforts, inclusion, innovations and recognition of sanitation as a public good are its guiding principles.¹⁸⁰

Due to their enduring relationship with the community, schools represent an entry point for sanitation promotion. The SLTS approach places emphasis on effective mobilization of child clubs to motivate the communities to build and use latrines. Therefore, students are seen as a pressure group to catalyse their parents for building toilets and adopting good hygiene behaviour. Motivation of students and the community is taken as a key step towards behavioural transformation and latrine promotion through enhanced partnership of schools, local organizations and communities.¹⁸¹

The programme has proved to be effective because parents take interest in the school-based sanitation programme due to the health improvements and maintenance of the privacy of their children, and because of the sustainability of hygiene and sanitation in the community continuously backed by a school and community partnership. In the long term, the programme continues to reduce child mortality and contributes to the reduction of diarrhea disease. Experience from Nepal shows that in the communities involved in STLS and declared open defecation free, the number of children failing to come to school because of diarrhea or worms decreased and reported cases of diarrhea in the under-fives went down from 7% to 5% between 2005 and 2007.¹⁸²

LEARN MORE

- School-Led Total Sanitation: School Facilitator Training Guide:

http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/SLTS_Handbook_Malawi.pdf

3) DEWORMING CAMPAIGNS IN SCHOOLS

According to the WHO recommendations, mass drug administration should be performed in all areas where more than 20% of children are infected. Given that the drugs are very safe and have no side effects for the uninfected, the WHO does not recommend individual screening.¹⁸³ It has been demonstrated that deworming through schools provides the greatest opportunity to reach the entire at-risk population while minimizing costs through the use of existing government infrastructure. School-based deworming is a safe, simple, and one of the most cost-effective methods of improving school participation ever rigorously evaluated. It has been shown to reduce absenteeism by 25%, and at less than 50 US cents per child per year.¹⁸⁴ Entire communities



Marielle Labadens © ACF – Senegal, 2015

Picture 9: Hygiene promotion during deworming day.

177 - Ibid

178 - Ibid

179 - Adhikari, K (2010) "School led Total Sanitation: Principles and Practices"

180 - Ibid

181 - UNICEF Nepal (2006) "Guidelines on School led Total Sanitation"

182 - UNICEF (2008) "School led Total Sanitation seems unstoppable – Case Study from Nepal"

183 - Deworm the World Initiative (2014) "Mass deworming: It's good public policy"

184 - Deworm the World Initiative (2014) "Mass deworming: It's good public policy"

benefit when the main vectors for disease transmission, children, are regularly treated. There is a “herd effect”¹⁸⁵ for deworming, just as there is for a vaccine.

Deworming can be performed by trained school teachers, community health workers, and nurses. Key target groups for this activity are preschool-aged children, school-aged children and women of childbearing age (including pregnant women in the second and third trimesters and breastfeeding women).¹⁸⁶ A key step prior to mass school-based deworming involves communicating with parents, community leaders, religious leaders and local health agents about the objectives of school-based deworming in schools and what they should expect. Community awareness-raising ensures that teachers, parents and children know about the occurrence, reasons, benefits and safety of school-based deworming.¹⁸⁷ Previous programmes have failed where sufficient community awareness-raising has not occurred. Good community awareness-raising is vital to the success and sustainability of a programme. It will ensure good turn out on the school deworming day, including children who are not enrolled in school.¹⁸⁸

Deworming campaigns present a good opportunity to promote improved water, sanitation and hygiene behaviours. An example in this regard would be sending hygiene promotion staff to demonstrate how to wash hands with soap and water and treat water at home to mothers while waiting at deworming points. Adolescent girls attending deworming days could be targeted with food hygiene education activities. Teaching girls how to safely prepare and serve food can improve their health and that of their families.¹⁸⁹



Key messages on integrating WAHS and Nutrition in health centres and schools

- As vital and basic as they are, many health care facilities in low resource settings **have no WASH services**, severely compromising the ability to provide safe care and presenting serious health risks to both health care providers and those seeking treatment. In spite of this, there are many inexpensive interventions that can be implemented in order to decrease the risk of infection and ensure better health and nutrition outcomes.
- Routine health services such as nutrition counselling, antenatal care and growth monitoring require repeated visits to health facilities. These visits can be used to reach mothers/caretakers with WASH and nutrition messages, promote desired behaviours and support the prevention of undernutrition. An example from Nepal shows that different **hygiene promotion** packages can be **delivered sustainably through health system** channels and routine activities such as antenatal counselling and immunization days.
- Construction and rehabilitation of access to water points and sanitation infrastructure in health care facilities should be followed by regular monitoring and **supervision of the WASH environment** as well as awareness-raising among health personnel on the importance of improving and maintaining good hygiene conditions.
- **Hygiene and water treatment kit distribution in** health and nutrition centres, coupled with strong awareness-raising and training on how to use the kit properly, should enable mothers/caretakers to perform good hygiene practices and consequently reduce the risk of infection and disease during and soon after the treatment.
- School-based programmes target children above five years of age, who are not the primary target group of WASH'Nutrition strategy and related interventions. However, **targeting school age children, adolescent girls in particular, provides a unique opportunity to work on undernutrition prevention on a long-term.** WASH and nutrition interventions that reach adolescents help create healthy habits that continue into adulthood.

185 - A form of indirect protection from infectious disease that occurs when a large percentage of a population has become immune to an infection, thereby providing a measure of protection for individuals who are not immune

186 - WHO (2015) “Deworming to combat the health and nutritional impact of helminth infections”

187 - Deworm the World (2010) “School-based deworming: A planner’s guide to proposal development for national school-based deworming programmes”

188 - Ibid

189 - Elizabeth I. et al. (2015) “Nutrition for women and adolescent girls. Why it matters?”

4. AT NATIONAL LEVEL

Laila Khalid © ACF – Pakistan, 2015



Addressing the multi-dimensional, underlying causes of undernutrition requires building coalitions and partnerships as well as establishing coordination mechanisms at the national level. A multi-sectoral national approach towards hunger, undernutrition, health and WASH is the key for sustained improvements in the nutritional status of the population together with achieving food and nutrition security. This implies harmonizing policies and strategies for health, education, agriculture and water and sanitation sectors around nutrition and creating an enabling policy and institutional environment for integration at various administrative levels (national, district, local). For example, working with relevant ministries on the development of multifaceted behaviour change strategies can help deliver standardized and consistent hygiene and nutrition messages, approved by the government, and increase health and nutrition outcomes that would not otherwise be achieved if delivered in isolation. This may include a variety of approaches including counselling, training, mass communication, community organization, advocacy and others.

Policies alone do not ensure improved nutritional or health outcomes. However, having a nutrition policy that recognizes the importance of WASH encourages development of integrated programming at all levels.

NOTE

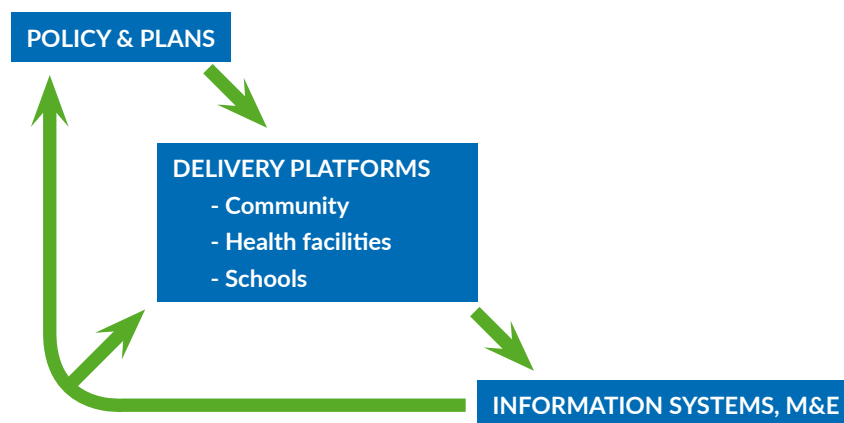
Policies set objectives for what is to be achieved, how to reach those objectives and define responsibilities. Being familiar with country policies are essential for identifying projects opportunities, collaborating partners and aligning project objectives with the national goals.

NOTE

4.1. POLICIES AND STRATEGIES ON WASH AND NUTRITION INTEGRATION

Different countries are at different stages when it comes to WASH integration into national nutrition policies and action plans. While in some countries the integrated approach to WASH and nutrition is yet to be initiated, in others national policies and development partners' strategies already acknowledge the importance of adequate WASH conditions for achieving good nutritional status, and call for WASH interventions to be scaled up along with nutrition actions. Therefore, depending on the opportunities and challenges of each context, different approaches are to be taken to develop or strengthen WASH and nutrition integration at national policy level. Along with the policy set up, developing measurable and interlinked indicators for WASH and nutrition can help improve strategies, technical guidelines, and management practices of integrated services. Figure 24 presents a holistic system approach which pays attention to how individual system components (policies and strategies, delivery platforms, monitoring and evaluation mechanisms) interact and affect one another. Simultaneously supporting WASH and nutrition integration in multiple components of the system yields greater impact on a country's health outcomes.

FIGURE 23: HOLISTIC APPROACH TO WASH AND NUTRITION INTEGRATION



*Adapted from UNICEF Indonesia
"Promotion of holistic approach to address poor WASH and chronic undernutrition in Indonesia"*

BOX 15: PUBLIC HEALTH APPROACH TO NUTRITION

Public health and nutrition are interdependent. Relying on this synergistic relationship, overall nutrition of vulnerable populations could be improved by **delivering public health interventions—like access to health, water, sanitation and hygiene services, disease prevention and control—with nutrition** elements like micronutrient supplementation and promotion of optimal infant and young child feeding. **By integrating public health and nutrition efforts, existing resources can be leveraged to maximize impact** (UNICEF, 2013). This requires integrating nutrition outcomes within the design, monitoring, and reporting system used by the Ministry of Health. In other words, it involves incorporating nutrition indicators into health programmes along the continuum of care (e.g. antenatal care, postnatal care, family planning, immunization) and across different platforms (health facilities, outreach services, community care), designing robust monitoring systems on nutrition interventions from the beginning of each programme and integrating key nutrition indicators in health management information systems.

Making optimal nutrition a public health goal also entails **integrating nutrition-sensitive activities, like WASH, agriculture, food security, etc., into health programmes**, national strategies, and planning documents, so as to ensure a multi-sectoral approach to addressing nutrition.

4.2. WASH, NUTRITION AND HEALTH SYSTEM STRENGTHENING

There is a common understanding that it will be impossible to achieve national and international goals, such as the new 2030 Agenda for Sustainable Development, without greater and more effective investment in health systems and services. Well-functioning health systems deliver the quality health care people need, when they need it, where they need it, and at prices they can afford.¹⁹⁰ Strengthening health systems, however, is challenging given their complexity. It could be defined as “the process of identifying and implementing the changes in policy and practice in a country’s health system, so that the country can respond better to its health and health system challenges” or “any array of initiatives and strategies that improves one or more of the functions of the health system and that leads to better health through improvements in access, coverage, quality, or efficiency”.¹⁹¹ Considering the key role that health systems are playing in WASH and nutrition integration, ACF has worked on identifying opportunities for strengthening health systems building blocks by aligning WASH and nutrition efforts. Some of the main recommendations¹⁹² per building block are summarized below:

190 - USAID (2015) “Health System Strengthening”.

191 - WHO (2015) “Health Systems”.

192 - Recommendations derived from the ACF technical workshop on WASH and nutrition held in Nairobi, 2013.

- 1 **Health workforce/human resources:** Train and build capacity among health staff at the district, sub-district, and regional levels in delivering integrated WASH and nutrition messages and services, especially in difficult circumstances, such as humanitarian emergencies; advocate for the basic WASH and nutrition curriculums at all health system levels; organize regular information exchange sessions for WASH and nutrition staff, especially during the seasonal peaks of diarrhea, malaria and severe acute malnutrition.
- 2 **Service delivery:** Put more emphasis on improving quality of water used for appetite tests in nutrition centres; strengthen public health programmes and infrastructure for water and sanitation systems and regulate water providers to meet quality and equity standards; integrate promotion of child care practices, including proper hygiene, breastfeeding, complementary feeding, and deworming practices into the primary, secondary, and tertiary healthcare systems.
- 3 **Health system financing:** Emphasize the importance of WASH in nutrition advocacy campaigns; improve INGO/consortium coordination for fundraising and financial support.
- 4 **Medical products, vaccines and technologies:** Strengthen supply chains to ensure access to supplements and nutritional products to treat and prevent micronutrient deficiencies and severe acute malnutrition. Harmonize distributions of water filters/purification systems to vulnerable households with distribution of folic acid/iron supplements to children and pregnant woman.
- 5 **Leadership and governance:** Advocate for WASH and nutrition strategy at the national level; work on improving coordination mechanisms between WASH and nutrition sectors and clusters (where applicable); establish a joint WASH and nutrition working group at the national/regional/local level.
- 6 **Health information system (HIS):** Improve accuracy, validity and standardization of WASH and nutrition data; support government in data analysis and utilization.



Key messages on integrating WASH and Nutrition at the national level

- Addressing the multi-dimensional, underlying causes of undernutrition requires building coalitions and partnerships as well as establishing coordination mechanisms at the national level. **A multi-sectoral national approach** is the key for sustained improvements in the nutritional status of the population.
- Different countries are at different stages when it comes to WASH and nutrition policy and strategy integration. **Depending on the opportunities and challenges of each context**, different approaches are to be used to develop or strengthen the national policy environment for WASH and nutrition integration.
- **Public health and nutrition are interdependent.** By integrating public health and nutrition efforts, existing resources can be leveraged to maximize impact. This requires integrating nutrition outcomes within the design, monitoring, and reporting system used by the Ministry of Health.
- Health systems play a key role in terms of WASH and nutrition integration. There are various opportunities for **strengthening health system building blocks through alignment and integration of WASH and nutrition interventions.**

5. INTEGRATING INTERVENTIONS IN EMERGENCIES



© Tdh/F. Stuzik

In the last decade of the 20th century, almost two billion people – a third of the world's population – were affected by natural disasters, and 86% of these disasters were floods and droughts.¹⁹³ Along with food and shelter, safe water and sanitation are the highest priority interventions in emergency situations and of crucial importance for the health of affected populations. Unless adequate water and sanitation services are quickly provided and good hygiene is consistently practiced by emergency-affected people, the risk of diarrhea, cholera, measles, scurvy, and other hygiene-related diseases rapidly increases.¹⁹⁴ This is true in all types of emergencies, from rapid onset natural disasters to long-term crises caused by a range of complex factors. Crisis victims represent around 310 million people a year including 172 million for conflict only and 139 million people for natural disasters. CE-DAT surveys send a clear warning that acute malnutrition is a growing problem in conflict-affected countries.¹⁹⁵

Given that unsanitary living conditions and associated diseases are directly linked to undernutrition and growth faltering, lowered immunity and increased risk of morbidity and mortality, incorporation of **nutrition-specific objectives into WASH humanitarian responses** is essential. Specific measures to strengthen the link between WASH and nutrition interventions and improve nutrition outcomes in emergencies include:

- Ensuring that WASH minimum standards for people affected by an emergency are met (see **The SPHERE Project** <http://www.spherehandbook.org/en/>);
- The promotion of the WASH minimum package for health and nutrition centres (including mobile clinics);
- The integration of key nutrition messages in hygiene promotion strategies;
- Ensuring the access to water for the poorest through the avoidance of user fees or, for example, the provision of cash transfers to cover the costs associated with minimum levels of consumption;
- Ensuring that both WASH and Nutrition coordination platforms interlink during the preparedness, response and recovery phase of the programme;

193 - Humanitarian Coalition (2015) "Emergency Water, Sanitation and Hygiene"

194 - UNICEF (2014) "Emergency WASH"

195 - CE-DAT, 2012 and IFRC Report 2013

- Latrine construction to avoid the risk of fecal contamination; ensuring adequate distance from food preparation sites, drinking water sources, storage of utensils, etc.; latrines should be properly constructed (e.g. concrete slab) to prevent helminthes infections;
- Analysis of the significance of water sources for livelihoods and the household economy prior to interventions, in order to establish drinking water supply services and avoid tensions between the potentially competing priorities of different groups;
- Harnessing humanitarian WASH operations as an opportunity for conditional cash or food transfers, through the engagement of beneficiaries in the construction of their own WASH services.^{196 197}

Where possible, these actions should be designed and implemented in coordination with all relevant stakeholders including community leaders and/or representatives and in accord with local/national authorities. Equal participation of men, women and children in planning, decision-making and local management of emergency WASH operations helps to ensure that the entire population obtains safe and easy access to WASH services and that access to these services does not negatively impact on the nutritional status of vulnerable groups, particularly women and children. There are important gender dimensions related to WASH that would need to be fully considered so as to prevent consequences that could be detrimental to women's and children's well-being. Such gender and nutrition-sensitive design supports, for instance, a reduced burden and a shorter water collection time for women, as well as improved protection for women and young girls through an appropriate design of WASH facilities in refugee or displacement camps.¹⁹⁸



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BOX 16: OVERCOMING THE HUMANITARIAN-DEVELOPMENT DIVIDE WHEN ADDRESSING UNDERNUTRITION

Most emergencies occur in contexts already characterized by stunting and/or persistently high rates of wasting, as a result of serious structural factors lying beyond the scope of humanitarian assistance. On the other hand, most of undernutrition exists and persists outside of emergency contexts.

