# 2 + 6 = 17

## Linking WASH and Nutrition

A Blueprint for Living
SDG 17

GERMAN
WASH
NETWORK

**Lead Authors**
Jona Toetzke (GTO), Johannes Rück (GTO), Thilo Panzerbieter (GTO)

**Reviewers**
Roland Hansen (Malteser International), Oliver Hoffmann (Johanniter Auslandshilfe), Theresa Jeremias (CARE), Nina Odenwälder (GIZ), Natalia Uribe Pando (ACF), Friederike Reinhold (German Federal Foreign Office), Annekathrin Rosa (GIZ), Stephan Simon (Welthungerhilfe), Muyatwa Sitali (SWA), Sergio Cooper Teixeira (SUN), Annkathrin Tempel (GIZ/SuSanA), Megan Wilson-Jones (WaterAid), Sabrina Ziesemer (BMZ)

**Acknowledgements**
We gratefully acknowledge the inspiring dialogue with Action Contre La Faim, the SUN Secretariat, the SWA Secretariat and WaterAid as well as the ENN and the SuSanA for providing the platforms for participation.
We would like to thank the following persons and their organisations/institutions for their invaluable contributions leading to this document: Lisanne Achterberg (Max Foundation), Kelly Alexander (CARE), Dr. Jamie Bartram (University of North Carolina), Prof. Robert Chambers (Institute of Development Studies), Prof. Oliver Cumming (LSHTM), Andrea Duechting (GFSC), Sophie Durrans (LSHTM), Marlene Heeb (SDC), Dr. Heike Henn (BMZ), Peter Hynes (BabyWASH Coalition), Dan Jones (WaterAid), Daniela Krahl (BMZ), Dr. Jean Lapègue (ACF), Maren Lieberum (SUN/GIZ), Emily Mates (ENN), Dr. Arne Panesar (GIZ/SuSanA), Alexandra Reis (SWA), Hilde Schaddenhorst, Dr. Stefan Schmitz (BMZ), Jesse Shapiro (USAID), Ruth Situma (UNICEF), Trevor White (USAID), Florian Wolters (ARISU) as well as those persons, who have participated via survey and interviews.



**Layout**
Buntesamt


German WASH Network
c/o German Toilet Organization e.V.
Paulsenstr. 23
12163 Berlin, Germany
www.washnet.de
www.germantoilet.org

Published by

GERMAN WASH NETWORK
German Toilet Organization

Financially supported by

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

# Abbreviations

| | |
|---|---|
| ACF | Action Contre La Faim |
| BMGF | Bill and Melinda Gates Foundation |
| BMZ | German Federal Ministry for Economic Cooperation and Development |
| CARE | Cooperative for Assistance and Relief Everywhere |
| CLTS | Community-Led Total Sanitation |
| CFN | Clean, Fed, Nurtured |
| CRS | Creditor Reporting System |
| CSO | Civil Society Organisation |
| DFID | Department for International Development, Government of the United Kingdom |
| ECD | Early Childhood Development |
| EED | Environmental Enteric Dysfunction |
| ENN | Emergency Nutrition Network |
| GAM | Global Acute Malnutrition |
| GFA | GFA Consulting Group |
| GFSC | Global Food Security Cluster |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH \| Germany |
| GLAAS | Global Analysis and Assessment of Sanitation and Drinking-Water Report |
| GNC | Global Nutrition Cluster |
| GNR | Global Nutrition Report |
| GTO | German Toilet Organization |
| GWC | Global WASH Cluster |
| GWN | German WASH Network |
| HDR | Human Development Report |
| HWTS | Household Water Treatment and Safe Storage |
| ICAI | ndependent Commission for Aid Impact |
| JMP | Joint Monitoring Program |
| KAP | Knowledge, Attitudes and Practices |
| MNCH | Maternal, Newborn and Child Health |
| M&E | Monitoring and Evaluation |
| OECD | Organisation for Economic Cooperation and Development |
| O&M | Operation and Maintenance |
| PHAST | Participatory Hygiene and Sanitation Transformation |
| RCT | Randomized Control Trial |
| SAM | Severe Acute Malnutrition |
| SDC | Swiss Agency for Development and Cooperation |
| SDG | Sustainable Development Goals |
| SGA | Small Gestational Age |
| SUN | Scaling Up Nutrition Movement |
| SuSanA | Sustainable Sanitation Alliance |
| SWA | Sanitation and Water for All Partnership |
| SWWW | Stockholm World Water Week |
| UNICEF | United Nations International Children's Emergency Fund |
| USAID | United States Agency for International Development |
| WASH | Water, Sanitation, Hygiene |
| WHA | World Health Assembly |
| WHO | World Health Organisation |
| ZEF | Center for Development Research, University of Bonn |

# Foreword

*

SWA's close cooperation with the Scaling Up Nutrition Movement is both a result and a demonstration of the interdependence of our thematic focuses in the Agenda 2030.

The scientific data is already there – we know that malnutrition is often caused by unsafe water and sanitation. We now need to magnify our messages across sectors: it is not possible to reach the SDGs, to end poverty and eliminate inequalities without realising the human rights to food, water and sanitation.

SUN and SWA have developed a Partnership Note that outlines joint areas of engagement: joint advocacy; exchange of good practices; and research and learning. A recently established WASH-Nutrition Working Group will support this. I would also like to applaud the German WASH Network for having driven this issue over the last couple of years. Their 2015 Bonn WASH Nutrition Forum pushed us towards the inspiring collaboration of this publication "2 + 6 = 17 Linking WASH and Nutrition – A Blueprint for Living SDG 17".

We commit to supporting our 65 country partners build efficient, transparent and sustainable country systems – this enabling environment will equally serve WASH and nutrition leading to better outcomes for both.

**CATARINA DE ALBUQUERQUE**
Executive Chair
Sanitation and Water for All Partnership

*

This report is a frontrunner in its approach to implement the Sustainable Development Goals (SDGs), and so is the initiative for this report. How can we combine the pieces of the puzzle and join forces in a smart way?

Such a mindset is needed to implement the SDGs, by breaking down silos and building partnerships with actors who had not considered that one day they would be collaborating to create grassroots impact and scale-up. Great ideas, and the right mindset will forge the path ahead for what must happen to get us to the SDGs by 2030. We need more innovative approaches, like placing WASH and nutrition education in the curricula of primary schools, and even better, throughout all schooling. We need awareness, behavior change communication and training: by teaching children, we teach their families. Naturally, the infrastructure to provide clean water, toilets and healthy food to children must be in place so that we can break the vicious circle of recurring sickness.

Agenda 2030 is a people's agenda. The students of today are the decision-makers and implementers of tomorrow. We need everyone, to leave no one behind.

**GERDA VERBURG**
Coordinator
Scaling Up Nutrition Movement

SANITATION AND WATER FOR ALL

Scaling Up NUTRITION
ENGAGE • INSPIRE • INVEST

# Content

# 1. Rationale

## 1.1 Context of the Document

People who suffer from food and nutrition insecurity are often the same persons who lack access to water, sanitation and hygiene (WASH). This particularly affects many people in low- and middle-income countries, leaving them in extremely vulnerable situations and reducing their chances of living healthy and productive lives. The new global framework of the Sustainable Development Goals (SDGs) ambitiously seeks to end all forms of hunger and to provide safe access to WASH for all by 2030. Presumably this can only be achieved, if we also make use of synergies between interlinked thematic areas and build new partnerships. The same mind-set seems to be of importance for overcoming WASH and Nutrition challenges in many humanitarian crises. Reducing "silo-thinking", increasing integration in order to increase impact and sustainability of interventions, while remaining cost effective, is a challenge which all associated actors face.

In recent years much progress has been made at the WASH-Nutrition link. Key contributions to the collaboration between the two thematic areas include events like the 2015 Bonn WASH Nutrition Forum[1] or sessions at Stockholm World Water Week, publications like WaterAid's The missing ingredients[2] or Action Contre la Faim's (ACF) WASH'Nutrition Practical Guidebook[3], and the increasing collaboration between the relevant global platforms Sanitation and Water for All Partnership (SWA) and the Scaling Up Nutrition Movement (SUN). Actors are adapting their internal strategies, partnerships are being forged, progressive countries are being recognised and joint WASH-Nutrition advocacy messages are being formulated.

This publication, led by the German WASH Network and its partners, is being supported by the German Federal Ministry of Economic Cooperation and Development (BMZ) and its special initiative "ONEWORLD - No Hunger"[4], aiming to contribute to the global discourse around the WASH-Nutrition link in the holistic spirit of the SDGs.

## 1.2 Purpose, Scope & Target Group

This publication aims to contribute to on-going developments and to the better utilisation of the potential at the health related link between WASH and Nutrition – ensuring human well-being by increasing the ability of the body to absorb nutrients from consumed food. Relevant to the link, but not immediate subject of this publication are the reuse of human waste as fertilisers, water access for agriculture and other evident thematic connections like gender, education, environmental protection, etc.

Building on existing publications, tools for implementation, policy and research findings/gaps, this document wishes to support all countries and stakeholder groups (researchers, implementers, advocacy experts and donors), currently trying to identify their individual way to "live the WASH-Nutrition link".

The authors are convinced that a reflection of one's own perspective, in relation to that of others, is essential for efficient and effective collaboration – not only between the two thematic areas of WASH and Nutrition, but also between the different stakeholder groups working on these issues. Since the integration of thematic areas is not an end in itself, a mutually beneficial partnership between thematic areas requires an assessment of the respective motivations, the definitions of roles and responsibilities as well as the choice of appropriate levels of integration. This publication intends to do just that: Strengthen the understanding between the two thematic areas and different stakeholder groups, while providing recommendations for action, supported by concrete examples. We hope that each reader of this publication will discover elements of inspiration for their work at the WASH-Nutrition link.

1 SuSanA (2016)
2 WaterAid (2016)
3 ACF (2017)
4 BMZ (2015)

## 1.3 Methodology

Desk-based research, results from key conferences and meetings (incl. Bonn WASH Nutrition Forum 2015, Stockholm World Water Week 2016, SuSanA Working Group "WASH and Nutrition", etc.), a survey and interviews are the foundation for the findings presented in this publication.