Initially, linking Relief, Rehabilitation and Development (LRRD) was understood to be a linear sequence: emergency aid should be followed by reconstruction, and later longer-term development cooperation. In the 1990s and 2000s, however, it became clear that this division into clearly distinguishable, consecutive phases is often artificial. Therefore, the focus is placed on the simultaneous, complementary use of the various instruments with the aim not only of closing a gap between different phases, but also of better coordinating humanitarian aid and development cooperation approaches and interlinking them in a proactive way (Wagner L.J, 2016).

The basic idea of transitional aid is firstly to avoid discontinuities by creating a more systematic link between short- and long-term measures, and also to establish the conditions for successful long-term development cooperation. For example, short-term humanitarian aid measures to provisionally repair destroyed water supply systems could be accompanied and eventually replaced by the parallel reconstruction of an organized drinking water supply and wastewater disposal system.

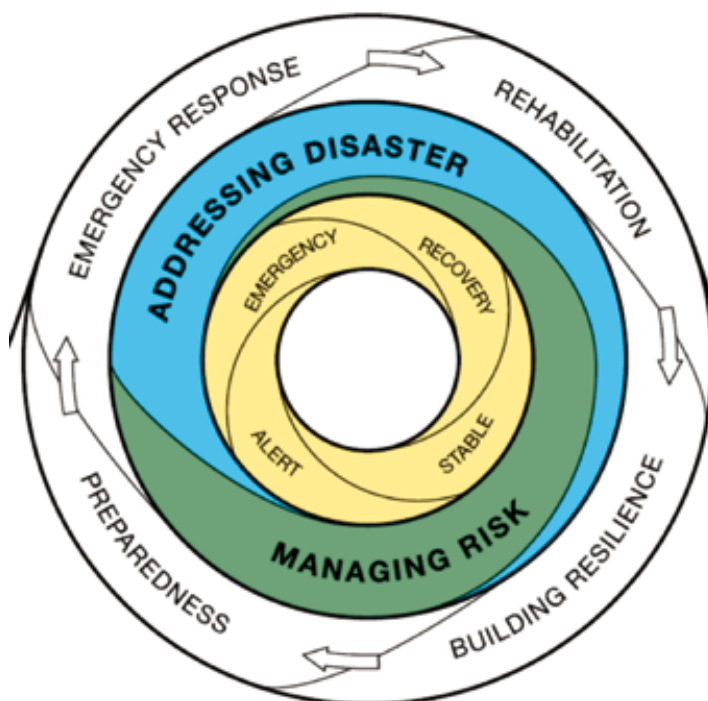
Likewise, the artificial divide between humanitarian and development agendas for nutrition must be overcome (ECHO, 2013). Undernutrition requires a joined-up intervention from both humanitarian and development actors to ensure treatment and prevention of newly emerging undernutrition. Through coordinated actions such as joint vulnerability analysis and operational planning, humanitarian and development organizations will be able to fight undernutrition in a more sustainable manner and build up the resilience of the most vulnerable populations.

196 - ECHO (2013) "Addressing undernutrition in emergencies"

197 - ACF (2005) "Water, Sanitation and Hygiene for populations at risk"

198 - ECHO (2013) "Addressing undernutrition in emergencies"

FIGURE 24: DRM CYCLE, CONTINUUM AND CONTIGUUM



Source: ACF 2011

► EXAMPLE FROM THE FIELD 16 ◀

Integrated WASH, nutrition and health emergency response in Afghanistan

Located in the Central Highlands, the province of Ghor displays unfavourable geological conditions (mountainous landscape/sandy or rocky soil), high exposure to natural disasters (flash floods/drought), high levels of insecurity and conflict-induced displacements, and low presence of humanitarian actors (concentrated in government-controlled districts of the province). The combination of all these risk factors is reflected in high levels of vulnerability and acute humanitarian needs. Across the province, the safe water coverage is estimated to be as low as 20%, a situation associated with high rates of water borne diseases and child morbidity and mortality. The SMART survey conducted by ACF in September 2014 found that out of a total of 34.9% children who were sick in the past two weeks, as much as 78% had an episode of diarrhea. In the 2015 Humanitarian Needs Overview prepared by OCHA, Ghor ranks as “very high priority” for under five mortality and poor hygiene practices, and “high priority” for access to safe water. The province also records a high prevalence of global acute undernutrition which in 2014 was approaching the “critical” threshold defined by WHO: the prevalence of GAM was found at 9.2%, and of SAM at 14%.

ACF is today one of the few humanitarian organizations operating in Ghor province, with the aim of improving the nutritional status and reducing morbidity and mortality of children under five through life-saving health, nutrition and WASH interventions in Alla Yar area in Ghor province. These interventions include:

- Identification of acute malnourished cases among children under five and pregnant lactating women through mass screening and referral of the children with SAM to mobile services
- Provision of SAM out-patient treatment through mobile team and support to SAM in-patient treatment in the provincial hospital
- Supporting targeted supplementary feeding to all children under five and blanket supplementary feeding to all pregnant lactating women
- Integrated management of child illnesses through mobile teams
- Distribution of chlorine/Aquatabs to beneficiaries with no access to protected water sources
- Rehabilitation of non-functioning wells
- Distribution of Bio Sand Filters to beneficiaries fetching water from river
- Training of community health workers and Mullahs on safe hygiene practices
- Hygiene promotion with awareness-raising on key nutrition messages at the village level through mobile teams

5.1. SUPPORTING INFANT AND YOUNG CHILD FEEDING IN EMERGENCIES

When people are affected by a rapid or slow onset of natural disasters, complex emergencies and large-scale population displacements, their lives are disrupted and hygiene conditions and food security usually deteriorate rapidly. In those situations, children under five are more likely to become ill and die from undernutrition and disease than anyone else, and inappropriate feeding increases their risks.¹⁹⁹ Infants less than six months old who are not breastfed in non-emergency situations are already 14 times more likely to die from all causes than exclusively breastfed children.²⁰⁰ These risks are amplified in emergency situations and mortality rates are often greatly elevated.

In emergencies, the risks to feeding and caring practices for infants, young children and their mothers/caretakers are high, alongside increased vulnerability to diarrhea and other diseases due to situations of poor sanitation, reduced access to food and deterioration in living conditions. For this reason, protecting and promoting safe and appropriate infant and young child feeding (IYCF) practices in emergencies is a life-saving intervention, essential for both the prevention and treatment of undernutrition.²⁰¹

*Infant and Young Children Feeding in Emergencies (IYCF-E) is not about long-term behaviour change, it is about **immediate practical actions to support mothers** so that they can breastfeed their children for as long as possible, helping caregivers and families to provide appropriate complementary food for children and supporting the nutrition and well-being of the mothers.*

NOTE

Assessments of IYCF practices and related factors need to be rapid and look particularly at how access to food and feeding practices have changed as a result of the crisis. Distribution of fortified, ready-to-eat (requiring no cooking) complementary foods directly to families with children aged 6-23 months is often a priority intervention –referred to as ‘blanket supplementary feeding’. Promoting exclusive breastfeeding for children under six months through behaviour change communication and counselling remains a priority, but in some emergency contexts, you may find that a large number of mothers were formula feeding their children pre-emergency (such as after the 2010 earthquake in Port-au-Prince, Haiti or the current Syrian crisis). It may take time for these women to re-establish their milk supply and successfully breastfeed, and some women may simply not feel in a position to try due to other pressing demands. In such situations, the health and nutrition of those formula-fed infants (or those receiving a mix of formula and breast milk) must be protected, and humanitarian agencies may need to consider providing a safe and steady supply of infant formula to non-breastfeeding mothers over the short term and ensure a hygienic environment in which to prepare it in. The use of bottles is particularly discouraged because they often harbour bacteria, hence a cup and spoon approach is promoted.

The International Code regulating the marketing of infant formula is particularly important in emergencies, where formula companies have often been observed ‘donating’ their branded product, using the opportunity to secure new customers for the future without considering the contamination risks. Psycho-social support for mother and carers may also be critical as mental health particularly after trauma can affect how a mother interacts with her young children and her approach to feeding.

It is clear that IYCF in emergencies is not just a matter for nutritionists: all emergency actors and sectors need to consider how their actions affect the survival needs of infants and young children. Managing IYCF in emergencies involves paying attention to IYCF right at the onset of an emergency (in needs assessment, policy and coordination, in the first responses), considering the specific needs of infants, young children, lactating mothers and caretakers across all sectors and enabling access to basic services: shelter, security, food assistance, WASH, health.²⁰²

WASH and IYCF promotion in emergencies have a critical link. There are several ways that WASH actors can make emergency WASH programmes more IYCF sensitive:

- Linking with nutrition actors to include key IYCF questions in any WASH assessment (if not already covered under a multi-sectoral or nutrition assessment)
- Ensuring the access to sufficient safe water, sanitation and adequate hygiene conditions for mothers and caregivers in their homes, communities and settlements
- Promoting appropriate hygiene practices for preparation of foods and infant milk (where appropriate) via behaviour change communication at key contact points

199 - UNHCR (2001) “Infant feeding in Emergencies”.

200 - ECHO (2014) “Infant and Children Feeding in Emergencies – guidance for programming”.

201 - ACF (2015) “Infant and Young Child Feeding in Emergencies - positioning paper”.

202 - ECHO (2014) “Infant and Children Feeding in Emergencies – guidance for programming”.

- Promoting breastfeeding (and other complementary feeding messages where possible) during hygiene campaigns and other hygiene promotion contact points
- Providing clean water and sanitation services in health and nutrition centres
- Promoting safe spaces for women to breastfeed near water points (as women often collect the majority of water)
- Ensuring distance to water points is minimized and collection receptacles are sufficient so women have more time to spend feeding and caring for their infants and young children.

Some guideline questions that can help verify if WASH emergency response is taking into consideration the specific needs of infants, children under 2, lactating women and caregivers:

- 1 Are identified WASH risks in regard to IYCF appropriately addressed?
- 2 Are mothers/caretakers able to provide specific care and hygienically safe feeding to children under 2? Are there safe spaces for women to feed their children?
- 3 Are water points and collection receptacles available and accessible to households with infants and young children?
- 4 Are hygienic child feeding practices being observed at community, feeding/health centre and household level?
- 5 How long are the queues at distribution sites/water points?
- 6 Are IYCF in emergency topics included in health education discussions in food assistance, CMAM or health projects, and as part of hygiene promotion in WASH projects? Are topics relevant and appropriate for the targeted audience?

LEARN MORE

- ACF positioning paper on Infant and Young Child Feeding in Emergencies:
http://www.actionagainsthunger.org/sites/default/files/publications/ACF_IYCF-E_Position_Paper_Final.pdf
- ECHO Infant and Children Feeding in Emergencies – guidance for programming:
https://ec.europa.eu/echo/files/media/publications/2014/toolkit_nutrition_en.pdf
- IYCF-E Toolkit developed by Save the Children, available in English, French and Arabic:
<https://sites.google.com/site/stcehn/documents/iycf-e-toolkit>
- Introduction to Hygiene Promotion in Emergencies, tools and approaches, ALNAP course reader UK:
<http://www.alnap.org/event>

5.2. EMERGENCY WASH FOR CHILDREN

Agencies and programmes that provide humanitarian WASH, health and nutrition interventions could better integrate their programmes by focusing on children.

Mortality and morbidity rates amongst children under five are significantly higher than within the general population. Children under five usually represent a large proportion of the population in emergencies - 17% of Syrian refugees and one fifth (21%) of the refugees in South Sudan. Women and children of varying ages (both boys and girls) are often responsible for collecting water. Girls are often responsible for caring for their younger siblings. Knowing this, emergency WASH programming can be more effective if children are considered. This should not be seen as a 'nice to do' add on but as a fundamental part of all emergency WASH interventions.²⁰³

1) CHILD-FOCUSED EMERGENCY SANITATION

It has been demonstrated that young children's excreta is likely to be more dangerous than adult excreta, yet the management of babies' and children's excreta in emergencies is not dealt with systematically and represents an underestimated risk to health. Children of different ages have different requirements for excreta management and emergency sanitation interventions need to find appropriate solutions for different age groups. Children under 12 months have no bowel or bladder control and are usually only able to exert some control by the age of 18 months to 2 years. Some children are only ready for potty or toilet training at 3 years. However, the stress of the emergency context may make it a particularly difficult time to start potty training.

203 - Save the Children (2014) "Emergency WASH for children".

Table 14 summarizes some of the possible excreta disposal options for children of different ages (cut off points may be context specific and will depend on the wishes of parents and children). The choice of excreta disposal methods for young children must be based on discussions with mothers about use, disposal and cleaning of excreta disposal options.

TABLE 14: EXCRETA DISPOSAL OPTIONS FOR YOUNG CHILDREN IN EMERGENCIES

AGE GROUPS	EXCRETA DISPOSAL OPTIONS		COMMENTS
BABIES UNDER 18 MONTHS	Cloth nappies or cloth inserts	Disposable nappies	Biodegradable or compostable nappies or nappy liners are available but from limited suppliers. Discuss requirements with carers e.g. numbers required, laundering or disposal – may need to provide bucket with lid or detergent for cloth nappies, etc.
CHILDREN FROM 18 MONTHS TO 5 YEARS	Potties with lids	Open air infant-friendly toilet or adapted adult toilet e.g. use potty over squat hole or provide scoop/trowel or combined adult and child toilet with 2 squat holes	Disposal of feces still required and washing of potties. Extra space needed for carers in toilets, possible use of Peepoo bags. Attention to height of hand washing facilities.
CHILDREN FROM 5 YEARS TO 11 YEARS	Child friendly toilets	Adapted adult toilets	Modifications for children with disabilities. Include and promote hand washing. Attn. to size of hole, height of hand-washing facilities, lighting, handrails.
CHILDREN OVER 12	Adult toilets	Child-friendly toilets in schools	MHM for adolescent girls. Modifications for children with disabilities. Include and promote hand washing.

Source: Save the Children (2014) "Emergency WASH for children"

All of the options above will require hygiene promotion to ensure effective use and maintenance of the facilities or items provided, such as subsequent disposal following use of the potty, the laundering process following use of nappies, and disposal of wastewater. Combining advice on breastfeeding, hygiene messages, and coupling this with appropriate sanitation (such as well-managed distribution of washable nappies with provision of spaces to wash them, or responsible potty distribution) and access to appropriate health interventions, would surely make a significant contribution to the survival chances of infants and young children.

2) CHILD-FOCUSED EMERGENCY WATER SUPPLY

In emergencies there have been various attempts to modify facilities to ensure that they are accessible for children. Some examples in this regard would be installing tap stands of appropriate height for children to use and provision of water containers and jerry cans in different sizes, as young children who collect water prefer smaller sizes.

Several recommendations for providing a child-friendly emergency water supply:

- 1 Involve children (users) in the design and building of water points and ensure that their views are incorporated into programme planning and that the hardware selected is appropriate to the needs of children.
- 2 Use robust, difficult to break taps wherever possible. This also contributes to system resilience and longer term water provision.
- 3 Consider including older children in WASH committees and involve children more often in discussions about maintenance, and through their involvement in hygiene clubs.

3) HYGIENE PROMOTION

Hygiene promotion or communication is a vital part of the assessment, design and provision of water and sanitation facilities and most WASH interventions that do work with children recognize their capacity to be agents of change in their community and not just participants in hygiene education sessions.