The survey is the core source of information. It was designed for four stakeholder groups (researchers, implementers, advocacy experts and donors) and distributed as an online-version to 230 persons, who had participated in previous WASH-Nutrition related events or expressed interest in the WASH-Nutrition link. 74 actors responded[5], based in 22 different countries. Out of the total number of participating persons, 9 filled out the research survey, 42 the implementation survey, 17 the advocacy survey and 6 the donor survey. There was a slight bias towards Nutrition: 30 indicated Nutrition as main entry point for their organisation, 23 respondents indicated WASH, 11 Health and 9 "other". Concerning the main personal expertise 28 indicated Nutrition, 24 WASH, 15 Health and 4 "other". The survey was carried out from February to April 2017. In addition, nine key informant interviews were conducted personally (7 phone; 2 email). Since past WASH-Nutrition interest and experience was a criteria in the pre-selection of the informants, this document has an inherent bias for the WASH-Nutrition link.

## 1.4 Document Overview

**Chapters 2** and **3** introduce the new global context of the SDGs and the significant thematic connections between WASH and Nutrition, as two key motivations why the WASH-Nutrition link is so relevant. **Chapter 4** focuses on the self-perception of each thematic area, resulting in different perspectives of the respective other and the link itself. This chapter also introduces the continuum approach of integration, outlining how WASH interventions can be made more nutrition-sensitive and vice versa. **Chapter 5** describes stakeholder-specific expectations about roles and responsibilities at the WASH-Nutrition link, as derived from the survey. The heart of the document is **Chapter 6**, which provides recommendations for further action, including practical examples. **Chapter 7** draws key conclusions.

5 Annex 1

# 2. WASH-Nutrition in the Global Context

WASH and Nutrition are prominently placed in the 2030 Agenda for Sustainable Development. For the first time, WASH has its own dedicated global development goal in Sustainable Development Goal (SDG) 6 "Clean Water and Sanitation", while Nutrition finally has a specific target under SDG 2 "Zero Hunger".

The challenges in both areas of action remain high. In 2016, 22.9 % of children under the age of five (154.8 million) suffered from chronic undernutrition, manifested in stunting, while 7.7 % (52 million) are affected by wasting (low weight-for-height).[6] Simultaneously, 2.4 billion people worldwide had no access to improved sanitation, with 946 million people practicing open defecation[7], and 663 million people do not have access to improved drinking water.[8] To a large extent, the affected individuals are the same.

The SDGs are universal and comprehensive, complex and ambitious. By 2030 the world wants to end hunger and all forms of malnutrition (incl. undernutrition, anaemia, obesity), achieve access to safe and affordable drinking water and adequate and equitable sanitation and hygiene for all, as well as ensure wastewater treatment. The new framework requires a people-centred approach with stronger emphasis on the most vulnerable and difficult to reach, so that nobody is left behind. The financial implications are enormous.

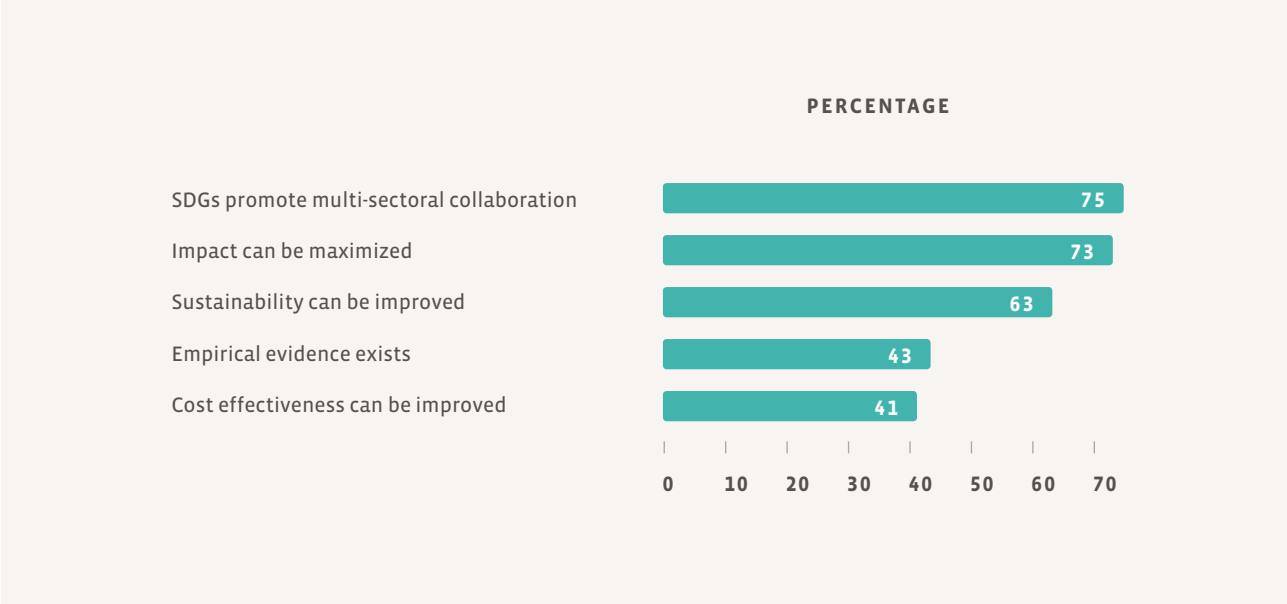
The World Bank estimates a financing need of $ 115 billion per year to reach the SDG targets in water supply and sanitation. According to the Results for Development report nutrition-specific interventions to contribute to reaching the World Health Assembly (WHA) targets (to reduce stunting among children and anaemia in women, increase exclusive breastfeeding rates, and mitigate the impact of wasting) will require an average annual investment of $7 billion in the next 10 years.[9] Hence, achieving the SDGs requires a) more efficient, effective and sustainable use of existing resources, b) additional financing, including domestic and private funding, c) new sources or instruments of financing.

The Agenda 2030 stresses that the interlinkages and integrated nature of the goals are of crucial importance for their realisation. Utilising synergies between goals or fields of action can increase efficiency, effectiveness and sustainability. Both WASH and Nutrition outcomes substantially contribute to other SDGs, in particular to Health and Well Being (SDG 3), but also to Education (SDG 4) and Gender Equality (SDG 5). SDG17 defines explicit targets and indicators to revitalise and enhance global partnerships, "bringing together Governments, civil society, the private sector, the United Nations system and other actors" in an effort to mobilize all available resources until 2030. For details on the SDG targets and indicators for WASH, Nutrition, Health and Global Partnership, **see Annex 2.**

It seems that this paradigm shift has already reached the broader community. The survey, which this publication is based on, assessed the motivations of different stakeholders for linking WASH and Nutrition in their work. The promotion of multi-sectoral collaboration in the SDG framework was the most popular answer (74 %).

6 UNICEF (2017)
7 UNICEF (2016a)
8 UNICEF (2016b)
9 World Bank et al. (2016)

Motivations Why Organisations
Integrate Wash-Nutrition (N=51)




Both WASH and Nutrition are in the process of finding their place in the new 2030 Agenda. Changes in their respective global architectures and institutional structures may ensue.

A comparison of the two thematic landscapes and their leading institutions reveals multiple commonalities, which can help to identify interfaces to link or integrate. UNICEF, for example, is the lead agency for both WASH and Nutrition in a humanitarian context and host of both Inter-Agency Standing Committee Clusters for emergency coordination. Furthermore, UNICEF is strongly engaged in both global multi-stakeholder platforms: hosting the secretariat of the Sanitation and Water for All Partnership (SWA), while UNICEF Executive Director Anthony Lake is the Chair of the Scaling Up Nutrition Movement's (SUN) Lead Group. High burden countries are involved in both SWA and SUN, with an overlap of 40 partner countries in the two global platforms. Since both WASH and Nutrition have intricate links to Health, the World Health Organisation (WHO) is a natural link – involved in the global monitoring, research and the setting of standards and definitions in both fields. According to OECD Creditor Reporting System (CRS), the list of the largest donors in both thematic areas also shows a strong overlap, with Germany, the USA and the World Bank Group among the top five donors in 2015 financing basic water supply and basic sanitation, as well as basic nutrition. In addition to this, the World Bank Group acts as a think-tank, providing important analysis on the link. The Bill & Melinda Gates Foundation has a leading role in the promotion, funding and dissemination of research and innovation in both areas. When it comes to knowledge management the Sustainable Sanitation Alliance and the Emergency Nutrition Network are working on ways to collaborate.

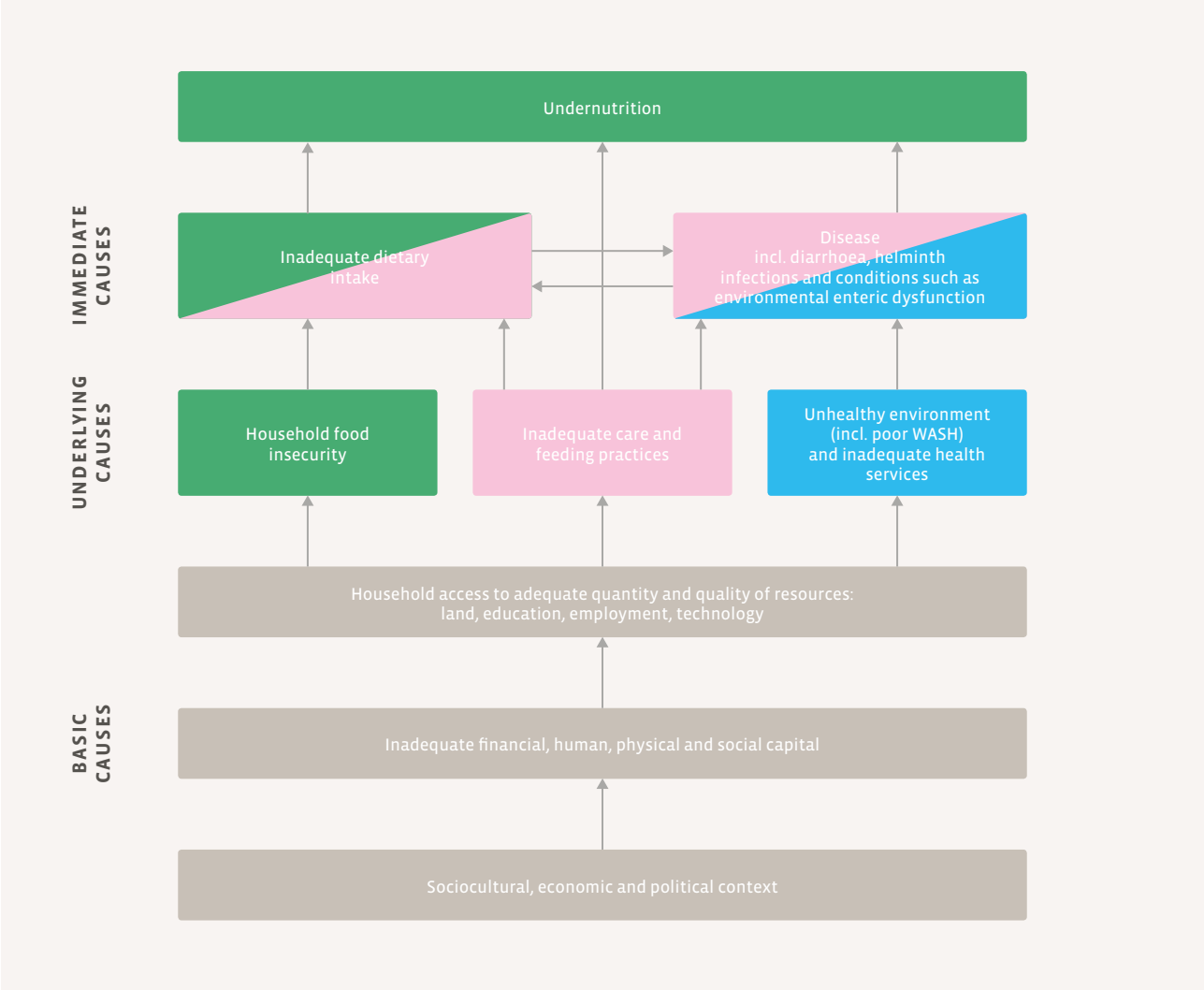
# 3. The WASH-Nutrition Link: A Thematic Introduction