Hygiene promotion can and should include child-focused components, using a variety of interactive methods, and with children involved in the design and pre-testing of materials used. Child-focused hygiene promotion approaches that have been used in emergencies include:

- Child to Child (and child to community) (See Box 17)
- CHAST (children's hygiene and sanitation for transformation) - Somalia
- School health clubs – various countries
- Community health clubs (can include children but also children-only clubs) – examples of use in Uganda IDP camps and Darfur
- Peer education²⁰⁴



© Save the Children/Humanitarian Innovation Fund

Picture 10: Children at a hand pump providing clean drinking water to one Ethiopian village. The pump was built by Save the Children following an earthquake in 2009

BOX 17: CHILD-TO-CHILD APPROACH OVERVIEW

Child-to-Child is a way of teaching about health which encourages children to participate actively in the process of learning and to put into practice what they learn. It is an approach that can make health education more exciting. The Child-to-Child approach recognises that children in many countries may be responsible for looking after younger brothers and sisters, and that in their role as caretakers they are in a position to educate and support their siblings to ensure better health. Children may also influence other members of their families and encourage them to take action to promote health in the home and village. Schools can also set an example of better health to the rest of the community and in this way there is a continual interaction 'zigzagging' between school and community.

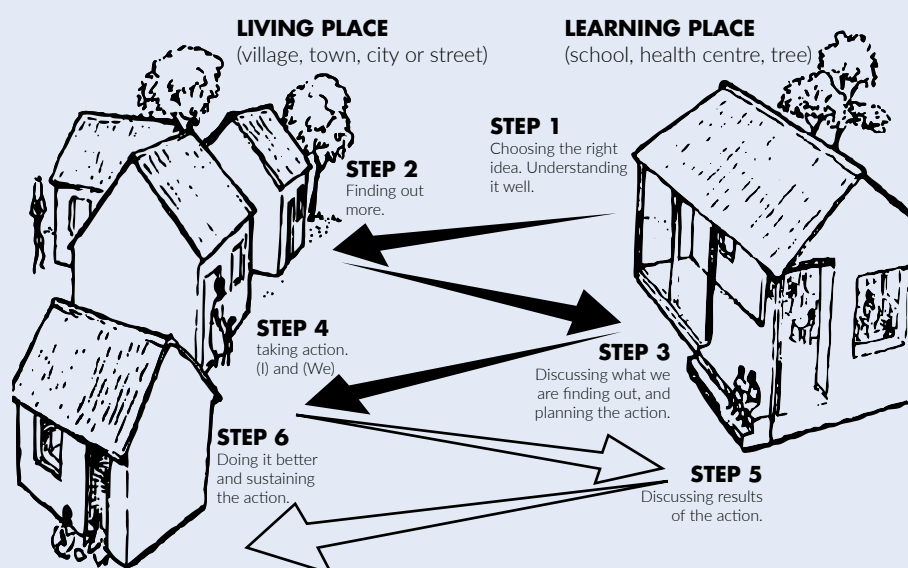


Figure: The Child-to-Child zigzag approach

204 - Save the Children (2014) "Emergency WASH for children".

A - STARTING THE PROJECT

Gathering the children: projects using the Child-to-Child approach can happen wherever children can get together easily and frequently. This may be a school, a health clinic, or any special place agreed by the community, for example a feeding centre, a water collection point, or under a shady tree.

Choosing activities:

The planning committee, the project organizer, the children themselves, or a combination of these might choose the health topics and activities.

All activities should be:

- important for the health of the children and their communities
- easy enough for children to understand
- simple for children to do well
- interesting and fun!

B - GETTING GOING

Experience has shown that the Child-to-Child activities work best if they are introduced in a series of steps as shown on the following pages.

STEP 1 - INTRODUCE 'THE IDEA' AND HELP CHILDREN TO UNDERSTAND IT BETTER

For example: caring for children with diarrhea: Diarrhea is dangerous because it can kill and cause undernutrition. It can be prevented by keeping clean, using clean water, and by eating properly. Children who get diarrhea may die because they become dehydrated, that is, they lose too much liquid from their bodies. The liquid they lose must be put back into their bodies. Special drinks (ORS) can be prepared by children to help replace the lost water when a child has diarrhea, and can prevent dehydration. Use practical activities to reinforce the ideas like role play, puppets, storytelling, and games to understand how people feel and react. For example, the children describe their experiences of diarrhea, the words used to describe it in their family, and the treatment for it.

STEP 2 - GETTING THE CHILDREN TO FIND OUT MORE

The children can find out things from other children, from parents, and from others in the camp.

For example: the number of children in the group or family who have had diarrhea, and how it affected them.

STEP 3 - DISCUSSING WHAT THE CHILDREN FOUND OUT AND PLANNING ACTIVITIES

Discuss possible action, find out who else can help the children with practical actions, and make a plan of action.

For example: what can I do to prevent diarrhea? What can we do if another child is affected? What can we do to teach others about the dangers?

STEP 4 - TAKING ACTIONS

Do practical activities at home. Share new ideas and messages with members of the family and friends. Do activities in the camp.

For example: making, mixing, and tasting a special rehydration drink (ORS) giving the special drink to children who have diarrhea checking that people know about dehydration from diarrhea.

STEP 5 - DISCUSSING THE RESULTS OF THE ACTIVITIES

Test knowledge and skills of children in the group and of others in the camp. Observe attitudes and practices of adults and children.

For example: how many of us now know how to make the special drink? How many have passed on the ideas to others?

STEP 6 - DOING THE ACTIVITIES BETTER NEXT TIME!



KEY MESSAGES

Key messages on aligning WASH and Nutrition in emergency contexts

- Unless adequate water and sanitation services are quickly provided and good hygiene is consistently practiced by emergency-affected people, the risk of diarrhea, cholera, measles, scurvy, and other hygiene-related diseases rapidly increases. This is true in all types of emergencies, from rapid onset natural disasters to long-term crises caused by a range of complex factors.
- Incorporation of **nutrition-specific objectives into WASH humanitarian responses** is essential. WASH emergency response should take into consideration the specific needs of infants, children under two, pregnant and lactating women and caregivers.
- **WASH and IYCF promotion in emergencies have a critical link.** Protecting and promoting safe and appropriate infant and young child feeding practices in emergencies is a life-saving intervention, essential for both the prevention and treatment of undernutrition.
- Agencies and programmes that provide humanitarian WASH, health and nutrition interventions could better integrate their programmes by focusing on children. This should not be seen as a 'nice to do' add on but as a fundamental part of all emergency WASH interventions.

5

MONITORING AND EVALUATION OF INTEGRATED INTERVENTIONS

1. MONITORING INTEGRATED ACTIVITIES

2. IMPACT EVALUATION OF INTEGRATED INTERVENTIONS







PROGRAMMATIC AND EVALUATION CRITERIA

(Development Assistance Committee, OECD - adapted ACF, 2011)

1. MONITORING INTEGRATED ACTIVITIES

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Integrated projects also require assessing progress and identifying specific areas that have to be improved for future integration endeavours. A monitoring and evaluation framework will consistently measure both WASH and nutrition activities and results. The basis of integrated monitoring is the monitoring plan, derived from the project logical framework and developed in consultation with the different sectors involved in the project, the partners and other relevant stakeholders (e.g. health care and community workers). For each objective in the logical framework, the monitoring plan should address the following:

- 1 Information to be collected and analysed for each indicator
- 2 Methodologies to be used for data collection (interviews, observations, KAP surveys, etc.) and analysis
- 3 Frequency of the data collection and analysis (daily, weekly, monthly, etc.)
- 4 Who is responsible for collecting and analysing the data ?
- 5 How the data will be used, in what format, to whom it will be distributed, by who and when

Carrying out joint monitoring can be challenging, knowing that each sector has a specific set of indicators and approaches to measurement. Integrated monitoring shall be promoted through discussions between sectors on the choice of indicators, exchanging practices on measurement methods, looking at monitoring results together and identifying the issues of common concern, collaborative decision-making on how to react to monitoring information, etc. In this way, all sectors involved are responsible for the monitoring of joint efforts.

Indicators of integration are still being developed²⁰⁵ and the final selection of indicators for an integrated project will depend on the country context, information systems in place and capacity. What is important is to determine interlinked and measurable indicators and focus on the outcomes. There are some internationally monitored indicators that can be used to keep a record of WASH and nutrition activities. Box 18 shows the key and proxy indicators for regional and national monitoring of results as suggested in WASH'Nutrition strategy. Note that these indicators are specific for prevention and treatment of severe acute malnutrition. Multi-sectoral M&E Guidelines (2016) developed by ACF promote multi-sector and systematic monitoring and evaluation of projects and working across sectors to enhance and rationalize monitoring activities. The key indicators by sector, as recommended by ACF, can be found below. Finally, examples of output and outcomes indicators for WASH and Nutrition projects proposed by WHO, UNICEF and USAID²⁰⁶ can be found in the Programmatic resources section.

The indicators on hand washing are tricky to measure and require direct observation. Other NGOs measure self-reporting practices through KAP-like surveys but for many years now, it has been known that self-reporting gives results that are 2-3 times higher than shown by actual observation in homes. If asked, about 90% of people say they wash their hands with soap, but the actual observations show that the average rate of hand washing with soap after going to the toilet is about 17% (Curtis, 2014).

BOX 18: MONITORING INDICATORS SUGGESTED BY WASH'NUTRITION STRATEGY

Key indicators:

- The percentage of nutritional centres delivering the WASH minimum package
- Number of children admitted for SAM treatment having received a WASH minimum package of activities (WASH kit with key hygiene messages/behaviours recommended to parents/care givers, and/or WASH activities at community level)
- At least one qualitative indicator e.g. percentage of nutritional centres with residual chlorine measured in the drinking water used for appetite tests

Proxy indicators are also needed at the community level to evaluate the practices of malnourished mothers and children in the household:

- What quantity of water is consumed at the household level?
- How long does the journey to collect water for the household take?
- What is the level of residual chlorine in water stored in the home?
- % of households with permanent access to an improved water source
- % of households that practice water treatment in the home
- Quantity of water used per person/day
- % of households where the stored drinking water meets the WHO standards
- % of households where the time taken to collect water is less than 30 minutes
- % of households having soap available in the home
- % of mothers washing hands with soap at critical times
- % of households practicing adequate disposal of children's feces
- % of households using improved and well maintained toilets

205 - WHO/UNICEF/USAID (2015) "Improving nutrition outcomes with better water, sanitation and hygiene: practical solutions for policy and programmers"

206 - WHO/UNICEF/USAID (2015) "Improving nutrition outcomes with better water, sanitation and hygiene: practical solutions for policy and programmers"

WASH KEY INDICATORS

- 1 Diarrhea prevalence (% of children under 5 years old reported to have had diarrhea in the previous two weeks)
- 2 Presence of hand-washing enablers (% of households in which a clearly identified hand-washing location with water and soap/ash is available)
- 3 Knowledge of key times for hand-washing (% of households in which the person responsible for water is aware of the five key times for hand-washing: after defecation, after cleaning a child who defecated, before preparing food, before eating, and before feeding a child)
- 4 Access to improved water source (% of people with access to improved water points)
- 5 Use of a toilet for excreta disposal (% of households reporting use of a toilet for defecation (household or shared))
- 6 Hygienic disposal of child feces (% of households reporting to dispose child stools in protected toilets, using sludge disposal and treatment, or otherwise using hygienic means of disposal)
- 7 Availability of functioning WASH facilities and enablers at health centres, hospitals and schools (% of health centres, hospitals, and schools with all 3 minimal WASH enablers (toilets, water, and soap/ash) in a functioning condition and providing access to these for patients and pupils)

NUTRITION-HEALTH KEY INDICATORS

- 1 Coverage of key health interventions (Consider focus on child health interventions such as prevention and/or management of pneumonia, ARI, diarrhea, malaria, vaccination (measles))
- 2 Community-based management of acute malnutrition (CMAM) coverage (coverage refers to the people who need treatment against those actually receiving treatment)
- 3 Proportion of discharges as cured/recovered (SAM and/or targeted MAM) in CMAM (number of patients recovered divided by total number of patients discharged times 100 per cent)
- 4 Proportion of discharges as died (SAM and/or targeted MAM) in CMAM (number of patients who died during treatment divided by total number of patients discharged times 100 per cent)
- 5 Proportion of discharges who defaulted (SAM and/or targeted MAM) in CMAM (number of patients who defaulted [who have not returned for 2 consecutive visits and a home visit confirms that the patient is not dead] while in programme divided by total number of discharged times 100 per cent)
- 6 Proportion of the target population receiving and taking supplements with the correct dosage and frequency in micronutrient interventions (% of individuals in the intervention area receiving micronutrient supplementation, with focus on Vitamin A supplementation, Zinc-ORS, MNPs, iron-folate supplementation)

MENTAL HEALTH AND CARE PRACTICES (MHCP) KEY INDICATORS

- 1 Changes in optimal breastfeeding practices by lactating mothers (age-appropriate breastfeeding) (Measures the appropriateness of breastfeeding practices with children aged 0-23 months by considering multiple factors: child age and type of breastfeeding (< 6 months with exclusive breastfeeding; between 6 and 23 months with continued breastfeeding). An increase in number of lactating mothers engaging in optimal breastfeeding practices is a proxy for improved childcare and child nutrition)
- 2 Changes in quality interactions between caregivers and their children (Measures the appropriateness and quality of interactions between a caregiver and a child (<5 years). Proportion of caregiver-child dyads with appropriate caregiver-child interactions)

Source: ACF multisectorial - M&E Guideline 2016

2. IMPACT EVALUATION OF INTEGRATED INTERVENTIONS

The final phase of the project cycle involves a systematic and objective assessment of an ongoing or completed project, programme or policy, its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, efficiency, effectiveness, impact and sustainability.²⁰⁷ Evaluation allows assessment of the relevance of the project and its results, but also redirection of the project and, if needed, halting its further implementation. Evaluation also serves to highlight the lessons learned and produce recommendations for future projects.

When evaluating integrated projects, including WASH and nutrition initiatives, two major questions should be asked: *To what extent was the integrated approach implemented? What difference did the integrated approach make?* Table 15 provides an overview of the evaluation criteria²⁰⁸ that can be used to assess the impact of WASH and nutrition integrated projects.

TABLE 15: EVALUATION OF AN INTEGRATED PROJECT

EVALUATION CRITERIA	EVALUATION QUESTIONS
IMPACT	➤ Did the project sufficiently take into account broader social, cultural and institutional contexts? ➤ Did information-sharing between two sectors provide identification of the key target groups in the population and the impact of the project on them?
COHERENCE	➤ Is there a WASH dimension in the nutrition strategy and vice versa? ➤ Was the project designed according to WASH and nutrition policies?
COVERAGE	➤ To what extent did the key target group benefit from both components of the project (WASH and nutrition)? How many people benefited from a) stand-alone WASH interventions b) stand-alone nutrition interventions c) integrated interventions? ➤ Did both sectors use their capacities to reach vulnerable and high-priority groups to ensure equitable coverage proportional to the needs?
SUSTAINABILITY	➤ Were the approaches to behaviour change based on collaborative analysis and design, taking into consideration known best practices? ➤ Were the local arrangements for management of WASH infrastructure based on collaborative analysis of the social and cultural context?
RELEVANCE AND APPROPRIETNESS	➤ Was analysis, planning and implementation aligned so that the project purpose was addressed in an integrated way? ➤ To what extent did the targeted population assume ownership of the WASH and nutrition project components?
EFFICIENCY	➤ Were the mobilized resources of staff capacity-building used across sectors where relevant? ➤ Were the WASH and nutrition field staff deployed based on skills and experience?
EFFECTIVENESS	➤ Did design and management of the project sufficiently take into account the links between related objectives? ➤ Was progress towards achieving objectives managed in an integrated way?
CROSS-CUTTING ISSUES	➤ Were cross-cutting issues (e.g. age, gender, disability) addressed in a coherent way by both sectors?

Adapted from ACF (2013) "How to integrate WASH and MHCP activities for better humanitarian projects"

207 -UN Evaluation System (2016)

208 - Based on OECD DAC criteria



Picture 11: Monitoring of a community project

Apart from evaluating the integrated project as such, there are several impact indicators that can be used to measure long-term changes or impact resulted from joint implementation efforts. Generally, the impact indicators are measured at baseline and end-line and the results are compared.

WASH interventions can increase nutritional impact by **measuring and monitoring outcomes beyond access to services**, such as usage, maintenance of infrastructure, and behavioural change. The most commonly used indicator for assessing the impact of WASH interventions is reported **prevalence**²⁰⁹ or **incidence**²¹⁰ of **diarrhea** in the targeted population. Other morbidity indicators such as prevalence of malaria or intestinal worms could also be used. Indicators of nutritional impact include the **prevalence of stunting and wasting among children under five, proportion of women underweight**,²¹¹ **proportion of children under five and women in reproductive age with anemia and proportion of low-birth-weight children (<2500 g)**. Anthropometric indicators such as weight and height, together with the analysis of the uptake of WASH and nutrition interventions, should be able to determine the impact of a combined WASH and Nutrition efforts on nutrition status. Note that it is not possible to see an impact on stunting over a short time frame. Programmes lasting at least 2 years are required for any impact on stunting to be observed.²¹²

209 - Proportion of cases in the population at a given time

210 - Incidence is the number of new cases within a specified time period divided by the size of the population initially at risk

211 - Body mass index < 18.5

212 - WHO/UNICEF/USAID (2015) "Improving nutrition outcomes with better water, sanitation and hygiene: practical solutions for policy and programmers"

6

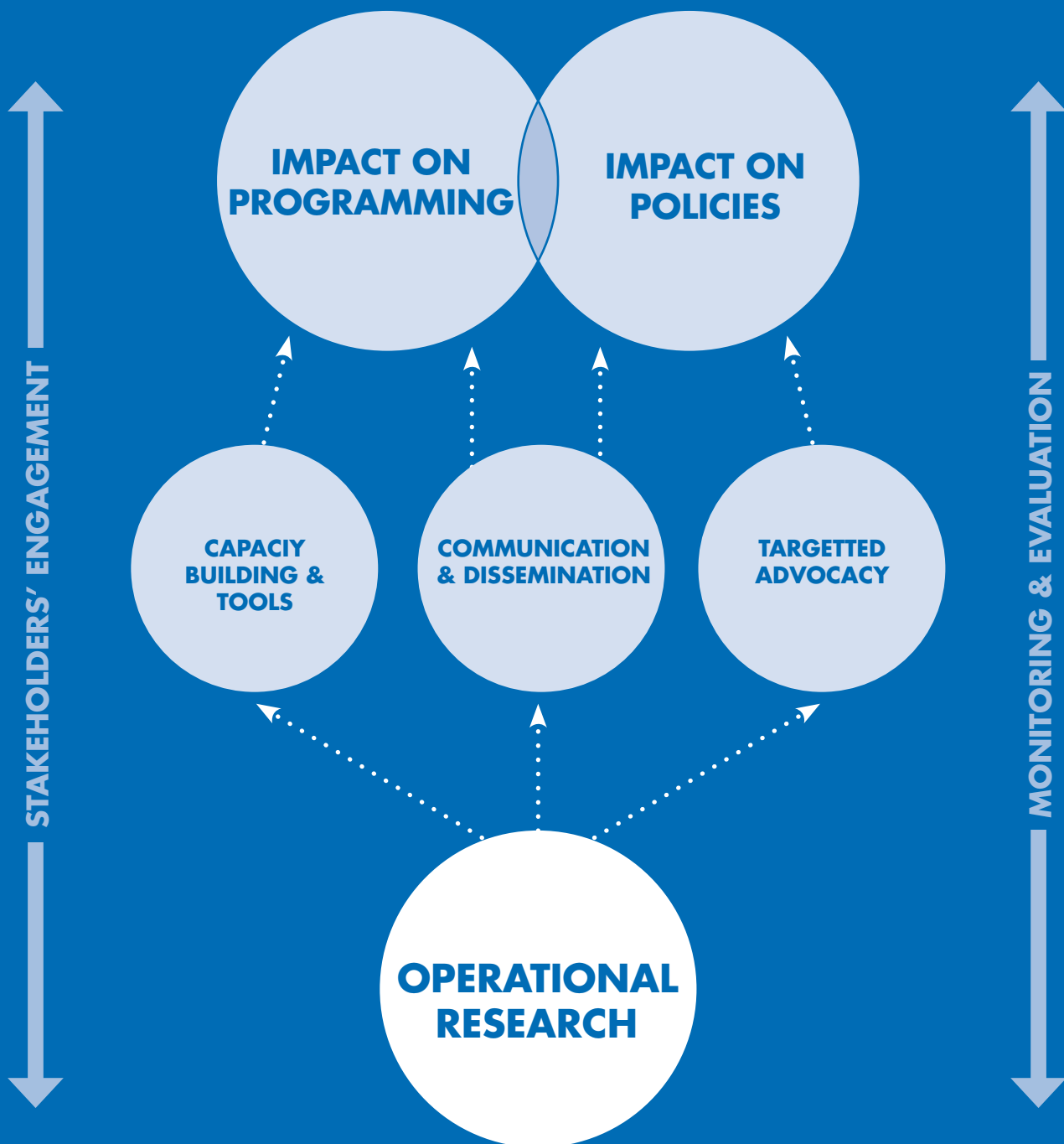
MOVING TOWARDS UPTAKE

1. OPERATIONAL RESEARCH
2. CAPACITY-BUILDING AND TOOLS
3. COMMUNICATION AND DISSEMINATION
4. TARGETED ADVOCACY



© ACF - Pakistan, 2015





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UPTAKE PROCESS

1. OPERATIONAL RESEARCH

Beyond the impact on disease reduction, a growing base of evidence indicates that WASH environment can be critical in shaping children's nutritional outcomes.²¹³ WASH interventions can positively impact stunting incidence rates, with the highest effect on children under the age of 2.²¹⁴ Peruvian 2-years-old children with the worst water source, water storage, and sanitation conditions were 1.0 cm shorter than children with the best conditions.²¹⁵ Analysis of cross-sectional data from 65 countries reports that open defecation explains 54% of international variation in children's height. This link is even stronger when population density is high.²¹⁶ This suggests that India's widespread open defecation and high population density place children at increased risk of stunting and may help explain the "Asian enigma"- despite increased economic growth, children in Asia are shorter on average than those in Africa, who are poorer.²¹⁷ While the evidence regarding the consequences of poor WASH conditions (especially exposure to poor sanitation) on low height for age - stunting is particularly strong, the effects of WASH interventions on low weight for height - wasting are still to be explored. More data is needed to demonstrate how and in which ways specific WASH mechanisms affect nutrition outcomes and determine which implementation modalities are most likely to lead to strong and sustained impact.²¹⁸ Ongoing trials and large intervention studies such as the ACF Ouadinut study²¹⁹ in Chad, Sanitation Hygiene Infant Nutrition Efficacy (SHINE)²²⁰ in Zimbabwe and WASH benefits²²¹ in Bangladesh and Kenya should greatly support the evidence base in this area.

BOX 19: EFFECTIVENESS OF ADDING A HOUSEHOLD WASH COMPONENT TO A ROUTINE OUTPATIENT PROGRAMME OF SEVERE ACUTE MALNUTRITION

The WASH'Nutrition strategy is largely promoted, at least in the Sahel region, and includes 5 pillars, of which, the provision of a WASH minimum package at health level and at household level. One of the activities under this pillar is the delivery of a household WASH kit to the caretaker of the child upon admission for severe acute malnutrition (SAM) at health centre, which is designed to protect children against new episodes of diarrhea and aiming at improving nutritional outcomes. However, there is no evidence on its effectiveness yet.

In the context of ambulatory nutritional rehabilitation of SAM children, we hypothesize that improving water quality and hygiene-related care practices at household level would decrease incidence of WASH-related infections, such as diarrhea, nematode and environmental enteropathy. As such, it would improve weight gain, recovery, and decrease risk of relapse after successful discharge. In order to test these hypotheses, Action Contre la Faim implemented in 2016 a cluster randomized controlled trial in Mao and Mondo health districts, Kanem region in Chad, embedded into a routine nutritional ambulatory programme and comparing two arms: 1) control group: routine nutritional ambulatory programme 2) Intervention group: routine nutritional ambulatory programme + "household WASH kit". The "household WASH kit" includes water container, water disinfection consumables, soap, cup and hygiene promotion leaflet provided at beginning of SAM treatment. Both groups received sessions of hygiene promotion provided weekly at health centre. 1600 children, aged between 6 and 59 months, admitted to 20 health centres for non-complicated SAM, were included into the study and followed up to discharge. Successfully discharged children were also checked at 2 and 6 months after discharge. Primary evaluation outcomes are cured and relapsed proportions. Secondary outcomes include length of stay, weight gain, morbidity outcomes and home water quality and hygiene practices.

This project is conducted within a partnership that includes Action Contre la Faim- France, the Institute of Tropical Medicine in Antwerp, Belgium, and the Sahel Association of applied research for sustainable development (ASRADD) in Chad. Financial support is provided by ACF and the British Department for International Development (DFID). Results will be released soon (early 2017).

Source: ACF, Institute of Tropical Medicine, ASRADD The OUADINUT study – Kanem region, Chad

In spite of existing uncertainties, there has been a common agreement among humanitarian actors, including donors, on **sufficiency of evidence to justify and support the integration of nutrition and WASH interventions.**

213 - Dangour et al, 2013; Ikeda et al, 2013.

214 - Dangour et al, 2013.

215 - Checkley, W., R.H. Gilman, R.E. Black, et al (2004) "Effect of water and sanitation on childhood health in a poor Peruvian peri-urban community".

216 - Spears D & the World Bank (2013) "How much international variation in child height sanitation can explain?".

217 - SHARE/LSHTM/WaterAid (2015) "Undernutrition and water, sanitation and hygiene".

218 - WASHPlus (2015) "Integrating WASH and Nutrition – learning brief".

219 - <https://clinicaltrials.gov/ct2/show/NCT02486523>

220 - <https://clinicaltrials.gov/ct2/show/NCT01824940>

221 - <http://www.washbenefits.net/>

2. CAPACITY-BUILDING AND TOOLS

A number of institutions offer workshops and provide (online) training material and manuals for various stakeholders reaching from decision makers, community leaders and government officers to technical staff, students and families. If you feel you need to improve and broaden your knowledge on any of WASH, nutrition and/or health related topics, you can use some of these online training materials:

INSTITUTION	TOPIC	TRAINING MATERIEL	LANGUAGES
ACF Founded in France, Action Contre la Faim is now recognized as one of the leading organizations in the fight against hunger worldwide.	WASH Nutrition Health	Self-learning material: http://www.actionagainsthunger.org/media/policies-manuals	English French Spanish
CAWST CAWST is a Canadian charity and licensed engineering firm. They address the global need for safe drinking water and sanitation by building local knowledge and skills on household solutions people can implement themselves.	WASH	Large section of self-learning material: http://resources.cawst.org/home?lang=en Training workshops: http://www.cawst.org/services/training	English French Spanish
Emergency Nutrition Network The ENN is a UK registered charity that improves practice and strengthens the institutional memory of agencies involved in the emergency food and nutrition sectors.	Nutrition	Overview of upcoming training and workshops: http://www.en-net.org/forum/15.aspx	Various
FHI360 FHI 360 is a non-profit human development organization dedicated to improving lives in lasting ways by advancing integrated, locally-driven solutions in various sectors.	WASH Health Nutrition	Training courses/workshops: http://www.fhi360.org/services/capacity-building	
German WASH Network The German WASH Network is a partnership of German non-governmental organisations (NGOs) involved in emergency and transitional aid, and in international development cooperation, founded in 2011.	WASH	Overview of upcoming training and workshops, including the "WASH in Emergencies – Training Series": http://www.washnet.de/en/training/	German English
GIZ The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH conducts projects to improve sanitation in more than 25 countries on behalf of the German Federal Ministry for Economic Development and Cooperation (BMZ).	WASH	Support in elaborating human resources development strategies, in workshops, in developing university and school curricula, providing materials, offering specially developed online learning courses: https://www.giz.de/en/ourservices/sustainable_infrastructure.html	German English
Global Nutrition Cluster The Global Nutrition Cluster (GNC) aims to improve the effectiveness of humanitarian response programmes by ensuring greater predictability, accountability and partnership.	Nutrition Health	Training Packages and e-learning on emergencies, awareness raising, assessment, etc.: http://nutritioncluster.net/trainings/	English French
Global WASH Cluster The Global WASH Cluster (GWC) is a partnership grouping 32 partners and aiming at improving the coordination and the humanitarian response in the WASH Sector.	WASH	Training resources and e-learning on emergencies and hygiene promotion: http://washcluster.net/training-resources/ WASH toolkits (e.g. tools, assessment, data, strategic planning, visualization, reporting...): http://washcluster.net/im-toolkitpage/	English French Spanish
SuSanA The Sustainable Sanitation Alliance (SuSanA) is an open and international network of members, who share a common vision on sustainable sanitation.	WASH	Self-learning material, documentation of conferences: http://www.susana.org/en/resources/library Overview of upcoming training, workshops and webinars: http://forum.susana.org/forum/categories/9-announcements-and-miscellaneous	Various

Southampton University The University of Southampton is a public research university located in Southampton, England. Being one of the leading research universities in the UK, it also achieved consistently high scores for its teaching and learning activities. It offers a wide range of free e-learning courses facilities.	WASH Nutrition Health Epidemiology Statistics	University of Southampton's free Statistics eLearning course. This eLearning package supports basic statistics concepts learning in health contexts: http://www.med.soton.ac.uk/stats_eLearning/index.html Other eLearning materials primarily dedicated to medical training, i.e. mental health, public health are available at: https://www.som.soton.ac.uk/learn/elearning/materials/som/	English
UNICEF The United Nations Children's Fund is a United Nations programme headquartered in New York City that provides humanitarian and developmental assistance to children and mothers in developing countries.	WASH- Nutrition	Nutrition-WASH Toolkits: Guide for Practical Joint Actions Nutrition-Water, Sanitation and Hygiene (WASH) - UNICEF East Asia and Pacific Regional Office June 2016. This document is situated in the landscape of a UNICEF EAPRO Nutrition Strategy that has a mandatory WASH module and recent WHO/UNICEF/USAID guidance on practical solutions for improving nutrition outcomes with better WASH. https://www.unicef.org "WASH in NUT" Strategy: Regional WASH Group West and Central Africa, 2014. This regional strategy was developed in 2012 during the nutritional and food crisis in the Sahel. It was updated in 2015. Revised during the 2014 consultation process, it remains an inter-sectoral guidance strategy that can be adapted to the specific national and local features of each country. http://www.pseau.org/outils/biblio/resume.php?d=6035	English English French
WASHplus The WASHplus is a project, led by FHI360, supporting households and communities aiming at significant improvements in access, practices, and health outcomes related to water supply, sanitation and hygiene.	WASH WASH- Nutrition	Tools and training material on behaviour change, menstrual hygiene, school, households: http://www.washplus.org/resources/tools-and-training-resources Webinars: http://www.washplus.org/resources/webinars	Various
WaterAid WaterAid is an international charity that aims at improving access to safe water, hygiene and sanitation.	WASH	Self-learning material: http://www.wateraid.org/what-we-do/our-approach/research-and-publications	English French Spanish Portuguese
WEDC WEDC is one of the world's leading education and research institutes for developing knowledge and capacity in water and sanitation for low- and middle-income countries.	WASH	Technical notes on emergency contexts, suitable for field technicians, engineers and hygiene promoters, as well as staff from agency headquarters: http://wedc.lboro.ac.uk/knowledge/notes_emergencies.html Self-learning practical guides: https://wedc-knowledge.lboro.ac.uk/search.html?q=series%3A%22WEDC+Guide%22&l=10&p=1&s=score&o=desc	English French
WHO-UNICEF- USAID The World Health Organization (WHO) is a specialised agency of the United Nations that is concerned with international public health. The United Nations Children's Fund is a United Nations programme headquartered in New York City that provides humanitarian and developmental assistance to children and mothers in developing countries. The United States Agency for International Development (USAID) is the United States Government agency which is primarily responsible for administering civilian foreign aid.	WASH- Nutrition	Improving nutrition outcomes with better water, sanitation and hygiene: Practical solutions for policy and programmes: this document, jointly prepared by WHO, UNICEF and USAID, summarizes the current evidence on the benefits of WASH for improving nutrition outcomes. It describes how WASH interventions can be integrated into national nutrition policies and programmes to add value. http://www.who.int/water_sanitation_health/publications/washandnutrition/en/	English

3. COMMUNICATION AND DISSEMINATION

On the following pages you will find a short overview of the communication platforms and technical networks which bring together various stakeholders with an interest in both WASH and nutrition. Joining some of these platforms could be useful if you need to keep abreast of the latest research trends and findings, access different online materials, participate in technical discussions, learn about different WASH and nutrition projects around the world and communicate about your own project experiences.

SUSTAINABLE SANITATION ALLIANCE - SUSANA

The Sustainable Sanitation Alliance (SuSanA) is an open and international network of members, who share a common vision on sustainable sanitation. SuSanA came into existence in early 2007 and acts as a coordination platform, working platform, sounding board, and contributor to policy dialogues on sustainable sanitation. It links on-the-ground experiences with an engaged community made up of practitioners, policy makers, researchers, and academics from different levels, with the aim of promoting innovation and best practices in policy, programming and implementation. The overall goal of the SuSanA is to contribute to the achievement of the Sustainable Development Goals (SDGs) by promoting a systems approach to sanitation provision, which takes into consideration all aspects of sustainability. Besides the SuSanA website, with its large online library, event calendar, 12 thematic working groups and regional chapter, SuSanA supports active dialogue through an open discussion forum where shared learning can take place and questions, answers, opinions and experiences shared among the community members. SuSanA meetings are held usually alongside the various working group meetings and offer an opportunity to exchange and network with sustainable sanitation enthusiasts.