## 3.1 Understanding the WASH-Nutrition Link

The "WASH-Nutrition link" is defined by two causal relationships: 1. WASH-related infections have an impact on the nutritional status, 2. WASH interventions can improve the nutritional status via health improvements.

Undernutrition is the outcome of inadequate dietary intake and the inability of the body to absorb the consumed nutrients. A lack of **water**, poor water quality, lacking or inadequate excreta management/**sanitation**, and poor **hygiene** practices (WASH) lead to a plethora of diseases, thereby playing a crucial role in initiating and perpetuating undernutrition. This link is finding increasing recognition.[10, 11]

Conceptual Framework of Undernutrition




Source: UNICEF (2013), adapted

10 Bhutta et al. (2013)
11 Ngure et al. (2014)

The three most prominent biological mechanisms[12], which are WASH-related and responsible for poor nutritional uptake by the human body are:

**1. Repeated bouts of diarrhoea**

Cases of diarrhoea dehydrate the body and temporarily reduce the absorption of nutrients. Undernutrition, in turn, increases the vulnerability of the body to suffer from diarrhoeal diseases – in likelihood (morbidity) and severity (mortality).

**2. Intestinal parasites**

Intestinal parasites, like soil-transmitted helminths, live inside their human host and use incoming nutrients for their own growth. This deprives the host of valuable nutrients and can perpetuate undernutrition. The life cycle of many parasites depends on their eggs being discharged in faecal matter, posing a threat for transmission to a new human host.

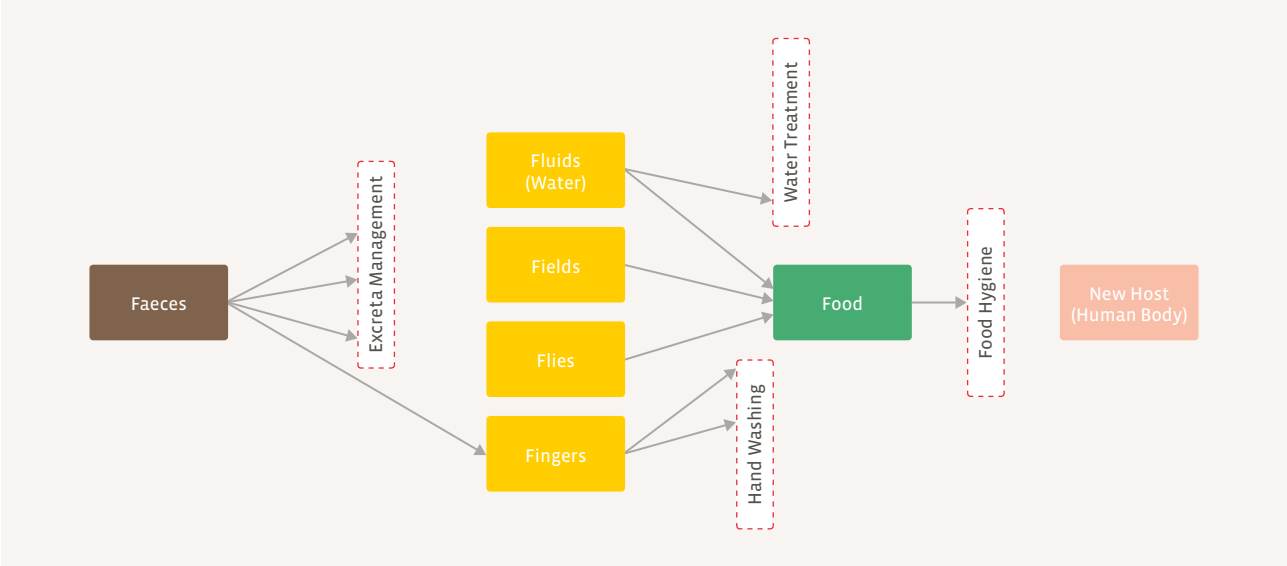
**3. Environmental Enteric Dysfunction (EED)**

EED is an asymptomatic and incompletely defined syndrome, which causes a chronic inflammation, malabsorption of nutrients and a weakened barrier function of the small intestine.[13] EED is associated with poor sanitation, certain gut infections and micronutrient deficiencies.

The most critical period in a person's development are the first 1 000 days – from conception, until the age of two – when a child is most vulnerable to adverse effects of undernutrition. This can lead to an irreversible impairment of a child's physical growth, immune system and cognitive development. Damage to a child's development can already begin in the womb, when malabsorption of nutrients by the mother during pregnancy and maternal anaemia can result in small gestational age (SGA) of the child, a severe risk factor for stunting.[14] Recent studies even suggest that stunting has intergenerational implications, as stunted mothers are more likely to give birth to children with SGA.[15]

Common pathways for faecal-oral transmission of pathogens are visualised in the F-diagram below. Four barriers can help to break these pathways: the safe management of faecal matter to ensure a sanitary environment, water treatment (and storage) before use, handwashing at critical times and hygienic handling of food.

F-Diagram




Source: Wagner et al. (1958), adapted by German Toilet Organization

12 Cumming et al. (2016)
13 Crane et al. (2015)
14 Aryastami (2017)
15 Prendergast et al. (2014)

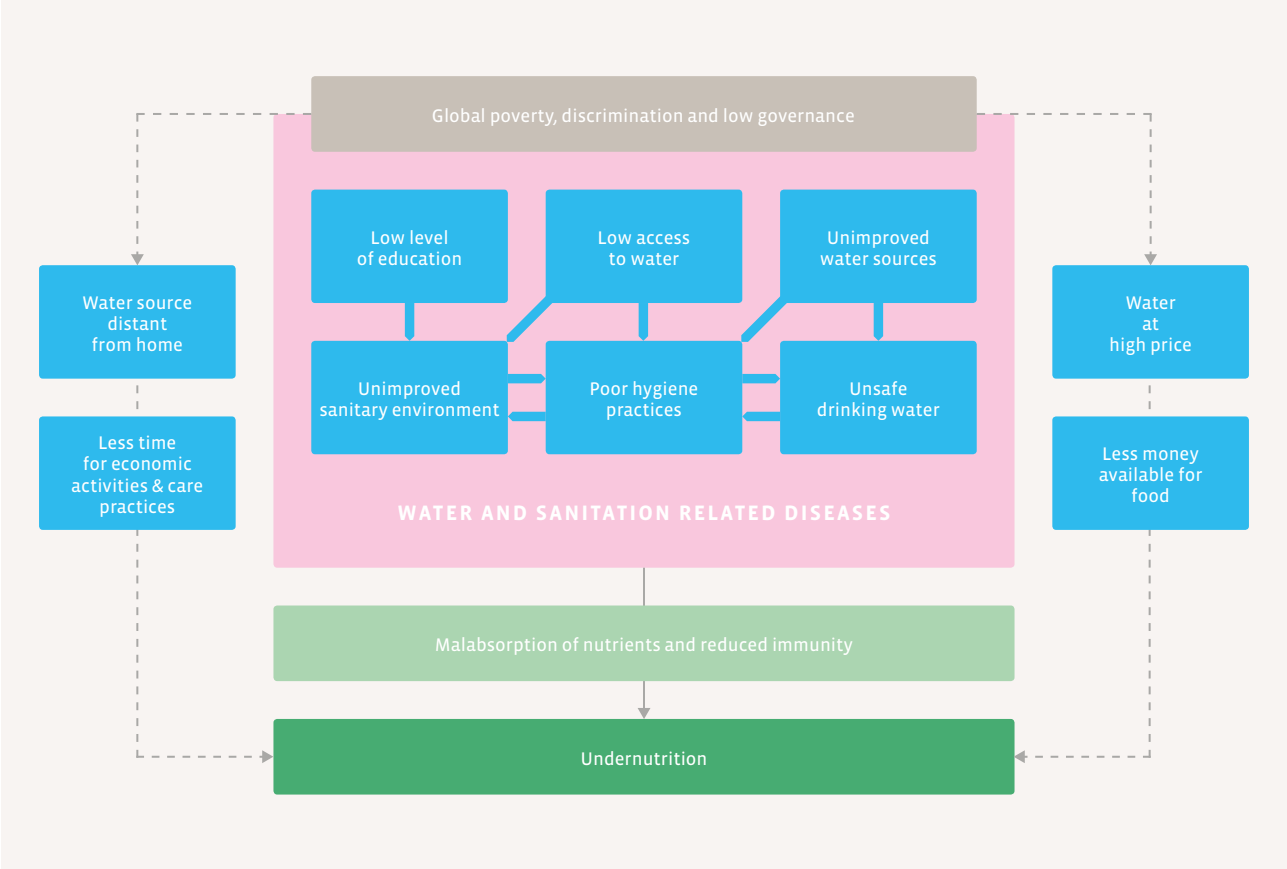
It is estimated that fewer than two out of ten people globally wash their hands with soap after defecation[16] and that approximately 13 % of the world's population practices open defecation[17], thereby contaminating their environment. These practices place whole communities at risk for contracting faecal-orally transmitted diseases. Not only are infants and young children the most vulnerable, they also face an additional risk, due to oral exploration of their surroundings.

Studies also show that improved WASH not only leads to better health, but also results in economic benefits for affected families. "Poor people living in slums often pay 5 – 10 times more per litre of water than wealthy people living in the same city",[18] e.g. via water vendors or other intermediaries. This impacts upon the buying power for purchasing nutritious food. Furthermore, having a water source closer to the home also results in more time available for economic activities and frees up time for essential care practices.

Improved WASH also leads to an improvement in education status, e.g. more girls attending school if facilities allow for menstrual hygiene management.[19] Studies show that education also positively impacts upon nutrition.[20]

The link between WASH and Nutrition deserves particular attention in certain humanitarian crises. If undernutrition is already prevalent, WASH services are of utmost importance to not escalate the crisis (e.g. cholera outbreaks), leading to more persons affected by wasting (low weight for height) and increased mortality.

Conceptual Framework for the Economic Dimension of How Poor WASH Can Impact the Nutritional Status




Source: Dangour et al. (2013), adapted

16 Cumming et al. (2016)
17 UNICEF/WHO (2015)
18 HDR (2006)
19 Emory/UNICEF (2012)
20 Abuya et al. (2012)

## 3.2 Status Quo of Research

A recent publication draws the following conclusions from current WASH-Nutrition research:

- "WASH remain critical interventions for improving maternal and child health.
- A growing body of evidence suggests that WASH are important determinants of childhood stunting.
- WASH influence stunting through direct biological mechanisms by reducing the risk of symptomatic and asymptomatic enteric infections and by social and economic mechanisms, such as diverting household income from food budgets.
- Although more research will strengthen future interventions and policy, there is sufficient evidence to justify the inclusion of WASH within national and international strategies to reduce stunting.
- As the process of stunting and the burden of enteric infections are concentrated in early childhood, WASH policy and programmes should explicitly address this population group in the design and targeting of interventions." [21]

The following text provides additional details, concerning the most relevant findings, critical voices and research gaps, including references for further reading.

**Diarrhoeal Disease**

According to the WHO, diarrhoeal disease is the second leading cause of death, annually killing approximately 525 000 children under five years of age globally.[22, 23] Studies show that WASH interventions have a positive impact, reducing diarrhoeal disease through handwashing with soap by 42 – 48 %, through the improvement of water quality by 17 % and though excreta disposal by 36 %,[24] subsequently also reducing the prevalence of stunting. Simultaneously it is interesting to note that recent studies deem the correlation between EED and stunting more significant than the correlation between diarrhoea and stunting.[25]

**Stunting**

Different studies associate stunting with poor WASH.[26, 27] "A 20-year multi-country analysis revealed that five or more diarrhoeal infections in the first 2 years of life accounted for 25 % of all stunting observed; moreover, every five diarrhoeal episodes increased stunting risk by 13 %."[28] Furthermore, researchers found that stunting can have inter-generation effects: Approximately one-fifth of childhood stunting could have its origins in the foetal period, caused by maternal stunting and underweight, which then leads to SGA birth and prematurity.[29] Foetal growth restriction and unimproved sanitation were identified as being leading risk factors for childhood stunting, as a recently conducted comparative risk assessment analysis of 137 developing countries concludes.[30] Reducing the burden of stunting, therefore, requires a paradigm shift from interventions focusing solely on children and infants to those that reach women in their reproductive age, mothers and caregivers, improving their (pathogenic) living environment and nutrition.[31]

21 Cumming et al. (2016)
22 Gautam et al. (2015)
23 WHO (2017)
24 Cairncross et. al (2010)
25 Humphrey (2009)
26 Spears et al. (2013)
27 Prendergast et al. (2014)
28 Guerrant et al. 2013
29 Salam et al. (2015)
30 Danaei et al. (2016)
31 Danaei et al. (2016)

### Environmental Enteric Dysfunction

Various studies have examined the effects of EED on undernutrition and in particular on stunting: The results are consistent with the hypothesis that environmental contamination can cause growth faltering, which is assumed to be mediated through EED. In Mali, for example, child growth (in particular below two years of age) improved, when access to toilets substantially increased because of a community-led total sanitation (CLTS) intervention.[32] In Bangladesh it was discovered that in "dirty" household environments children had higher rates of growth faltering and there is a higher presence of enteropathic biomarkers, than in households with a higher environmental cleanliness (water quality, sanitation and handwashing facilities).[33] Despite its potentially significant impacts, it is currently unclear what exactly causes EED and how it can be treated or prevented.[34] One study suggests that improvements of the environmental living condition or a move from a pathogenic environment to a hygienic environment support recovery and improved nutrition.[35] The formulated research gaps regarding EED include finding cheap and reliable 'good enough' ways to estimate the prevalence of EED in a population, and to quantify the body energy loss caused by EED, due to the production of antibodies to fight the EED infections.

### Impact of WASH Interventions on Nutrition

While there is a clear link between WASH and undernutrition, research on the impact and efficiency of WASH interventions on Nutrition is limited and shows deviant results.

Some studies and publications suggest that the most effective interventions are likely to be those that combine both improved nutrition, infection control and prevention efforts.[36] The Global Nutrition Report (GNR), for example, summarises that "direct undernutrition interventions, even when scaled up to 90 percent coverage rates, have been estimated to address only 20 percent of the stunting burden."[37] In order to address the remaining 80 %, it is key to tackle underlying drivers, such as agriculture, health, education, social protection, and WASH.[38]

At the same time, other studies, like the recently conducted WASH Benefits research projects in Bangladesh and Kenya, do not show significant effects on growth and development from combining a) daily supplemental nutrition with b) a combined water, sanitation and handwashing intervention compared to each component alone in those settings.[39] Hence, it may be questioned whether the whole is less than the sum of its parts.

More research is needed. Dialogue between researchers seems to reflect this. In several interviews it was highlighted that approaches should not immediately be labelled "generally ineffective". The question of "why it is ineffective" should be examined to gain further insights concerning failures in the complex intervention chain.

The question of whether (or to what extent) integration should be practiced does not solely depend on the proven impacts. Whether integration is cost effective depends also on current institutional structures, staff motivation, local context, etc. Operational research seems to be of paramount importance to gain a better understanding of the cost-benefit ratio in different contexts and settings.

32 Pickering et al. (2015)
33 Lin et al. (2013)
34 Abbeddou et al. (2016)
35 Haghighi et al. (1997)
36 WASH Advocates (2014)
37 GNR (2016)
38 GNR (2016)
39 WASH Benefits (2017)

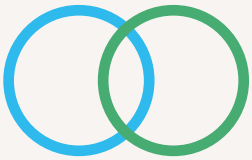
# 4. WASH and Nutrition Integration

## 4.1 WASH and Nutrition Perspectives

How we perceive ourselves and our own thematic area impacts how we view ourselves in relation to others. How well we know others and how we view them impacts how we place them in relation to ourselves. When it comes to integration of two thematic fields, success depends heavily on how aware different parties are of such differences in perceptions and how this impacts motivations for collaboration and opinions of how "integration" should be put into action.

The following table depicts the most commonly described perceptions of the WASH-Nutrition link by individual WASH and Nutrition actors, as collected via survey, interviews or in workshops. Beyond these two options, further options exist. Health actors will most likely have yet another perspective. The two options outlined below only exemplify the range of perceptions and indicate how this can lead to misunderstandings.

WASH and Nutrition Perceptions:
How I View Myself, the Respective Other and Integration

| WASH Perception | Nutrition Perception |
|---|---|
| • WASH in itself is a multi-sector, integrating water, sanitation and hygiene<br>• WASH also views Nutrition as a sector<br>• Self-perception is strongly based on certain skill-sets, professional codes/ standards, institutional structures<br>• Aims to provide necessary infrastructure, ensure a safe environment, build awareness and create hygiene behaviour change<br>• WASH SDG targets measure mainly output, while impacts measureable mainly in other SDGs (health, education, etc.)<br>• Extrinsic motivation to integrate with Nutrition<br>• There is more to WASH than the overlaps with Nutrition | • Nutrition is an outcome of other sectors, including WASH<br>• Self-perception of a generalist or facilitator who works towards a clear goal<br>• Aims to improve nutritional status by addressing direct (nutrition-specific) and underlying (nutrition-sensitive) causes, including WASH and Health<br>• Impacts measureable in its own SDG (Zero Hunger) and several other SDGs<br>• Defines WASH minimum packages to achieve specific WASH-Nutrition outcomes **(Chapter 4.4)**<br>• Intrinsic motivation to integrate with WASH<br>• There are more factors of high relevance to improve the nutritional status than WASH |
| **Most common model of WASH in relation to Nutrition**<br><br>**WASH and Nutrition**<br>Integration of two overlapping sectors<br><br>  | **Most common model of Nutrition in relation to WASH**<br><br>**WASH in Nutrition**<br>Several sectors contributing to better nutrition (outcome)<br><br>  |

Source: German Toilet Organization (2017)

## 4.2 The Continuum of Integration

Specialisation, professionalisation and organisational structures in specific thematic areas result in silo-thinking. All efforts to integrate projects, divisions, institutions or whole sectors entail the risk of losing the advantages of such specialisation (skill-sets, standards, quality, excellence, availability of qualified staff, productivity etc). A higher level of integration may require changes in existing work processes and structures. Choosing the appropriate level of integration is therefore a strategic decision, which should be informed by an analysis of the expected costs and benefits of the various options.