Sanitation and Nutrition is a strategic topic of the SuSanA Roadmap (2015-2018) and is addressed by the SuSanA Working Group 12 (WASH and Nutrition). The SuSanA online platform offers various resources on this topic, such as selected publications in the SuSanA library, the full documentation of the WASH Nutrition Forum (Bonn, Germany 2015) and WASH and Nutrition working group on the SuSanA Forum in which news, activities and questions to do with WASH and Nutrition are discussed.

<http://www.susana.org/en/working-groups/wash-and-nutrition>



EMERGENCY NUTRITION NETWORK - ENN

The ENN is a UK registered charity. It was set up to improve practice and strengthen the institutional memory of agencies involved in the emergency food and nutrition sectors. Founded in Dublin in 1996 by Jeremy Shoham and Fiona O'Reilly, it moved to Oxford in 2004. Through its support to networking and learning, ENN helps to build the evidence base for nutrition programming. Its focus is on communities in crisis, typically humanitarian emergencies, and where undernutrition is a significant chronic problem. ENN's work covers both nutrition-specific programming, such as management of acute undernutrition, and nutrition-sensitive programming, which involves sectors such as social protection, agriculture, health, and water, sanitation and hygiene (WASH).

The new ENN strategy includes a broadening of the focus of its activities beyond purely emergency contexts to contexts of fragile and conflict-affected States and countries with a high burden of undernutrition. ENN is playing an emerging role in embedded knowledge management in the SUN Movement and Global Nutrition Cluster.

<http://www.ennonline.net>



BABY WASH COALITION

The BabyWASH Coalition is a group of organizations focused on increasing integration between WASH, Early Childhood Development (ECD), Nutrition, and Maternal New-born and Child Health (MNCH) programming, policy-making and funding to improve child well-being in the first 1000 days. Recognizing that there are many policy, attitudinal, and funding barriers to integration, it aims at leveraging collective strengths to break down these barriers and to make a strong case for the benefits and necessity of an integrated approach to achieving the SDGs. Launched in September 2016 for an initial period of 5 years, it works on increasing focus on advocacy, the development of integration metrics, and the suggestion of preferred practices for programmatic implementers.

<http://babywashcoalition.org/>



..... WASHPLUS

Since 2010, the USAID-funded WASHplus project has been engaged both at the global and country level in stimulating the discussion and improving the evidence base around integrating WASH into nutrition programming, and sharing experiences and approaches to integrating the two sectors. WASH interventions help reduce undernutrition by expanding the development community's focus to include both intermediate and underlying causes of undernutrition. The WASHplus project contributed to achieving the embedding of WASH into USAID's Multi-Sectoral Nutrition Strategy 2014-2025, and nutrition becoming a theme in the Agency's Water and Development Strategy 2013-2018.

<http://washplus.org/>



..... COALITION EAU - WATER COALITION

Coalition Eau (Water Coalition) is a network of French NGOs working in the water and sanitation sector. Since 2006, Coalition Eau has focused on delivering strong messages to decision-makers at all levels with the objective of achieving universal and sustainable access to safe drinking water and sanitation, while preserving water resources. It strives to ensure that water is placed firmly on the national and international agenda and is seen as a political and financial priority. In line with its NGO members' wishes, Coalition Eau operates as an informal network. Its structure is similar to that of a non-profit organization. Besides advocacy, Coalition Eau provides expertise and analysis, network mobilization, training, information and awareness-raising, including in relation to the WASH & nutrition interface.

<http://www.coalition-eau.org>



..... END WATER POVERTY (EWP)

End Water Poverty was set up in 2007 as the first global campaign calling for an end to the water and sanitation crisis. A small number of NGOs came together in 2007 to organize the coalition, which now comprises 260 organizations campaigning in 60 countries around the world. Each organization campaigns with other End Water Poverty members at strategic moments in the year, such as the period around World Toilet Day or World Water Day, or through interacting with international policy process, such as the 2030 Agenda for Sustainable Development. In 2010, EWP's campaigns led to the foundation of the Sanitation and Water for All Partnership (SWA).

<http://www.endwaterpoverty.org>



..... GERMAN WASH NETWORK (GWN)

The German WASH Network unites 20 German not-for-profit NGOs, working in the field of water, sanitation and hygiene worldwide. The network aims to strengthen the WASH sector through advocacy work, knowledge sharing and specific project collaborations.

With a range of member organizations specialized in strategic focus areas within the WASH and Nutrition realms, the German WASH Network first addressed the neglected relationship between WASH and Nutrition at the Bonn Conference on the Water, Energy and Food Security Nexus in 2011. Together with partners the network has since advocated for a better integration of WASH and Nutrition. The GWN has convened two seminars on WASH and Nutrition at the Stockholm World Water Weeks 2012 and 2015. These events led to the idea of organizing the Bonn WASH Nutrition Forum 2015, the first international conference genuinely focused on the WASH and nutrition nexus.

www.washnet.de/en



4. TARGETED ADVOCACY

..... INTRODUCTION

Impact on policies happens through advocacy. Advocacy is defined as actions undertaken by citizens and civil society groups with the aim to change policies, behaviours and practices, either societal or governmental, and defend laws and rights. Advocacy in aligning and integrating WASH and nutrition efforts plays a vital role in three dimensions:

- 1 Advocacy seeks to give a voice to people, especially the most vulnerable, on topics that are important to them, safeguard their rights and change government policies;
- 2 Advocacy supports people in accessing information and services;
- 3 Advocacy can help ensure accountability; civil society and other non-government stakeholders remind and demand governments to follow laws and fulfil responsibilities.²²²

Depending on the objective, target group, scale and available resources, advocacy work varies widely. Raising awareness of the link and improving knowledge-sharing between sectors is still one of the challenges in WASH-Nutrition advocacy. A number of initiatives and coalitions have started advocating for integrated policy and programming on WASH and nutrition. Joint action for pursuing similar goals has been shown to be effective for improving service delivery, facilitating dialogue with governments and achieving political change. So has the work with “champions” (politicians, community leaders, health care providers, teachers, celebrities, etc.), who have passion for preventing child undernutrition. Identifying existing “champions” and supporting new ones can help you lead the action in promoting WASH and nutrition integration.

There are many mechanisms that you can use to advocate for aligning WASH and nutrition efforts. The list of WASH advocacy tools and approaches in Table 14 is based on suggestions made by WaterAid. Additional advocacy tools that you can use include:

- Producing information materials (e.g. factsheets, video clips²²³)
- Partnering with politicians or celebrities
- Facilitating exchange with stakeholders in the donor and NGO community through various forums²²⁴
- Partnering with politicians or celebrities who support your cause.
- Facilitating exchange with stakeholders in the donor and NGO community through various forums²²⁵

International Days, defined by the United-Nations, are an excellent and visible opportunity for join WASH'Nutrition advocacy activities, either at local, national, or even global levels. (See Box 20)

Here you can find some helpful hints on how increase the impact of your advocacy efforts:

- *Factsheets should be simple and easy for the general population as well as decision-makers to understand. Place the most relevant and impactful statistics at the top of a document or in text boxes so they are more easily seen by the policymakers and advocacy targets reading them.*
- *Regular communications can help keep your issue fresh in a decision-maker's mind. This can be done by frequently sharing new resources, publications, or case studies with your target.*

NOTE

222 - WaterAid/ UKaid (2013) "Engagement and advocacy for better WASH governance"

223 - Example of video clip: Generation Nutrition (2015), "Sanitation and nutrition: Let's break the vicious cycle!"

224 - WASplus (2015), WASHplus Learning Brief – Integrating WASH and Nutrition

225 - Ibid

TABLE 16: ADVOCACY TOOLS FOR PROMOTING WASH AND NUTRITION INTEGRATION

ALL LEVELS	COMMUNITY-BASED ORGANIZATIONS (CBOS)
➤ Using rights, national constitutions, laws, policies and programmes as a basis for advocacy ➤ Creating networks and seeking allies ➤ Organising interface meetings, dialogues, round tables, etc. ➤ Convening multi-stakeholder meetings ➤ Organising learning visits	AWARENESS RAISING ➤ Theatre/music/drama ➤ Storytelling ➤ Giving examples from case studies ➤ Community debates ➤ Social mapping and participatory rural assessment tools ➤ Meetings/inputs to official community-level structures ➤ Participating in sports days, concerts, etc. ➤ Organising learning visits between communities ➤ Meetings between communities and their leaders, chiefs, etc. ➤ Pamphlets, manuals, etc.
USING MEDIA AND COMMUNICATIONS ➤ Creating specialist WASH and nutrition journalist groups ➤ Briefings, press releases and stories ➤ Radio programmes and TV slots ➤ Video and DVD presentations ➤ Producing flyers, leaflets, magazines, posters, etc. ➤ Mobilisation for international (or national) days related to WASH and nutrition, e.g. Global Hand Washing Day ➤ Dissemination of WASH and nutrition materials	EVIDENCE GATHERING AND EXTERNAL ADVOCACY ➤ Community scorecards ➤ Mapping services ➤ Audits and budget tracking of local governments ➤ People's juries ➤ Media clinics with communities and journalists

BOX 20: INTERNATIONAL DAYS OF SHARED INTEREST FOR WASH AND NUTRITION SECTORS

- World Water Day 22nd March
- World Health Day 7th April
- World Malaria Day 25th April
- Menstrual Hygiene Day 28th May
- World Environment Day 5th June
- World Breastfeeding Week 1-7th August
- World Humanitarian Day 19th August
- Global Hand Washing Day 15th October
- World Food Day 16th October
- World Toilet Day 19th November
- Universal Children's Day 20th November
- Human Rights Day 10th December

**Picture 12:** Example of WASH/Nutrition Advocacy leaflet

Source: ACF, Afghanistan, 2014

ADVOCACY CAMPAIGNS



POLITICAL DIALOGUE & THEMATIC DISCUSSION FORUM

Since the Bonn Water, Energy and Food Security Nexus Conference in 2011, the link between WASH and Nutrition has been a key area of focus of the German WASH Network's advocacy work. In an effort to place the issue high on the international agenda, the alliance of 20 German NGOs and its partners convened two seminars on WASH and Nutrition at the Stockholm World Water Weeks and founded a working group on WASH and Nutrition under the umbrella of the Sustainable Sanitation Alliance in 2012. The initiative culminated in the Bonn WASH Nutrition Forum 2015, the first international conference focused specifically on the WASH and Nutrition Nexus. The Forum facilitated dialogue at the institutional and operational level. It brought together relevant WASH and Nutrition experts from over 50 organizations and 23 countries, allowing an effective mix of thematic inputs and discussions during so-called "mirror sessions". Mirror sessions were carried out for the two key global monitoring reports (GLAAS and the Global Nutrition Report), the two main global platforms (Sanitation and Water for All Partnership and the SUN Movement) and the humanitarian Global Clusters for WASH and Nutrition. Participants also heard perspectives from a country level (Burkina Faso and South Sudan), a donor (Germany) and from civil society networks (End Water Poverty and Generation Nutrition) and a community-based organization (Progress Coordinating Trust, Zimbabwe). The Forum came up with a set of recommendations, next steps and commitments in terms of viable operational approaches, research, policy and advocacy issues to lead to a more integrated approach for tackling undernutrition and stunting.



Generation Nutrition was a global civil society campaign, which ran from 2014 to 2016 and was hosted by Action Against Hunger. It campaigned for governments to bring about an end to child deaths from undernutrition. 85 partner organizations supported the campaign, working in Burkina Faso, Czech Republic, EU, France, India, Italy, Kenya, Nepal, Philippines, Spain, UK, US and Zimbabwe; and at the global level. A number of NGOs and coalitions specializing in water and sanitation were members of the campaign, including End Water Poverty, WaterAid and Coalition Eau. Securing improvements in water, sanitation and hygiene (WASH) was a key aim for the campaign, as poor WASH is a major cause of undernutrition in children. Under this theme, the campaign called on governments and other development actors to 1) invest properly in better water, sanitation and hygiene, and 2) work towards a fuller integration of WASH, health and nutrition programmes. One of the ways to promote this integration is for flexible funding mechanisms to be created which enable investments across all three sectors, but under a single programme. The campaign work of Generation Nutrition included awareness-raising for a broad audience: for World Toilet Day 2015, Generation Nutrition produced a short animated video explaining the links between sanitation and nutrition. The video was translated into six languages. The campaign was a good example of how WASH can be included in nutrition-oriented advocacy. The partners with expertise on WASH worked closely with others in the coalition to ensure that the action plans for the campaign included advocacy objectives on WASH.



No Wasted Lives is a coalition formed in 2016 by USAID, UKAID, ECHO, UNICEF, and ACF to catalyse global action in the fight against severe acute malnutrition (SAM), the deadliest form of malnutrition. Indeed, SAM affects today over 16 million children worldwide and is responsible for between 1 and 2 million deaths annually. The goal of No Wasted Lives is to ensure that 6 million severely malnourished children are able to gain access to lifesaving treatments every year by 2020, which represents doubling the number of children worldwide with access to

treatment. No Wasted Lives has defined 3 clear objectives: to make SAM a priority, to discover effective ways to prevent and treat it, and to mobilize money and maximize the effectiveness of its spending. To achieve these objectives, the coalition will develop three key work streams: a technical accelerator (developing innovative ideas to drive forward learning and action), a Donor Forum (for governments and other donors to unlock new health funding) and an advocacy agenda, to promote a better understanding of SAM.

ACF is part of No Wasted Lives to scale up treatment and promote a multi-sectorial approach in the fight against SAM. To reduce child mortality, ACF's objective is to promote WASH in SAM responses and adopt an integrated WASH-in-NUT approach in this campaign.

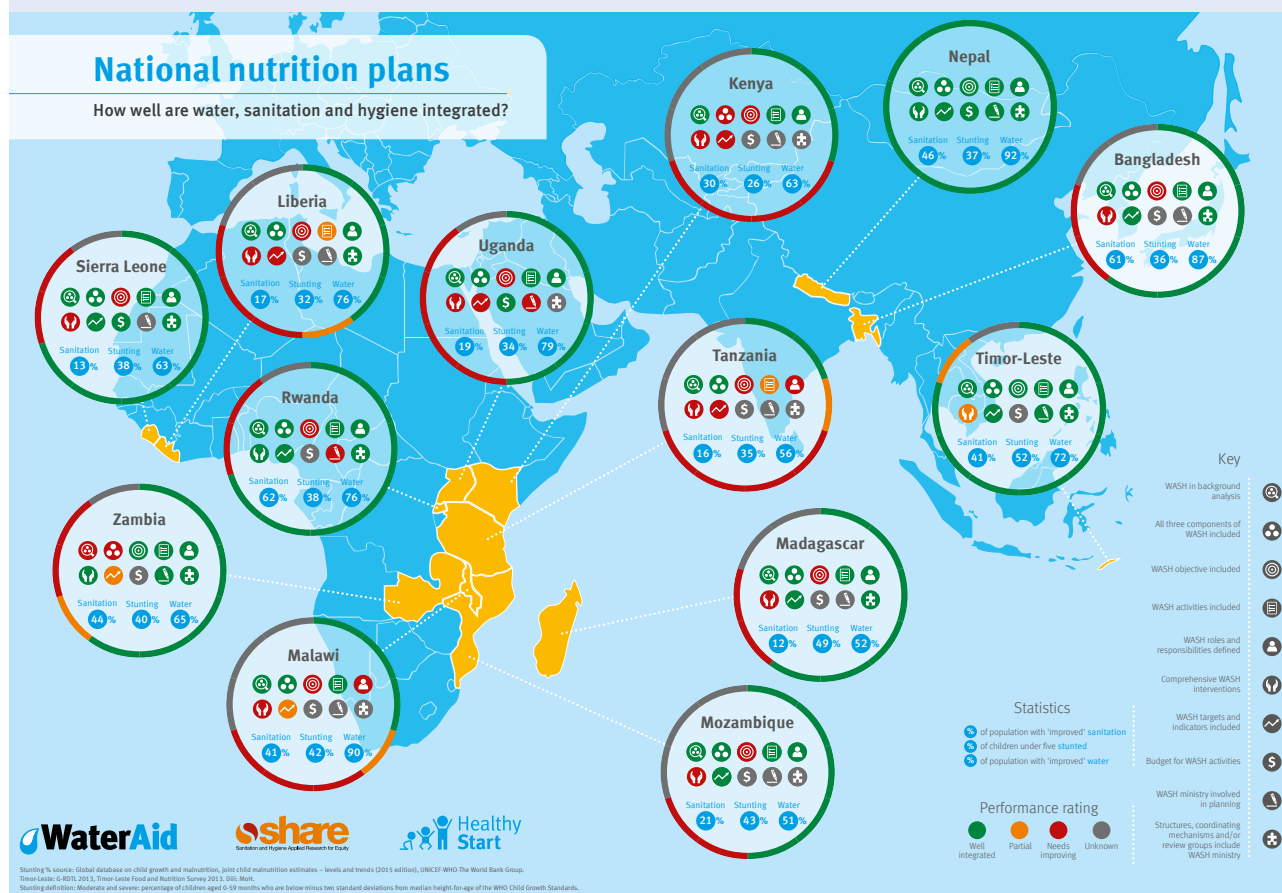
LEARN MORE

- A follow-up document to the Bonn WASH Nutrition Forum 2015: <http://us4.campaign-archive2.com/?u=bc3ae3e573afc6e78bf46bfd1&id=6cb40c53226&e=b36d315897>
- For more about Generation Nutrition: www.generation-nutrition.org
- Sanitation and nutrition "Let's break the vicious circle" video: www.youtube.com/watch?v=yWlr-eJ8FAs
- WASH and nutrition factsheet: http://www.generation-nutrition.org/sites/default/files/editorial/generation_nutrition_factsheet_no_1_wash.pdf
- For more information on No Wasted Lives: <http://www.nowastedlives.org/>