Integration can be understood as a continuum between unintended overlaps and formally institutionalized integration at institutional and project level. A "one size fits all" solution does not exist and integration does not necessarily take place in only one level of the continuum. The following figure shows the different levels of the 6C continuum of integration:

6C Continuum of Integration

LOW LEVEL OF INTEGRATION → HIGH LEVEL OF INTEGRATION

| Coincidence | Co-Location | Coordination | Cross-Training | Collaboration | Complete Integration |
|---|---|---|---|---|---|
| • WASH and Nutrition projects are planned and implemented indepentently<br>• Interventions have one or more unintended overlaps | • WASH and Nutrition programmes intentionally target the same community (location/group)<br>• Programmes are not necessarily coordinated when implemented | • Joint planning of WASH and Nutrition programmes<br>• Harmonized WASH and Nutrition interventions<br>• Separate implementation | • Programme staff receives basic training in additional thematic areas<br>• Sensitised staff contributes with multi-sectoral knowledge when engaging in regular work | • Joint assessment and planning of WASH and Nutrition programmes<br>• Activities are jointly carried out, but by experts of respective thematic areas | • Staff receives substantially high-quality training in the respective other thematic area<br>• Joint service delivery by the same institution<br>• Joint funding for a multi-sectoral WASH-Nutrition project / programme |

Enabling Environment

Source: FHI360 (2016), adapted

There is a current trend: An increasing number of organisations are either considering, promoting or already implementing WASH-Nutrition projects. The surveyed organisations have primarily addressed integration in one or more of the following ways:

a) developing or revising integrated internal strategies, b) intensifying exchange between WASH, Nutrition and Health divisions, c) increased capacity development and targeted recruitment.

This usually results in the formulation of common WASH-Nutrition-Health objectives, the targeting of common beneficiaries, the sharing of service delivery platforms or the co-location of WASH and Nutrition interventions. Examples are shown in the table below.

Inspiring success stories are often the result of specific constellations, and therefore not necessarily transferable to every actor, programme and context. Actors, who are already practicing close-to-complete integration of these two issues, are often motivated by their organisational mandates (e.g. Nutrition, Health, Child Protection). For the broader community to practice more integration, it needs solutions, which are easy to implement, standardised and scalable – depending on its respective thematic perspective.

Common Entry Points for WASH-Nutrition

| Common Objectives | Co-Targeting | Shared Platforms for Service Delivery | Co-Location |
|---|---|---|---|
| Improvement of Nutritional Status | Mothers and Infants | Nutrition and Community Centres | Areas with High Prevalence of SAM/GAM |
| Health Improvements | The First 1000 Days | Health Care Facilities and ECD Centres | Areas with High Prevalence of Acute Diarrhoea |
| Reduction of EED | Children under 5 Years of Age | Schools | Areas with High Stunting Rates |
| Reduction of Stunting | Women in the Reproductive Age | Other Public Institutions | Communities Practicing Open Defecation |
| | The Poorest Populations | Community Mobilizers | Districts, Villages, Communities |
| | Healthcare Staff | Positive Deviance Programmes | |

Source: German Toilet Organization (2017)

## 4.3 Nutrition Potential in WASH

The following table illustrates how conventional WASH interventions can be made nutrition-sensitive.

| Nutrition-Sensitive WASH | Conventional WASH | | Nutrition-sensitive Add-on | | |
|---|---|---|---|---|---|
| Primary outcomes (impacts & indicators) | Clinical disease reduction:<br>• Diarrhoea<br>• Trachoma<br>• Neglected Tropical Diseases (NTD) | + | Nutritional improvements to reduce:<br>• Stunting<br>• Acute malnutrition<br>• Anaemia | = | NUTRITION-SENSITIVE WASH |
| Primary target group | All ages, community-wide | + | Focus on the child's first 1 000 days, incl. caregivers and health centers | = | |
| Infrastructural choices | • Toilet<br>• Water supply<br>• Handwashing facility | + | Protected play space | = | |
| Sources of contamination | Human faeces | + | Animal faeces | = | |
| Vectors of feco-oral transmission | • Fingers<br>• Fluids<br>• Flies<br>• Fields | + | Fingers of caregivers and baby hands | = | |
| Targeted behaviours (behavioural / process indicators) | • Disposal of faeces<br>• Handwashing with soap<br>• Water treatment | + | • Disposal of animal stool and child faeces<br>• Handwashing with soap focusing on both caregiver and baby hands<br>• Food hygiene<br>• Exclusive breastfeeding | = | |
| Factors influencing choice of intervention components | Communicable disease prevention or control; ministerial or donor priorities | + | Nutritional outcomes | = | |
| Evidence base | Strong randomised trial evidence | + | Strong observational evidence base and plausibility basis | = | |

Source: Global Nutrition Report (2016), adapted

## 4.4 Minimum WASH in Nutrition

From the nutrition perspective the integration of WASH minimum packages[40] into nutrition programmes is a first and easy starting point. WASH minimum packages are sets of priority WASH interventions needed to ensure that focus target groups, like communities affected by undernutrition, have a reliable access to basic WASH services. To reach the most vulnerable and affected populations WASH minimum packages need to be specifically designed for each delivery platform (e.g. households, nutrition and health centres – taking persons with special needs into account). To ensure quality of service, WASH expertise is required in the design of the package and its application.

The following table provides an overview of possible WASH minimum packages for different delivery platforms. An assessment of the existing infrastructure and WASH related knowledge, attitudes, practices of the target group (KAP survey) will help to define which WASH components are still missing in each context.

| WASH Minimum Packages in Nutrition | **Water**<br>Access to safe drinking water (quality and quantity) | **Sanitation**<br>Access to and use of adequate sanitation | **Hygiene**<br>Hygiene promotion and enabling environment for hygiene behaviour change |
|---|---|---|---|
| **Household** | • Provision or rehabilitation of/ connection to supply systems<br>• Support to operation and maintenance (O & M) of supply systems<br>• Training and follow-up on household water treatment and safe storage (HWTS)<br>• Provision of HWTS products (e.g. water filters, aquatabs, jerry cans, feeding bottles, cups) | • Provision or rehabilitation of improved sanitation (full containment of faeces, no flies or odours)<br>• O & M trainings/support<br>• Increasing availability and affordability of O&M kits (incl. anal cleansing materials, brush, bucket, gloves etc.)<br>• Increasing awareness and demand for improved sanitation (sanitation marketing, CLTS, PHAST)<br>• Awareness raising about safe excreta and waste disposal (incl. animal faeces, burial of faeces and solid waste disposal) | • Provision or rehabilitation of handwashing facilities at cooking places and latrines<br>• Promotion of key behaviours like hand-washing at critical times, hygienic preparation and covering of food<br>• Hygiene promotion for mothers/ caretakers<br>• Hygiene promotion/education for children<br>• Support to O & M of handwashing facilities<br>• Increasing the availability and affordability of soap |
| **Nutrition and Health Centres** | • Provision and rehabilitation of/ connection to supply systems<br>• Support to O&M of supply systems<br>• Provision of sufficient water storage capacity (inpatients/ outpatients)<br>• Treatment and chlorination of water<br>• Safe storage (incl. regular chlorination of tanks)<br>• Provision of HWTS products to mothers and caretakers (e.g. water filters, aquatabs, jerry cans, feeding bottles, cups) | • Provision or rehabilitation or construction of enough improved latrines (full containment of faeces, no flies or odours) separated by gender, patients and staff<br>• Provision of potties for small children<br>• Rehabilitation or construction of waste disposal areas<br>• Provision of waste collection and incinerators for medical waste<br>• O & M trainings for cleaners and caretakers<br>• Increasing availability and affordability of O & M kits (incl. anal cleansing materials, brush, bucket, gloves etc.)<br>• Training of staff to enable continuous promotion of safe and hygienic sanitation and waste disposal<br>• Consider staffing the latrines to ensure proper use, cleaning and maintenance | • Provision or rehabilitation of hand-washing facilities at all latrines, places for the preparation of food and therapeutic milk<br>• Training of staff to enable continuous hygiene promotion, targeting in- and outpatients<br>• Support to O & M of handwashing facilities<br>• Provision of soap (for all installations) |

Source: Action Contre La Faim (2017), adapted

40 ACF (2017)

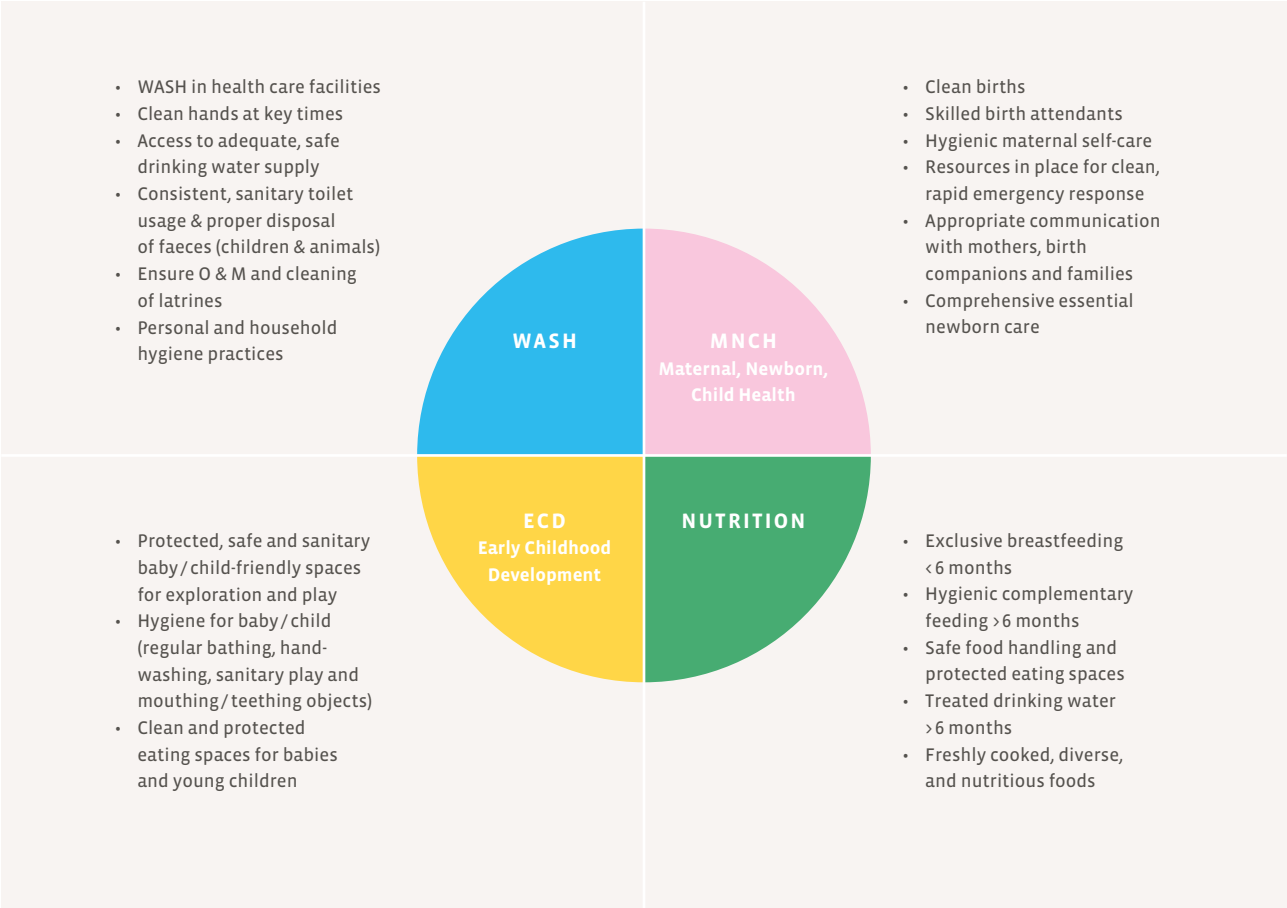
## 4.5 The Baby WASH Concept: A Holistic Target Group Approach

Some approaches go beyond the alignment or the one-sided integration of a minimum package and try to fully integrate multi-sectoral actions. One example is the BabyWASH concept, which "aims to improve the well-being in the first 1 000 days by integrating water, sanitation and hygiene (WASH) with nutrition, early childhood development (ECD), and maternal, newborn and child health (MNCH)." [41] The figure below provides an overview.

## 4.6 Common Indicators for a Logical Framework

**Annex 3** provides an overview of sample output, outcome and impact indicators (e.g. for logical frameworks) for a broad range of activities in WASH and Nutrition. These were compiled, using available materials from the areas of policy development, implementation of technical support and awareness raising. The actual selection of suitable indicators to be included in monitoring and evaluation (M & E) frameworks will depend on the country context, existing monitoring systems and capacity of M & E staff. The WHO recommends giving special consideration to indicators that are already monitored by international and national efforts, allowing for greater comparability and ownership of results.[42]

BabyWASH Concept




Source: World Vision International (2017), adapted

41 BabyWASH Coalition (2015)
42 WHO/UNICEF/USAID (2015)

# 5. Expectations of Different Stakeholder Groups

Besides the different perspectives of the link by WASH and Nutrition actors (Chapter 4), another source of potential misunderstanding comes with the diversity of stakeholders. Each stakeholder group (researchers, implementers, advocacy experts and donors) contributes with its own set of expertise, but also has specific demands of the others.

As part of the survey, respondents were invited to express their expectations towards other stakeholder groups. Country governments lead the change processes in their respective countries. Government officials did not, however, participate in the survey. Hence their expectations towards others could not be collected. The other stakeholder groups, however, were asked to express what they expect from country governments.

| EXPECTATIONS TOWARDS ▸ RESEARCH (RES) | | |
|---|---|---|
| **Implementers say ...** | **Advocacy experts say ...** | **Donors say ...** |
| • Develop relevant indicators and simplify M & E<br>• Engage and accompany operational research<br>• Expand research on pathways and effects (e.g. stunting, EED)<br>• Publish research results, open access | • Utilise full range of methodologies (longitudinal studies, RCT)<br>• Fill research gaps (e.g. EED, efficiency of particular interventions, coordination, monitoring)<br>• Collaborate with implementing organisations | • Strengthen evidence base<br>• Research which activities, alone or integrated, have which impact<br>• Publish research results, open access |

| EXPECTATIONS TOWARDS ▸ IMPLEMENTING ORGANISATIONS (IMP) | | |
|---|---|---|
| **Researchers say ...** | **Advocacy experts say ...** | **Donors say ...** |
| • Use rigorous M & E/collect and share impact assessment data<br>• Use result-oriented programme design<br>• Join forces/build alliances | • Share good practices for advocacy purposes<br>• Join forces/build alliances<br>• Develop trainings for all stakeholders<br>• Work with(in) local structures/focus on small scale | • Ensure hardware and software for WASH-Nutrition<br>• Provide evidence of impact<br>• Conduct joint feasibility studies |

| EXPECTATIONS TOWARDS ▸ ADVOCACY (ADV) | | |
|---|---|---|
| **Researchers say ...** | **Implementers say ...** | **Donors say ...** |
| • Share success stories<br>• Sensitise for cross-sectoral issues<br>• Provide support to governments in formulation of policies based on research results<br>• Place WASH-Nutrition at (inter-)national events/platforms with aligned messages | • Place WASH-Nutrition at (inter-)national events/platforms with aligned messages<br>• Target donors with advocacy messages<br>• Produce and offer convincing, appealing advocacy materials<br>• Share success stories | • Inform about oral-faecal transmission and basic WASH-Nutrition links<br>• Inform key decision makers and build political support |

Engagement of country governments is currently being undertaken parallel to the writing of this publication: The global platforms SUN and SWA, with the support of ACF, WaterAid and the German WASH Network are currently undertaking work to identify countries that are progressive in their WASH-Nutrition efforts, regarding national budget, national policies or programmes. Goal of this work is to facilitate learning between countries.

The following tables summarise the expectations towards individual stakeholder groups by the respective others. Views about one's own roles and responsibilities were not explicitly collected by the survey, but the answers give an indication, where many stakeholders see the boundaries of their own responsibilities. Furthermore, the tables give an insight to the most frequent answers provided, sorted by frequency. The tables assist actors in improving "communication and coordination" – which the survey identified as being the main bottleneck for effective utilisation of the WASH-Nutrition link (**see Chapter 6)**. Finally, being aware of other stakeholder expectations, allows actors to create appropriate incentives for others.

| EXPECTATIONS TOWARDS ▸ DONORS (DON) | | |
|---|---|---|
| **Researchers say ...** | **Implementers say ...** | **Advocacy experts say ...** |
| • Incentivise integrated approaches<br>• Fund research to strengthen evidence / fill gaps<br>• Fund long-term and support post-implementation monitoring | • Incentivise and fund cross-cutting projects (e.g. results-based, flexible funding)<br>• Provide guidance (e.g. incentives, indicators, regional)<br>• Fund long-term and support post-implementation monitoring<br>• Make sensitivity towards WASH-Nutrition a requirement in (calls for) proposals | • Increase flexible funding<br>• Incentivise integrated approaches<br>• Provide support to partner countries<br>• Make sensitivity towards WASH-Nutrition a requirement in (calls for) proposals |

| EXPECTATIONS TOWARDS ▸ COUNTRY GOVERNMENTS | | | |
|---|---|---|---|
| **Researchers say ...** | **Implementers say ...** | **Advocacy experts say ...** | **Donors say ...** |
| • Introduce multi-sectoral policies and plans<br>• Incentivise integrated approaches<br>• Create a WASH-Nutrition exchange platform<br>• Invest in WASH beyond hardware (e.g. behaviour change) | • Introduce multi-sectoral policies and plans<br>• Direct budgets and resources to nutrition-sensitive and integrated programmes<br>• Ensure communication and coordination between ministries<br>• Create a WASH-Nutrition exchange platform | • Prioritise, incentivise and demand integrated approaches<br>• Introduce multi-sectoral policies and plans<br>• Reinforce multi-sectoral coordinating committees | • Establish multi-sectorial cooperation mechanisms at all levels<br>• Allocate domestic budgets to WASH-Nutrition programmes<br>• Ensure provision of necessary infrastructure for WASH-Nutrition actions<br>• Introduce multi-sectoral policies and plans |

# 6. Recommendations

The following recommendations result from the analysis of surveys, interviews and a desk study undertaken, as outlined in the rationale. In order to improve multi-sectoral work, two steps are recommended:

1. It is necessary to create the opportunity to meet, exchange and engage beyond one's own thematic area (applies to all multi-thematic work).
2. Thematic-specific WASH-Nutrition linkages must be established and institutionalised.

The recommendations compiled in this chapter are grouped by "key bottlenecks" and sorted according to importance of the issues, as indicated by survey/interview responses. Gaps and hindrances were identified and matched with helpful ideas and approaches, which were suggested by actors, who are already applying them to overcome those challenges. The helpful ideas and approaches are described as specifically as possible, while keeping descriptions very brief. Wherever possible, the authors provide insight to who has applied this idea or approach, allowing the reader to follow up items of interest.

All points will definitely not be relevant to all actors or stakeholder groups, but the authors hope that every reader of this publication will discover useful items of inspiration for their work.

At the top of each recommendation, it is indicated to whom the recommendations is of concern.

| | |
|---|---|
| RES | Researcher |
| IMP | Implementer |
| ADV | Advocacy Expert |
| DON | Donor |

## **Bottleneck 1:**
## Communication & Coordination

**RECOMMENDATION 1 A** (RES, IMP, ADV, DON)

Establish regular formal or informal exchange between WASH and Nutrition teams/experts, in order to reduce silo thresholds.

| Gaps & Hindrances | Helpful Ideas & Approaches |
|---|---|
| • The existing institutional structure | • Increase physical proximity of divisions (e.g. USAID teams share the office)<br>• Establish regular working group meetings (e.g. SDC colleagues of water, nutrition, health, education, and food security divisions from humanitarian aid and regional/bilateral cooperation meet every 2–3 months)<br>• Know your in-house thematic counterpart and meet at critical times (e.g. Arche noVa staff meet in planning stage and during implementation) |
| • The required time | • Do as much as is helpful, but as little as possible<br>• Use existing coordination bodies (e.g. networks, clusters, multi-stakeholder platforms)<br>• Use face-to-face or online, whichever is easier<br>• Consider long-term efficiency gains<br>• Hire staff that know both fields |

**RECOMMENDATION 1 B** (RES, IMP, ADV, DON)

Engage in multi-stakeholder exchange platforms (particularly at national level) to coordinate and align with stakeholders, increasing coherence and sustainability of interventions.