BOX 21: MISSING INGREDIENTS REPORT – WATERAID AND SHARE CONSORTIUM

'The Missing Ingredients' report by WaterAid and SHARE analysed 13 countries to understand the degree to which nutrition and WASH are coordinated and integrated into respective national plans and policies. On the basis of the results of this research, and supplemented by existing evidence and experience, five key findings emerge from the research:

- 1 WASH into nutrition varies widely. All nutrition plans and policies analysed recognise the importance of WASH; however, the degree to which WASH is embedded within plans in terms of objectives, targets, interventions and indicators varies significantly across countries.
- 2 Nutrition into WASH is limited. Very few WASH plans reference nutrition or identify opportunities to integrate with nutrition and health programmes and campaigns. The exception was Liberia.
- 3 One size doesn't fit all. There is no single blueprint for how WASH should be embedded in nutrition plans, nor for how WASH programmes can be made more nutrition-sensitive. However, consideration of some key principles and approaches could help drive progress. For example, designing WASH programmes to target populations most vulnerable to nutrition and/or identifying opportunities to integrate activities such as those related to behaviours such as personal and food hygiene and breastfeeding could result in more joined-up approaches.
- 4 Continuum approach. Working together should be considered along a continuum, with different degrees or approaches to collaboration. At the lower end this may simply involve sharing of information, while at the other end of the spectrum this can look more like an integrated programme.
- 5 Policies and plans alone are not enough. The success of programmes will require more than just a good plan. Integrated plans must be supported by sufficient financing, effective coordination, timely tracking of results, and stronger institutional processes and mechanisms to support cross-ministerial work.



GLOBAL COMMITMENTS AND INITIATIVES

In addition to the Sustainable Development Goals (SDGs), there are a number of other global commitments concerning WASH and nutrition which can serve as a basis for advocacy efforts and for generating political will to strengthen the integration of WASH and nutrition:

- **Resolution 65/6 on the Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition**, which was adopted by states at the World Health Assembly in 2012. The resolution called for combined actions on health, food and other sectors including WASH and established six global nutrition targets for the 2012-25 period.²²⁶
- **The 2002 World Food Summit**, which recognized the importance of water and sanitation for achieving food and nutrition security.²²⁷
- **The WHO/UNICEF Global Action Plan for the Prevention of Pneumonia and Diarrhea**, which includes both WASH and nutrition interventions foundational interventions to meet the global target of eliminating preventable childhood pneumonia and diarrhea by 2025.²²⁸
- **The Convention on the Rights of the Child**, which urges states to ensure “adequate nutritious foods and clean drinking-water” in order to combat disease and undernutrition in children.²²⁹
- **The WHO Global Strategy on WASH and Neglected Tropical Diseases**, which calls for the reinforcing of efforts on WASH to combat diseases, such as soil-transmitted infections and schistosomiasis, both of which are directly linked to poor nutritional outcomes.²³⁰
- **The ICN2 Framework for Action, adopted by states at the Second International Conference on Nutrition (ICN2)** in 2014. The Framework contains 60 ‘recommended actions’ for improving nutrition, including three on water and sanitation.
- Nine strategies for countries to protect and promote nutritional well-being, including water and sanitation, resulting from the **First and Second International Conferences on Nutrition**, held in 1992 and 2014 respectively.²³¹

In addition to these global commitments, WASH and nutrition in national planning processes and advocacy efforts could also be supported through global platforms such as the **Scaling Up Nutrition Movement (SUN) and Sanitation and Water for All Partnership (SWA)**.

1) SCALING UP NUTRITION MOVEMENT (SUN)



Scaling Up Nutrition (SUN) is a movement founded in 2010 on the principle that all people have a right to food and good nutrition, with members sharing an understanding that many factors impact nutrition. As part of a collective effort, governments, civil society, the United Nations, donors, businesses and researchers work jointly to improve nutrition, taking into consideration the direct and indirect causes of undernutrition. Currently, 56 countries are part of the movement: national leaders in these countries have prioritized efforts to address undernutrition. Countries seek to put in place the right policies, collaborate with partners to implement programmes and mobilize resources to ‘scale up nutrition’. Two core themes are empowering women and interventions during the critical 1,000-day window of opportunity for improving nutrition.

Along with SUN countries, the SUN Networks are at the forefront of catalysing efforts within the SUN Movement. By increasing coordination, aligning resources and fostering greater collaboration, the Networks support a more coherent nutrition agenda globally and at country level. At the national level, members of the SUN Networks support national governments by participating in multi-stakeholder platforms and aligning activities with national objectives, through common results frameworks. More than 2,000 organizations have committed themselves to support national plans. The SUN Movement Secretariat is based in Switzerland and is financially supported by the Bill and Melinda Gates Foundation,

226 - WHO (2012)

227 - FAO (2002)

228 - WHO/UNICEF (2013)

229 - UN (1989)

230 - WHO (2015)

231 - FAO/WHO (1992)

Canada, the European Union, France, Germany, Ireland, the Netherlands and the United Kingdom. **A major success of the SUN movement is the integration of WASH into national nutrition strategies of SUN countries.** <http://scalingupnutrition.org>

2) SANITATION AND WATER FOR ALL PARTNERSHIP (SWA)



SWA is a global partnership of over 100 country governments, external support agencies, civil society organizations and other development partners working together to catalyse political leadership and action, improve accountability and use scarce resources more effectively. Partners work towards a common vision of universal access to safe water and adequate sanitation.

SWA is a platform for **coordinated action** so that partners can collaborate globally, regionally and nationally on three priority areas:

- 1 Increase political prioritization
- 2 Promote the development of a strong evidence base
- 3 Strengthen government-led national planning processes

SWA is a platform to **strengthen mutual accountability**: Monitoring progress of the commitments made at the SWA High Level Meetings is SWA's key mechanism for strengthening mutual accountability.

SWA is a platform for **high-level dialogue**: SWA partners engage in existing political processes to advocate for greater attention and resources for WASH at both national and global levels. The High Level Commitments Dialogue is designed to encourage on-going political dialogue at national and global levels and is focused on achieving results on the ground. Every two years, SWA holds the High Level Meeting where donors and ministers table the commitments they have developed through the High Level Commitments Dialogue process.

SWA is a platform to **implement the aid effectiveness agenda** in the WASH sector: By joining SWA, partners agree to adhere to the SWA Guiding Principles, largely based on the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action.²³²

The preparation and monitoring of High Level Meeting commitments brings stakeholders together at a national level to address the fundamental bottlenecks holding back progress. This uses a stronger evidence base to ensure that investments are more likely to be targeted to the right people and places. The process has strengthened dialogue at country level, promoted inter-ministerial coordination and brought cohesion between government, civil society organizations and other key stakeholders.

<http://sanitationandwaterforall.org>

BOX 22: GERMANY'S SPECIAL INITIATIVE "ONE WORLD NO HUNGER"

Launched by the Federal Minister, Dr. Gerd Müller, the initiative has positioned itself at the core of German development assistance and alongside other focus areas. The programme provides considerable and growing investments, contributing to the fight against hunger. In order to implement a fully integrated approach to nutrition and food security it combines both new and existing activities, including health and nutrition education and WASH – a crucial component in the initiative's strategy.

232 - Paris Declaration and Accra Agenda for Action: <http://www.oecd.org/dac/effectiveness/parisdeclarationandaccraagendaforaction.htm>

PROGRAMMATIC RESOURCES



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PROJECT CYCLE MANAGEMENT

(European Commission project, Guideline 2004)

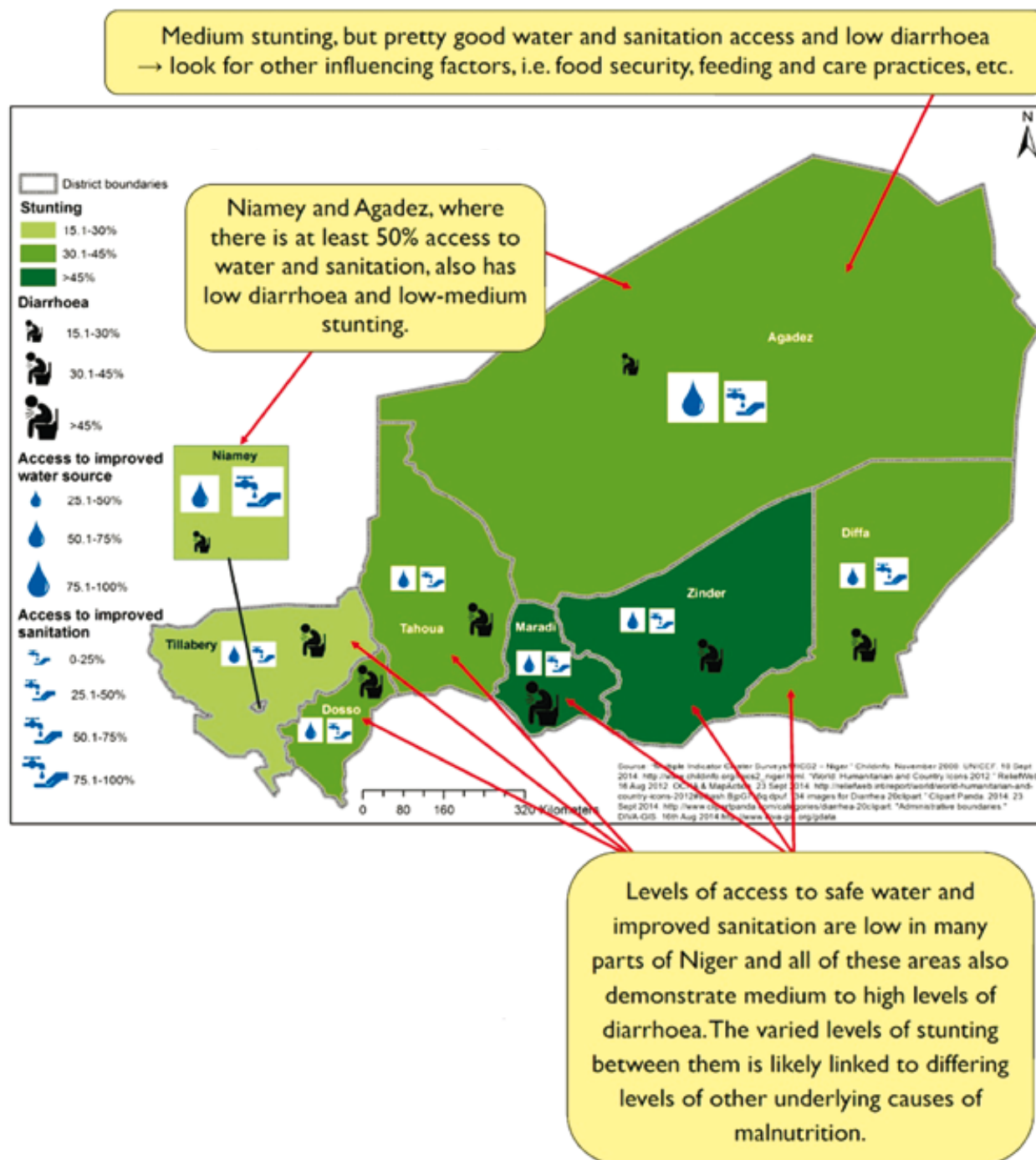
1. PROGRAMMING

EXAMPLE OF AN INTEGRATED SEASONAL CALENDAR

Country:	Pakistan											
Base/Area:	Dadu District											
Year:	2013											
	January	February	March	April	May	June	July	August	September	October	November	December
Seasonal variations of hunger and under-nutrition in the community, considering:												
Hunger gap												
Acute malnutrition prevalence												
Characteristics of each season:												
Rainy season / monsoon	High						Monsoon	Monsoon	High			High
Temperature	Extreme (-1)	Cold			50+	50+	Extreme	High	48		Cold	Extreme
Wind												
Shortage of irrigation water												
Johi (Arid - Rain fed)												
Other talukas - Irrigated												
Drinking water shortage												
Johi (Arid - Rain fed)												
Other talukas - Irrigated												
Road states/travel issues							Johi, Indus catchment areas					
Harvest time (main staple foods)			Wheat	Wheat	Wheat				Cotton	Cotton	Cotton/Rice	Rice
Harvest time (fruits and vegetables)	Chilies, tomatoes, cauliflower					veg/fruit	fruit	fruit		potatoes	potatoes	Cluster bean
Milk production/availability									High	High	High	High
High staple food prices	Wheat	Wheat				Rice	Rice	Rice	Rice			
Low purchasing power												
Casual Labour opportunities			harvesting wheat			cultivation rice					harvesting rice	
Seasonal movements of population			for harvesting				Monsoon- go to irrigated areas				for harvesting	
Seasonal occurrence of climate-related hazards:												
Droughts												
Floods												
Monsoons												
Disasters last 4 years												
Seasonal occurrence of others hazards:												
Child Mortality rates high												
Diarrhoea												
Malaria, cholera												
Skin diseases e.g. scabies												
Pests							Cotton pests					
Animal diseases												
Measles												
Caretakers												
Busy times/high workload for women			harvesting wheat			cultivation paddy					harvesting paddy	
Seasonal activities for the main livelihood strategies in the community, considering gender differentiations:												
Livestock MEN							sell livestock					
Livestock WOMEN	WOMEN DO MOST OF LIVESTOCK WORK											
Fishing MEN - everywhere						ban	ban	High	High			
Fishing WOMEN - only Munsher Lake						ban	ban	High	High			
Collection of firewood- M, W, Child												
Handicraft-making MEN	(little)	(little)			(little)			(little)	(little)	(little)		
Handicraft-making WOMEN												
Daily labour outside community MEN- harvest, cotton, neighbor districts						rainfed	rainfed	rainfed	both	irrigated	irrigated	
Miscellaneous												
Holidays and festivals								(Eid)		(Eid)		
Weddings												
Schooling period/school fees			fees/admissions				closed	closed				closed
Inter-tribal or inter-community conflicts												
Fires			wheat harvesting-related									

Source: ACF, Pakistan 2013

EXAMPLE OF A WASH'NUTRITION STRATEGIC MAPPING



MAP 5: NIGER, 2000: STUNTING, DIARRHEA AND WASH

2. IDENTIFICATION

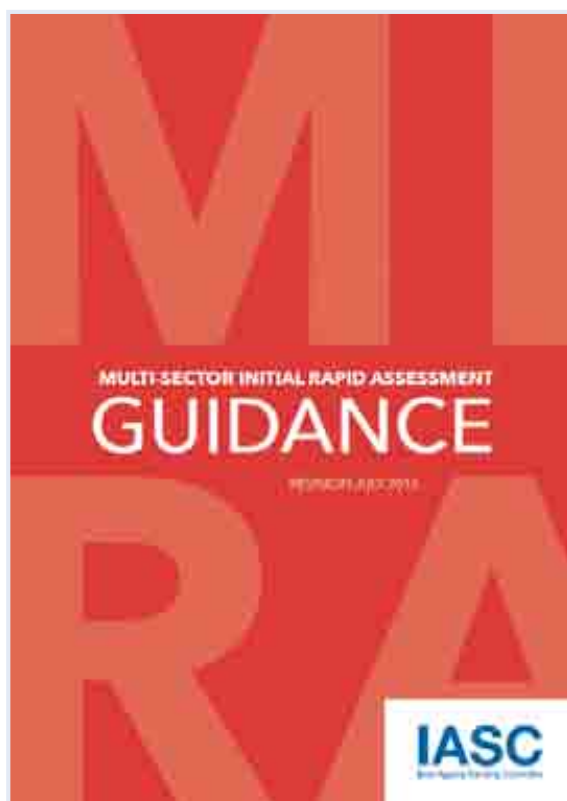
MIRA (MULTI-SECTOR INITIAL RAPID ASSESSMENT)

The Multi-Cluster/Sector Initial Rapid Assessment (MIRA) is designed to identify strategic humanitarian priorities during the first weeks following an emergency. The main benefit of the MIRA is the elaboration, from the onset of the crisis, of a concerted operational picture based on the best information available from primary and secondary sources. This picture is expressed through two key products: a Preliminary Scenario Definition, issued 72 hours after the disaster's onset, and a MIRA Report, released after 2 weeks. It is consistent with the IASC Operational Guidance for Coordinated Assessments in Humanitarian Crises, which calls for the implementation of a joint assessment during the first two phases of an emergency and, thereafter, for the coordination of in-depth agency and cluster assessments.