**Gaps & Hindrances**

- Missing knowledge on existing platforms or how to create new ones

**Helpful Ideas & Approaches**

- Global WASH Cluster Tools & Resources [43]: "Inter-Cluster Matrices for Roles and Accountabilities", incl. WASH-Health-Nutrition [44]
- Global Food Security Cluster: Inter-cluster Nutrition Working Group deals e.g. with nutition-sensitive interventions [45]
- Global Nutrition Cluster Tools & Resources: Inter-Cluster Matrix WASH/Health/Nutrition [46]
- SUN Movement & SWA Partnership defined joint areas of engagement in 2016: engagement possible via the two global platforms

- Countries ensure coordination through
  - Inter-ministerial Food Policy Working Group (Bangladesh [47])
  - Multi-stakeholder platforms for nutrition national and sub-national level (Chad [48], Ethiopia [49])
  - Nutrition inter-ministerial committee, based in office of the Prime Minister (Timor-Leste [50])
  - Nutrition plan, including comprehensive implementation matrix (Zambia [51])

43 GWC (2017)
44 GWC (2009)
45 GFSC (2017)
46 GNC (2008)
47 WaterAid (2016)
48 Youssoufane (2017)
49 Sanitation Marketing (2014)
50 WaterAid (2016)
51 WaterAid (2016)

## **Bottleneck 2:**
## Financing

**RECOMMENDATION 2 A** **(IMP, DON)**

Provide incentives: Anchor the WASH-Nutrition link in strategic documents and/or make multi-sectoral approaches a requirement in project proposals (allowing flexibility).

**Gaps & Hindrances**

- Lacking incentives
- Small scale implementations lack the capacity

**Helpful Ideas & Approaches**

- SDG 17 acknowledges collaboration efforts [52]
- Donors can provide incentives (e.g. USAID appreciates the WASH-Nutrition link in relevant project proposals)
- Ensure WASH-Nutrition sensitivity from project outset (e.g. CARE projects have budget-lines for staff of other thematic fields for planning and implementation)

**RECOMMENDATION 2 B** **(IMP, ADV, DON)**

Provide flexible, long term support to multi-sectoral nutrition-sensitive interventions, addressing undernutrition in a holistic, sustainable way.

**Gaps & Hindrances**

- Available resources depend on political individuals or trends
- Short-term funding periods limit long-term measuring of impacts and effective behaviour change

**Helpful Ideas & Approaches**

- In securing domestic budgets country governments address stunting from two angles:
  - Nutrition angle (e.g. national nutrition programs aim to achieve the WHA target on stunting of under-5s e.g. Brazil, Peru, Bolivia) [53]
  - Sanitation angle (e.g. India's [54] Prime Minister launched the "Swachh Bharat Mission" for universal sanitation coverage to combat stunting)
- Several donors increasingly integrate WASH into Food Security and Nutrition programmes (e.g. BMGF, BMZ, DFID, the Government of Canada, SDC, UNICEF, USAID)
- Achieving the SDGs requires more predictable long-term and less sector earmarked funding
- The Independent Commission for Aid Impact (ICAI) recommended DFID to implement nutrition interventions which will have the greatest impact on stunting and cognitive development [55]

52 UN (2017)
53 WHO (2014)
54 SWA (2017)
55 ICAI (2014)

**Gaps & Hindrances**

- Silo thinking of donors does not allow flexible and integrated funding
- Presumption that WASH is expensive

**Helpful Ideas & Approaches**

- Several donors are increasing multi-sectoral efforts
  - USAID views co-location as the most promising method of integration because its implementation does not require additional skill sets
- Integrated projects are more effective when WASH infrastructure is already in place
- Build on previous and ongoing WASH / Nutrition / Health interventions
- Focus on common software components of WASH-Nutrition (hygiene, behaviour change)

**RECOMMENDATION 2 C** (DON)

Engage in global multi-stakeholder platforms, to ensure coherence, mobilising funds from all sources incl. domestic and private, and developing new funding instruments.

**Gaps & Hindrances**

- Limited knowledge about the financing gap and currently allocated domestic and foreign resources
- International reporting is structured along themes, making reporting of multi-thematic efforts difficult

**Helpful Ideas & Approaches**

- Reaching the SDGs requires additional money (domestic, foreign, public, private) and new ways of financing
- SUN's budget analysis tool identifies nutrition-sensitive budget allocations for WASH [56]
- UNICEF's costing tool seeks to mainstream national data for calculating a country's required WASH investments [57]
- The Global Nutrition Report (2016) outlines the costs and needs to meet nutrition targets, emphasising the responsibility of national governments [58]
- The GLAAS Report 2017 analyses statistics and trends for WASH [59]
- The new OECD action plan intends to dismantle intellectual and policy silos to undertake integrated diagnostics [60]

56 SUN (2015)
57 SWA (2017)
58 GNR (2016)
59 GLAAS (2017)
60 OECD (2016)

## **Bottleneck 3:**
## Assessments, Monitoring & Evaluation

**RECOMMENDATION 3 A** **(RES, IMP, ADV, DON)**

Simplify and ensure alignment of project and institutional M & E with national, sub-national and SDG data collection systems to avoid duplication and strengthen comparability.

**Gaps & Hindrances**

- Different monitoring systems of implementers, poor comparability

- Knowledge gap on how to measure advocacy success

**Helpful Ideas & Approaches**

- Use M & E indicators already monitored at national and international levels to allow comparability and ownership of results
- Consider mobile apps for data collection and long-term monitoring[61, 62], as over 4.6 billion people worldwide use a cell phone[63]: e.g. World Vision, Dimagi, Save the Children and International Medical Corps (IMC) developed or use mobile health apps for managing acute malnutrition

- Advocacy indicators could include
  - Number of exchange inter-sectoral meetings (e.g. in preparation process of the SWA High-Level Meetings)
  - A country's domestic budget, expenditures (see SUN budget analysis) and foreign funding flows (e.g. see OECD CRS)
  - Number of countries that have reviewed their sector strategies to make them more sensitive to the respective other (see WaterAid "The missing ingredients" Report 2016[64])
  - Number of events with WASH-Nutrition focus (e.g. at World Water Week[65])

61 IFPRI (2017)
62 Eysenbach (2016)
63 Statista (2017)
64 WaterAid (2016)
65 SIWI (2016)

**RECOMMENDATION 3 B** **(RES, IMP)**

Conduct joint assessments with expertise from both sectors, setting the baseline for integrated M & E (e.g. integrate WASH elements into nutrition assessments and make WASH assessments more nutrition-sensitive).

**Gaps & Hindrances**

- Lack of knowledge about common indicators
- Heavy rains, droughts, harvest season, fasting periods etc. can distort study findings

**Helpful Ideas & Approaches**

- Sets of WASH, Nutrition and Health indicators for integrated programmes exist (e.g WHO 2015[66], World Bank 2016[67], ACF 2017[68], **see Annex 3**)
- Streamline indicators internally (e.g. USAID lists stunting and wasting in its "Food for Peace Standard Indicators Handbook", a document designed to provide necessary information to collect and tabulate data for baseline and final evaluations)
- SPHERE Handbook: SPHERE minimum standards are applied in humanitarian settings and impact development work; the current draft of the 3rd revision includes "WASH-Nutrition" in its WASH chapter [69]
- Include experts from the respective other thematic area when planning / conducting feasibility, baseline and endline studies, in order to be aware of what needs to be considered for minimising distortion of findings

**RECOMMENDATION 3 C** **(IMP, DON)**

Up-scale post-implementation monitoring to measure long-term impacts (e.g. indicators for stunting, EED or the outcomes of behaviour change).

**Gaps & Hindrances**

- Short-term funding periods limit M & E of long-term impacts

**Helpful Ideas & Approaches**

- Budget for post-implementation monitoring[70] to contribute to evidence base building
- Include long-term M & E in project design (e.g. Max Foundation Bangladesh has a growth monitoring system for children)
- Donors can incite the building of better M & E systems, e.g. for post-implementation-monitoring through flexible and project independent M & E funding

66 WHO/UNICEF/USAID (2015)
67 World Bank (2016)
68 ACF (2017)
69 SPHERE (2017)
70 SIWI (2016)

## **Bottleneck 4:**
## Knowledge & Capacity Development

**RECOMMENDATION 4 A** **(IMP, ADV, DON)**

Build capacity, one's own and others. Develop and carry out trainings, toolkits or briefs for your organisation on why and how to link WASH-Nutrition.

| Gaps & Hindrances | Helpful Ideas & Approaches |
| --- | --- |
| • Lacking understanding of the link | • Send staff to events of the other thematic area<br>• Avoid abbreviations in multi-sectoral settings to ease understanding for experts of other thematic area<br>• Establish a glossary for easy thematic access **(e.g. Annex 4)**<br>• Attend and conduct WASH-Nutrition trainings and workshops (e.g. Netwas International[71]) |
| • Lack of practical guidance | • Identify appropriate channels for for self-learning (e.g. WASH-Nutrition ePaper[72], online like SuSanA and ENN, partner websites, research articles)<br>• Use existing tools (e.g. ACF Practical Guidebook[73], UNICEF Nutrition-WASH Toolkit[74])<br>• The inter-cluster working group of the Global Food Security Cluster[75] is developing a training package on nutrition-sensitive programming for cluster coordinators<br>• Establish internal technical guidance for integration (e.g. Welthungerhilfe and partners developed "LANN+" (Linking Agriculture, Natural Resource Management towards Nutrition Security), a training package for remote communities highly affected by malnutrition delivered in a series of community or small women's group sessions<br>• Organise internal WASH-Nutrition trainings (e.g. UNICEF for its staff from country offices)<br>• Share tools and questions/discussions on relevant knowledge sharing platforms (e.g. ENN, SuSanA Forum) |

71 Netwas International (2017)
72 GWN (2016)
73 ACF (2017)
74 UNICEF (2016)
75 GFSC (2017)

**RECOMMENDATION 4 B** (IMP, ADV, DON)

Become sensitive towards the other thematic area without losing your focus.

| Gaps & Hindrances | Helpful Ideas & Approaches |
| --- | --- |
| • Silo-thinking | • Include expertise on the respective other issue in job descriptions when hiring (e.g. Max Foundation, UNICEF, GTO hire staff for working particularly on WASH-Nutrition)<br>• Include new skill-sets (e.g. digital natives) in interdisciplinary teams to trigger innovation (e.g. USAID supports the Nutrition Club of the Bangladesh Institute of ICT in Development, which organised the "1st Nutrition Olympiad 2017" incl. a nutrition hackathon [76]) |
| • Knowledge and communication gaps between decision-makers and technical staff | • In 2017, GIZ conducted an in-house conference for its water and rural development professionals with a joint session on WASH-Nutrition<br>• UNICEF has institutionalised the WASH-Nutrition link at all levels with dedicated staff at HQ and country level, trainings and well aligned strategies [77, 78] |

76 Nutrition Club (2017)
77 UNICEF (2015)
78 UNICEF (2016)

## **Bottleneck 5:**
## Research & Evidence

**RECOMMENDATION 5 A** **(RES, IMP, DON)**

Establish collaborations between research and implementing organisations (e.g. build evidence for WASH-Nutrition interventions and initiate research on challenges that appear in practice).