The MIRA is the first step in the humanitarian country team's response to an emergency. Based on its findings, humanitarian actors can develop a joint strategic plan, mobilize resources and monitor the situation and the response. However, the MIRA should not be expected to provide detailed information for the design of localized response projects. The MIRA should be carried out by a team of emergency specialists, including assessment and sectoral specialists, drawn from the various clusters/sectors present in the country to ensure that local knowledge is included in the findings. Additional headquarters and regional support may be required, depending on the scale of the emergency.

It proposes a Framework to guide the identification of information needs and the systematic collection, collation and analysis of secondary and primary data. This Framework forms the basis of the Preliminary Scenario Definition and the MIRA Report templates. The Preliminary Scenario Definition and the MIRA Report provide assessment findings at critical intervals of the emergency. The Preliminary Scenario Definition should be included in the initial Flash Appeal whereas key findings of the MIRA Report should be captured in the Humanitarian Dashboard and included in the revised appeal to highlight the evidence on which the appeals are based.

OCHA coordinates the assessment, supports the compilation of secondary data from the various clusters/sectors and provides information management on behalf of the Resident/ Humanitarian Coordinator. If OCHA is absent or unable to serve this function, the Resident/ Humanitarian Coordinator may appoint another agency.



The MIRA manual is 20-pages long and comes with an additional five annexes providing supporting information:

https://interagencystandingcommittee.org/system/files/legacy_files/2012_04_mira_manual.pdf

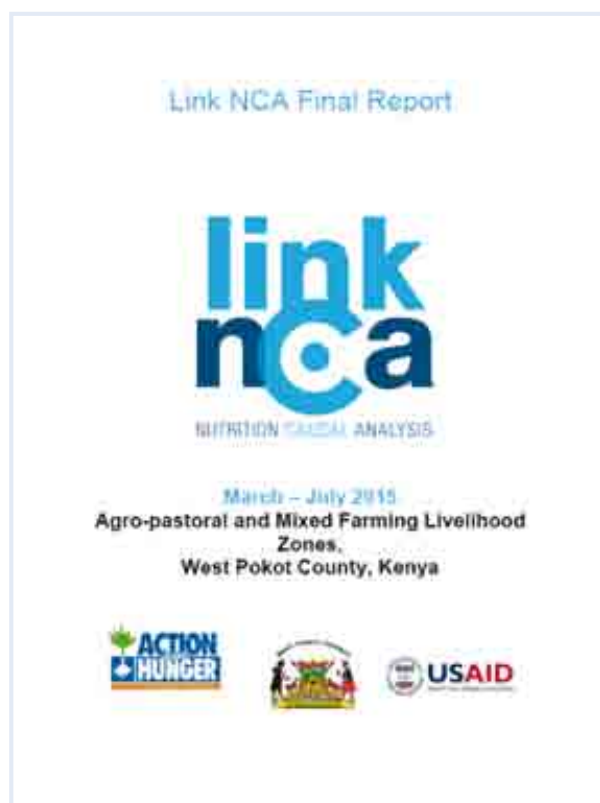
LINK-NCA (NUTRITIONAL CAUSAL ANALYSIS)

Developed by ACF and the scientific committee in 2010, the Link-NCA is an analytical tool that can help WASH and nutrition teams to develop an integrated and shared vision of factors relating to undernutrition and priorities for action. Both WASH and nutrition form an integral part of the NCA's areas of assessment and analysis, and the links between the two are highlighted in the process. The Link-NCA is structured, participatory, holistic study, based on the UNICEF causal framework to build a case of nutrition causality in a local context.

- **“Structured”**: the steps of the methodology are precisely defined and all have been tested on the field.
- **“Participatory”**: the study is giving a real opportunity to national technical experts, women from the community and other relevant stakeholders to express their opinion on undernutrition causality and to discuss, review and finally validate the conclusions of the study.
- **“Holistic”**: undernutrition in NCA is studied globally order to avoid sectorial approach and to be able to pinpoint inter-relations between risk factors. It is not possible to understand nutritional causality if you only look at food security and nutrition for example, you have to look at all components of the system.
- **“Based on UNICEF causal framework”**: the NCA methodology is using UNICEF framework to identify potential risk factors or pathways to undernutrition.
- **“Building a case for causality”**: the core exercise of the NCA study is to identify and rank causal hypothesis by order of importance. For that purpose, the NCA officer is analyses different sources of information: scientific and grey literature, national experts' knowledge, perception of women in the community, results from the household survey and interpretation of the seasonal calendar. Based on that, the NCA officer, technical experts and women from the community propose and validate an interpretation of nutrition causality.
- **“In a local context”**: causes of undernutrition are often differ from one location to another. The purpose of this methodology is to go beyond generic interventions by really context specific causes in order to propose adequate solutions. Seasonality of undernutrition for example can be very different from one livelihood zone to another. Therefore, NCA is NOT a statistical demonstration of nutrition causality that can be generalized at the national level.

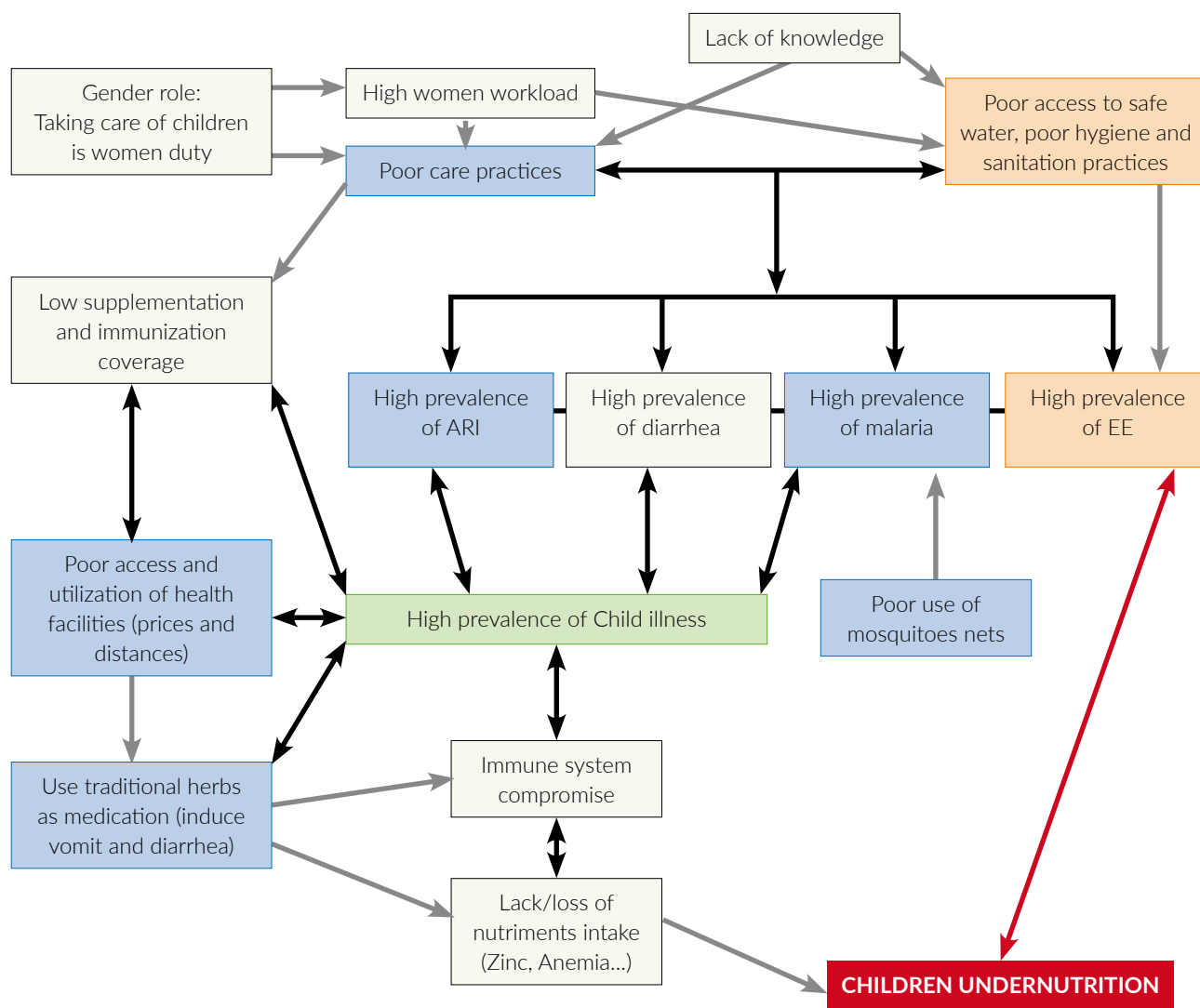
Link-NCA studies and methodology:

<http://www.linknca.org/>



3. FORMULATION

EXAMPLE OF A WASH'NUTRITION PROJECT PROBLEM TREE



- WASH' Target
- Priority WASH action
- Secondary WASH action

Source: ACF, Kenya 2015

EXAMPLE OF A WASH/NUTRITION LOGICAL FRAMEWORK ANALYSIS

	INTERVENTION LOGIC	OBJECTIVELY VERIFIABLE INDICATORS	SOURCES OF VERIFICATION
PRINCIPAL OBJECTIVE	To ensure short term nutrition security for vulnerable households through a multisectoral approach		
SPECIFIC OBJECTIVE	To enhance the nutritional status of the displaced and vulnerable population by supporting sustainable treatment programmes and disease prevention in Sindh and KPK	Indicator 1: Nutrition programme achieves treatment coverage according to SPHERE standards; Recommended Target Value: >50-70% in rural areas; >70% in urban areas, >90% in camp situations	Programme database and SQUEAC Survey
		Indicator 2: Percentage (%) of reduction in waterborne diseases (diarrhea) among the targeted communities / Target value: 10%	ACF DIMA monitoring report
RESULT 1	Treatment and Prevention of undernutrition, IYCF, nutrition evidence generation	Indicator 1: Proportion of severely acutely under-nourished children screened and admitted to therapeutic treatment programmes Target Value: 9,614 SAM cases for Sindh and 1,529 for KPK	Programme database; Nutrition, Information System; OTP patient cards
		Indicator 2: Proportion of moderately acute undernourished children screened and enrolled in MAM treatment programmes Target Value: 18,713 MAM cases in Sindh and 3,822 in KPK	Programme database; Nutrition Information System; OTP and SFP patient cards
		Indicator 3: Number of Pregnant and Lactating Women screened and receiving micronutrients / Target Value: 44,759 in Sindh and 10,641 in KPK	Programme database; Nutrition Information System;
		Indicator 4: CMAM programme achieves SPHERE standards (percentages) for discharge, default, mortality rates Target Value: >75% cure rate	Programme database; Nutrition Information System; OTP/SFP patient cards; interim and final reports
		Indicator 5: The proportion of PLWs and caregivers attending health, nutrition, and IYCF counselling sessions who show improved IYCF practices (Sindh) / Target Value: 25%	Programme data, baseline and end line survey reports, KAP survey
RESULT 2	Targeted vulnerable population have improved access to safe drinking water, hygiene and sanitation in KPK and Sindh	Indicator 1: Number of persons provided with sufficient and safe water for drinking, cooking and personal hygiene use Target Value: 32,400 in Sindh and 10,000 in KPK	Final water scheme and household water treatment verification report.
		Indicator 2: Number of human settlements free of human feces on the ground on and around the site / Target Value: 20	KAP survey report, ACF monthly progress report, household follow-up visit report
		Indicator 3: Proportion (%) of targeted population showing improved hand washing practices by the end of the project Target value: 30% improvement	KAP survey report, ACF monthly progress report, household follow-up visit report
		Indicator 4: Proportion of Nutrition beneficiaries within the WASH target villages covered by WASH activities / Target value: 90%	Nutrition database, WASH database, PQA verification reports
ACTIVITIES			
1.1	Identification and referral of acutely malnourished children aged 6-59 months and PLWs to relevant treatment sites (Sindh and KPK)		
1.2	Treatment of acutely malnourished 6-59 months children (Sindh and KPK)		
1.3	Provision of Health and Nutrition Awareness Sessions		
1.4	Provision of counselling and support for IYCF through skilled breastfeeding counsellors		
2.1	Provision of e sustainable access to water supply (Sindh)		
2.2	Provision of improved access to sustainable sanitation (Sindh)		
2.3	Improvement of hygiene and sanitation behaviour (Sindh)		
2.4	Improvement of access to emergency safe water supply in KPK		
2.5	Improvement of access to emergency sanitation for IDPs and host communities in KPK		
2.6	Hygiene and sanitation behaviour change sessions in KPK		

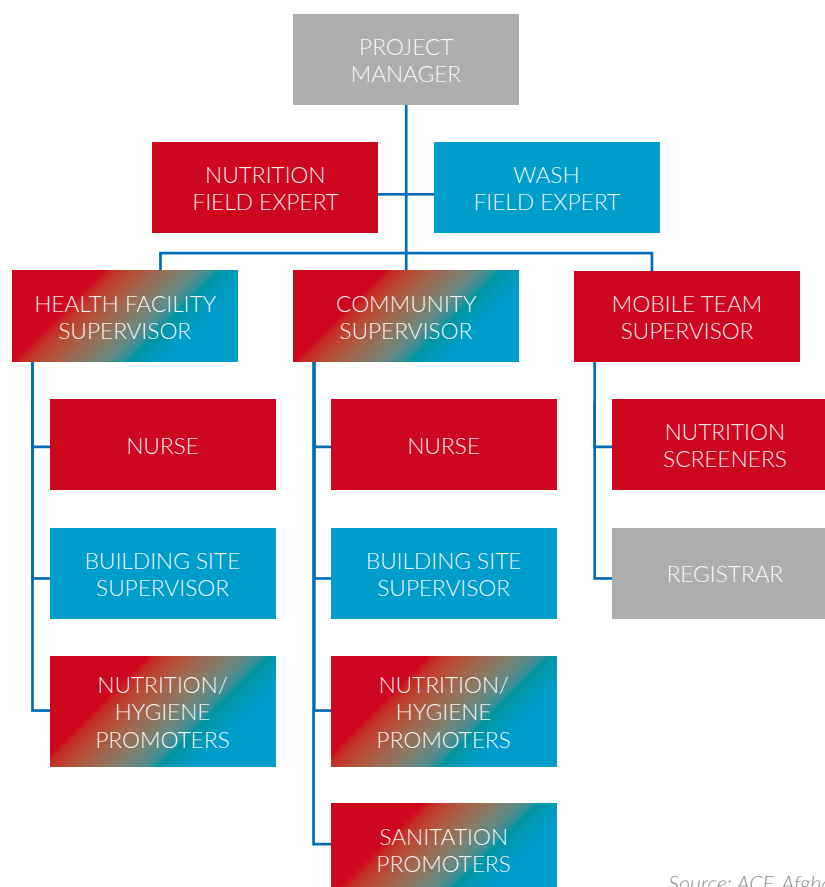
Source: ACF, Pakistan 2013

EXAMPLE OF A WASH'NUTRITION PROJECT TIME FRAME

Activities		Month 1	Month 2	Month 3	Month 4	Month 5	Resources
Resultat 1	1. Studies of technical feasibility for construction / rehabilitation of sanitary and water infrastructure in targeted nutrition centers	X					Here you can include any resource needed to carry out each of these tasks including WASH and nutrition staff, equipment, vehicles, materials, flip charts etc
	2. Construction / rehabilitation of WASH infrastructure in the targeted nutrition centers		X	X			
	3. Hygiene promotion at the nutrition centers, including provision of materials (for biomedical waste management bins , etc.)		X	X	X	X	
Resultat 2	1. Distribution of hygiene kits with water treatment products to mothers/caratakers-malnurished infants , after successful discharge	X	X	X	X	X	
	2. Hygiene promotion in the communities afected by high under-nutrition rates		X		X		
	3. Awareness activities for men and community leaders who have influence on women to get fully involved in the process			X		X	

Source: ACF, 2013

EXAMPLE OF A WASH'NUTRITION PROJECT ORGANOGRAM



Source: ACF, Afghanistan 2015

TASKS	MAIN SKILLS
PROJECT MANAGER	
- Planning, monitoring - Personnel management - Reporting	- General management - Knowledge on nutrition and wash
NUTRITION FIELD EXPERT	
- Ensure technical quality of implementation - Technical monitoring - Reporting to project manager and HoDs	Good knowledge on nutrition and wash
HEALTH FACILITY SUPERVISOR	
- Health facility staff training - Weekly/monthly planning and reporting	Good knowledge on nutrition and wash
COMMUNITY SUPERVISORS	
- Community mobilization - CHWs training - Weekly/monthly planning and reporting	Good knowledge on nutrition and wash
MOBILE TEAM SUPERVISORS	
- Population screening and registration - Weekly/monthly planning and reporting	Good knowledge on nutrition screening
BUILDING SITE SUPERVISORS	
- Ensure technical quality of Wash hard works - Community mobilization - Technical monitoring and reporting	Good knowledge on wash constructions
NUTRITION/HYGIENE PROMOTERS	
- Ensure basic common nutrition/hygiene messages dissemination - Community mobilization	- Basic knowledge on nutrition and hygiene - Good knowledge on specific sector
SANITATION PROMOTERS	
- Ensure basic common nutrition/hygiene messages dissemination on sanitation - CLTS/waste management facilitation - Community mobilization	- Basic knowledge on nutrition and hygiene - Good knowledge on sanitation
BUILDING SITE SUPERVISORS	
Data Entry	Computer literacy

4. FINANCING

EXAMPLE OF A WASH'NUTRITION PROJECT BUDGET LINES

A	Human Resources
A1	National Staff
A1.1	Assistant Nutrition Coordinator
A1.2	Nutrition team - Damaturu
A1.3	WASH team - Damaturu
A1.4	Support team - Damaturu
A1.5	Support team - Abuja
A1.6	Support team - Maiduguri
A1.7	WASH team - Maiduguri
A2	International Staff
A2.1	Support Coordination team - Abuja
A2.2	Nutrition Program Coordinator
	INGO Coordination
A2.3	INGO Coordinator
B	Equipment
B1	Low Value Equipment
B1.4	Generator - 5KVA
B2	Full Value Equipment
B3	Depreciation
C	Supplies and Materials
C1	Result 1: Integration of CMAM and IYCF
C1.1	MNCH Week Support
C1.2	OTP Support Cost
C1.3	CMAM & IYCF activities
C1.4	NUT Program Coordination, joint visits & follow up
C2	Result 2: WASH
C2.1	Hand Washing stations & Hygienic items for HF
C2.2	Water user Committee strengthening
C2.3	Community based Hygiene Sensitization
C2.4	Hygiene Kits for SAM Patients
C2.5	Provision for WASH Infrastructures
C3	Result 3: Capacity building (WASH & NUT)
C3.1	CMAM Health Workers Training
C3.2	CMAM CV Training
C3.3	IYCF CV Training
C3.4	Key Informant Training
C3.5	WASH Capacity Building
C4	Monitoring & Evaluation
C4.1	Baseline, Monitoring & Reporting
C4.2	Introducing Open Data Collection
C4.3	SQUEAC Survey
C4.4	KAP Survey
C4.5	Multi-sectorial Assessment
C5	Result 5: WASH & Shelter (Maiduguri, Borno State)
C5.1	NFI Kits distribution (WASH & Shelter)
C5.2	Emergency latrines
D	Running Costs
D1.1	Office Costs
D1.2	Communications Costs
D1.3	Vehicles Running Costs
D1.4	Transportation, Rental & Freight
D1.5	Generator Running Costs
D1.6	Administrative costs (financial and legal)
D1.7	Others
	INGO Coordination
D1.8	Office Costs: (INGO Coordination)
D1.9	Communication Costs (INGO Coordination)
D1.10	Vehicles Running Costs (INGO Coordination)
D1.11	Generator Running Costs (INGO Coordination)
E	Communication, visibility, information
E1.1	Program Visibility
F	Other operational costs
F1	Sub-contracts
F1.1	Security Company
F1.2	External Consultant (ODK)
F1.5	Water quality analysis

Source: ACF, Nigeria 2015

EXAMPLES OF DONORS SUPPORTIVE OF WASH/NUTRITION PROJECTS

European Commission, Directorate-General for European Civil Protection and Humanitarian Operations (ECHO)	EU humanitarian policy is concerned with addressing the immediate and underlying causes of undernutrition. ECHO puts forward the view that nutrition interventions need to promote a multi-sector approach and a joint humanitarian and development approach. The Commission promotes the incorporation of nutrition-specific objectives into WASH humanitarian responses in crisis contexts where undernutrition is a major humanitarian concern. http://ec.europa.eu/echo/what/humanitarian-aid_en
UN Children's Fund (UNICEF)	UNICEF acts as both a donor of WASH and nutrition projects and implementing agency. Improving nutrition of vulnerable populations by also investing in access to health, water, and sanitation services is an important principle. It also promotes a multi-sectoral approach to nutrition. http://www.unicef.org/
United States Agency for International Development (USAID)	USAID is the lead U.S. Government agency that works to end extreme global poverty and enable resilient, democratic societies to realize their potential. The Water and Development Strategy 2013-2018 calls for increased integration of WASH and food security programmes, such as increasing access to high quality nutrition-sensitive services, including access to water, sanitation facilities, and hygiene. https://www.usaid.gov/what-we-do
German Federal Ministry of Economic Cooperation and Development (BMZ)	The German Federal Ministry (BMZ) has made food and nutrition security, together with rural development, a priority area of its work and launched a special initiative "One World No Hunger". With this initiative, the ministry aims at tackling not only food and nutrition, but also underlying causes of undernutrition by including WASH as crucial component in the initiative's strategy. https://www.bmz.de/webapps/hunger/index.php#/en/
The World Bank Group	The World Bank Group's "Water Global Practice", includes the Water and Sanitation Programme, a multi-donor partnership that supports poor people in obtaining affordable, safe, and sustainable access to water and sanitation services. The World Bank Group is currently integrating WASH, nutrition and health in at least 13 projects. http://www.worldbank.org/en/topic
Bill & Melinda Gates Foundation (BMGF)	BMGF funds various WASH and nutrition projects. The foundation's new approach to nutrition includes reaching women and children with solutions proven to improve nutrition, such as breastfeeding and food fortification, and expand research into innovative new approaches. http://www.gatesfoundation.org/
UK Aid – Department for International Development (DFID)	DFID supports nutrition-specific and nutrition-sensitive interventions as well as generating evidence on effects as a basis for action, primarily focusing on the first 1,000 critical days. DFID encourages a global effort to tackle undernutrition by donors working in partnership with country governments. https://www.gov.uk/government/organisations/department-for-international-development
Swedish International Development Cooperation Agency (SIDA)	The overall goal of Swedish development cooperation is to contribute to making it possible for poor people to improve their living conditions. Together with other donors, SIDA supports projects on child protection, WASH and social policy, as well as several nutrition projects - often linked to health. http://www.sida.se/English/
Global Affaires Canada (GAC)	Programming of the GAC focuses on increasing food security, stimulating sustainable economic growth, securing the future of children and youth, and supporting governance. Canada has increased its number of countries of focus to 25 and provides humanitarian assistance in times of disaster, crisis or severe conflict. http://www.international.gc.ca/international/index.aspx?lang=eng
Swiss Agency for Development and Cooperation (SDC)	The SDC, under the Federal Ministry for Foreign Affairs, provides humanitarian aid and longer-term development cooperation in the South and East. Water, health and emergency relief are amongst the addressed themes. https://www.eda.admin.ch/sdc

5. IMPLEMENTATION AND MONITORING

HOUSEHOLDS MINIMUM WASH PACKAGE MONITORING CHECKLIST

WASH MINIMUM PACKAGE IN THE HOUSEHOLDS AFFECTED BY UNDERNUTRITION	
1. Drinking water containers for children are covered and used without risk of contamination	YES / NO
2. Drinking water chlorinated with 0.3-1 mg/l residual chlorine, or 0 fecal coli forms per 100 ml	YES / NO
3. Presence of hand washing (with soap or other disinfect) station in the household or in the close proximity to the home	YES / NO
4. Mother/caretakers knows the critical times for washing hands with soap	YES / NO
5. Absence of children's faces around the home, especially around malnourished child on treatment	YES / NO
6. Latrine is clean with no feces, flies or odours WASH minimum package in the household of the couple "mother/caretaker- malnourished child" is present	YES / NO
WASH minimum package in the household of the couple "mother/caretaker- malnourished child" is present	YES / NO
*only one or more NO indicates that "minimum package" is not present	
Essential functionality indicator at the household level for the couple "mother/caretaker- malnourished child"	
Drinking water contains residual chlorine (NTU<20)?	YES / NO

IN-PATIENT FACILITIES MINIMUM WASH PACKAGE MONITORING CHECKLIST

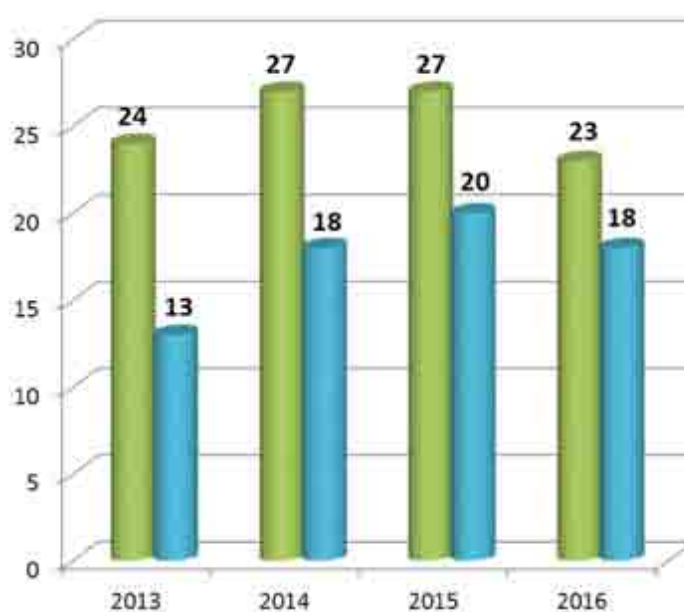
WASH MINIMUM PACKAGE IN IN-PATIENT NUTRITION CENTRES	
1. Access to drinking water (chlorinated) for patients and medical staff and existence of water storage adapted to the needs?	YES / NO
2. Access to hand washing basin with the soap for medical staff and patients in sufficient quantity (consultations, hospitalization, toilets, kitchen, distribution points)?	YES / NO
3. Access to regularly maintained showers?	YES / NO
4. Presence of adequate medical/non-medical waste management + absence of visible medical/non-medical waste in the centre and immediate surroundings?	
5. The centre regularly delivers integrated WASH/nutrition prevention messages?	YES / NO
6. Personnel are trained about the aspects related to healthy environment?	YES / NO
7. Access to hygienic and improved sanitation (with hand washing station nearby and no signs of open defecation), with gender separation and separation between personnel and patients?	YES / NO
8. Among personnel present in the nutrition centre, a focal point for cleaning, maintenance and disinfection of "water and sanitation" equipment is appointed? The areas are clean and disinfected + maintenance kit is available?	YES / NO
WASH minimum package in in-patient nutrition centre is present	YES / NO
*only one or more NO indicates that "minimum package" is not present	
Essential functionality indicator	
Drinking water contains residual chlorine (positive measure on a monthly basis) where the appetite is tested?	YES / NO

OUT-PATIENT FACILITIES MINIMUM WASH PACKAGE MONITORING CHECKLIST

WASH MINIMUM PACKAGE IN OUTPATIENT NUTRITION CENTRES	
1. Access to drinking water (chlorinated) for patients and medical staff and existence of water storage adapted to the needs?	YES / NO
2. Access to hand washing basin with the soap for medical staff and patients in sufficient quantity (consultations, hospitalization, toilets, kitchen, distribution points)?	YES / NO
3. Presence of water management system in the centre and immediate surroundings?	YES / NO
4. The centre regularly delivers integrated WASH/nutrition prevention messages?	YES / NO
5. Personnel are trained about the aspects related to healthy environment?	YES / NO
6. Access to improved sanitation or alternative system for hygienic disposal of feces/temporary emergency solution?	YES / NO
7. Among personnel present in the nutrition centre, a focal point for cleaning, maintenance and disinfection of "water and sanitation" equipment is appointed? The areas are clean and disinfected + maintenance kit is available?	YES / NO
WASH minimum package in outpatient nutrition centre is present	YES / NO
*only one or more NO indicates that "minimum package" is not present	
Essential functionality indicator	
Drinking water contains residual chlorine (positive measure on a monthly basis) where the appetite is tested?	YES / NO

MONITORING OF WASH'NUTRITION INTEGRATION AT HEADQUARTERS LEVEL

Yearly monitoring of missions developing WASH'Nutrition strategy (in blue) toward a random sample of missions



Source: ACF, 2016

6. EVALUATION

EXAMPLES OF WASH/NUTRITION PROJECT OUTCOMES INDICATORS (see also Chapter 5)

DOMAIN	INDICATOR
Increased policy and institutional support for integrating WASH into nutrition programmes	- Country has developed a national nutrition plan that includes WASH - National WASH plans include explicit targeting of areas with high rates of malnutrition and food insecurity - Number of strategies, initiatives and/or partnerships/agreements advocating for integrating WASH and nutrition programmes - Proportion of targeted institutions with (increased) expenditures for integrated WASH–nutrition programming
Joint planning and targeting	- Proportion of targeted institutions reporting collaboration between nutrition and WASH programmes (e.g. joint documents, decisions/policies, work plans) - Proportion or number of villages/areas where nutrition programmes that are implemented include a WASH element - Proportion or number of villages/areas with high prevalence of acute malnutrition targeted by WASH activities - Proportion or number of villages/areas with high prevalence of stunting targeted by WASH activities - Proportion of households with children enrolled in acute malnutrition treatment programmes receiving minimum package of services that include a WASH element
Human resources development	- Proportion of targeted organizations that have modified follow-up supervision and monitoring to include WASH elements - Number of nutrition professionals trained in WASH elements per 100 000 population
Reach of joint programme activities	- Proportion of households in target areas participating in activities where both nutrition and WASH messages were delivered - Number of children under 5 years of age reached by joint nutrition and WASH programmes
Water	- Proportion of households with access to an improved water source - Proportion of households consistently storing their drinking-water safely - Proportion of households consistently treating their drinking-water with recommended HWT technologies - Proportion of households with knowledge of at least one HWT method
Sanitation	- Proportion of households using an improved sanitation facility - Proportion of households safely disposing of children's faeces - Number of villages achieving open defecation-free status - Proportion of households with sanitation facilities that are accessible by children and disabled members of the household
Hygiene	Handwashing - Proportion of households with handwashing station in compound - Proportion of households where primary caregiver can cite critical times for handwashing with soap Food hygiene - Proportion of households keeping clean areas where children's food is prepared and served - Proportion of households safely storing children's food - Proportion of households using clean kitchen utensils (to feed children) - Proportion of households that use treated and/or safely stored drinking-water for preparing children's food - Proportion of households washing raw vegetables with treated water before feeding children - Proportion of households reheating children's food thoroughly before feeding them Environmental hygiene - Proportion of households with no visible faeces (animal or human) in the compound/yard/children's play area - Proportion of households with no domestic animals in food preparation area
Infant and young child feeding	- Proportion of infants 0–5 months of age who are exclusively breastfed - Proportion of children 6–23 months of age who receive minimum acceptable diet - Proportion of children breastfed within 1 hour of birth - Proportion of children 12–15 months of age who are fed breast milk - Proportion of children 20–23 months of age who are fed breast milk

Source: WHO/UNICEF/USAID (2015)

"Improving nutrition outcomes with better water, sanitation and hygiene: practical solutions for policy and programmers"

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