**Gaps & Hindrances**

- Little evidence available on efficiency of different interventions
- Few implementers practice operational research

**Helpful Ideas & Approaches**

- Ensure publication of research findings and make them available and accessible for practitioners
- UNICEF identified priority evidence gaps in 2016 and embarked on addressing them at different levels
- Several actors are beginning to engage in operational research (e.g. ACF [79] examines benefits of a household WASH intervention on outpatient SAM treatment in Chad; Max Foundation conducted an action research programme on stunting free villages in Bangladesh [80] )
- CSOs partner with academic institutions (e.g. LRDO together with the SIU-University partner for public health research in Somalia)

79 ACF (2017)
80 Max Foundation (2017)

**RECOMMENDATION 5 B** (RES, IMP, DON)

Close the research gaps.

**Gaps & Hindrances**

- Little knowledge available about EED as potential indicator and how pathogens influence nutrition uptake
- Proof of long-term indicators takes time and is expensive
- Limited knowledge about synergies of the link, beyond the evidence concerning specific interventions

**Helpful Ideas & Approaches**

- Research the causes, processes in the body, the effects and symptoms of EED, as well as ways to diagnose and cure it (on a large scale) (e.g. PASTEUR runs a project on the pathophysiology and epidemiology of stunting and environmental enteropathy (afribiota project) acute malnutrition intervention study (malinea))
- On-going long-term research includes:
  - SHARE/LSHTM in Kenya (Safe Start, a cluster-RCT of an early childhood hygiene intervention in peri-urban areas)
  - SHARE/LSHTM in Malawi (integration of WASH and food hygiene through a behaviour change intervention in rural areas)
  - ZEF in Philippines (environmental health in schools in Manila, assessing the impact of exposures to indoor air quality and WASH on children's health, nutrition, and education outcomes)
- Go beyond measuring direct health impacts and include parameters from other fields of research (e.g. efficiency of funding and use of resources, calculating long-term economic wins and losses of healthy populations)

## **Bottleneck 6:**
## Implementation

**RECOMMENDATION 6 A** **(IMP, DON)**

Build on the commonalities and focus on interventions which tackle stunting.

**Gaps & Hindrances**

- Lack of knowledge about entry points for integration
- Risk of overloading already complex projects

**Helpful Ideas & Approaches**

- Common objectives (e.g. freeing children from harmful effects of worms, Namibia Alliance for Improved Nutrition)
- Same target group (e.g. women in the reproductive age and the first 1 000 days, GFA in South Togo)
- Common delivery platforms (e.g. Uganda is in the process of upgrading health centres and rolling out ECD centers aiming to reduce EED)
- Co-location (WASH interventions in areas with high rates of undernutrition)
- Co-financing, joint monitoring (e.g. measuring exclusive breastfeeding, proper co-feeding practices, stunting rates over a period of 4 years in Benin and Togo, Global Aid Network Canada)
- Build on previous and ongoing WASH/Nutrition/Health interventions when planning a new project
- Include the respective other division in the planning process (incl. baseline and feasibility study) to reduce complexity in all further steps of programming

**RECOMMENDATION 6 B** **(IMP, DON)**

Place emphasis on behaviour change, awareness raising, hygiene promotion and education.
Align messages in both thematic areas.

**Gaps & Hindrances**

- Prioritisation of hardware interventions

**Helpful Ideas & Approaches**

- Focus on behaviour change (e.g. Baby WASH Coalition aligned behaviour change messages for the “First 1 000 Days”)
- Focus on education (e.g. USAID’s “KIWASH” project integrates water and sanitation services with WASH and nutrition education[81])

81 USAID (2017)

## **Bottleneck 7:**
## Policy & Advocacy

**RECOMMENDATION 7 A** (RES, IMP, ADV, DON)

Engage in the global multi-stakeholder platforms, ensuring political priority and coherent implementation.

**Gaps & Hindrances**

- Strategic documents are not aligned and do not make cross-references

**Helpful Ideas & Approaches**

- Many SUN-countries are revising their Food Security/Nutrition policies and strongly emphasise underlying drivers of malnutrition with an explicit focus on WASH
- BMZ rolled out a new water and sanitation strategy, which is aligned with its special initiative "ONEWORLD no hunger"
- WaterAid and SHARE analyse national sector policies through the WASH-Nutrition lens in its report "The missing ingredients Vol. I" [82], Nepal and Timor Leste are among those countries with well-integrated policies

**RECOMMENDATION 7 B** (ADV)

Inform decision-makers with well aligned advocacy messages about the link. Promote an enabling environment for integration.

**Gaps & Hindrances**

- Country governments and donors do not prioritise the WASH-Nutrition link

**Helpful Ideas & Approaches**

- SUN and SWA are country-driven multi-stakeholder platforms with focal points in different positions and ministries, who can ensure political priorisation for their respective thematic area
- World Vision found that EED was a motivator to bring actors from different thematic areas together once it was explained to country staff in Uganda

82 WaterAid/SHARE (2016)

**RECOMMENDATION 7 C** (IMP, ADV, DON)

Share success stories. Be a role model for others.

**Gaps & Hindrances**

- Limited advocacy materials available

**Helpful Ideas & Approaches**

- WASH and Nutrition actors jointly convened a seminar at World Water Week 2016 [83]
- SUN, SWA and partners are in the process of recognising countries, which are role models in the integration of policy, implementation and budget allocation
- Video material is produced by various organisations and initiatives such as Power of Nutrition [84] and Generation Nutrition [85]
- The Global Nutrition Reports 2016 & 2017 dedicate a chapter to underlying drivers of improved nutritional outcomes with strong emphasis on the role of WASH [86]
- As a large organisation, UNICEF implemented joint WASH-Nutrition programmes in over 25 countries in 2016 and globally consolidated its experiences on implementation, approaches and context-specific success factors

83 SIWI (2016)
84 The power of Nutrition (2017)
85 Generation Nutrition (2016)
86 GNR (2016)

# 7. Conclusion

Reaching the SDGs requires thinking across thematic areas. There is no one-size-fits-all solution when it comes to integration of thematic areas, but the SDGs provide us with the framework. Integration is not an end in itself. It begins with the establishment of mutual understanding and the recognition of commonalities. If opportunity for collaboration has been created across thematic areas and institutional divides, actors can assess the wide range of possible joint efforts: from raising personal awareness to collaboration in project design and implementation, from the creation of institutional guiding documents to national integrated policies.

The Bonn WASH Nutrition Forum in 2015 concluded that existing evidence for linking WASH and Nutrition suffices to take action now. A constantly increasing number of actors is already testing different approaches, trying to find the optimal cost-benefit ratio. Applying the continuum of integration recognises that individual situations and contexts differ. This publication has shown that integration does not happen exclusively at field level – it requires integrated thinking and action from all stakeholder groups and from both thematic areas.

WASH and Nutrition are issues particularly pertinent to those "most left behind". We hope that more organisations can discover their optimal level of WASH-Nutrition integration and thereby contribute to overcoming the global challenges of reducing inequalities on this planet.

# 8. References

Abbeddou et al. (2016): Technical Meeting Report on EED. The Microbiome and Undernutrition. Vienna. URL: http://www.sightandlife.org/fileadmin/data/Magazine/2016/Mag1/Technical_Meeting_on_EED__the_Microbiome.pdf

Abuya et al. (2012): Effect of mother's education on child's nutritional status in the slums of Nairobi. BMC Pediatrics Vol. 12, Issue 80. URL: https://bmcpediatr.biomedcentral.com/articles/10.1186/1471-2431-12-80

ACF (2017): WASH'Nutrition – A Practical Guidebook. URL: https://www.actionagainsthunger.org.uk/publication/wash%E2%80%99nutrition-2017-guidebook

ACF (2017): Effectiveness of adding a household WASH-package to a routine outpatient programme for severe acute malnutrition in Chad – the Ouadi'nut study. URL: http://www.ennonline.net/fex/54/upcomingresearchacfconf (accessed 15 May 2017)

Aryastami (2017): Low birth weight was the most dominant predictor associated with stunting among children aged 12–23 months in Indonesia. BMC Nutrition Vol. 3, Issue 16, URL: https://bmcnutr.biomedcentral.com/articles/10.1186/s40795-017-0130-x

BabyWASH Coalition (2017): BabyWASH Coalition. URL: http://www.wvi.org/babywash (accessed: 15 May 2017)

Bhutta et al. (2013): Evidence-based interventions for improvement of maternal and child nutrition: What can be done and at what cost? The Lancet Vol. 382, No. 9890, 452–477, URL: http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)60996-4/abstract

BMZ (2015): A world without hunger is possible – Contributions of German Development Policy. URL: https://www.bmz.de/en/publications/type_of_publication/information_flyer/information_brochures/Materialie242_welt_ohne_hunger.pdf

Cairncross et al. (2010): Water, sanitation and hygiene for the prevention of diarrhoea. International Journal of Epidemiology Issue 39, i193–i205, URL: https://researchonline.lshtm.ac.uk/3906/1/dyq035.pdf

Checkley et al. (2008): Multi-country analysis of the effects of diarrhoea on childhood stunting. International Journal of Epidemiology Vol. 37, Issue 4, 816–830, URL: https://www.ncbi.nlm.nih.gov/pubmed/18567626

Cumming et al. (2016): Can water, sanitation and hygiene help eliminate stunting? Current evidence and policy implications. Maternal & Child Nutrition Vol. 12, Issue S1, 91–105, URL: http://onlinelibrary.wiley.com/doi/10.1111/mcn.12258/full

Crane et al (2015): Environmental enteric dysfunction: An overview. Food and Nutrition Bulletin Vol. 36, Issue 1, 76–87, URL: http://journals.sagepub.com/doi/pdf/10.1177/15648265150361S113

Danaei et al. (2016): Risk Factors for Childhood Stunting in 137 Developing Countries: A Comparative Risk Assessment Analysis at Global, Regional, and Country Levels. PLoS Med. 2016 Vol. 13, Issue 11, URL: https://www.ncbi.nlm.nih.gov/pubmed/27802277

Dangour et al. (2013): Interventions to improve water quality and supply, sanitation and hygiene practices, and their effects on the nutritional status of children (Review). Cochrane Database of Systematic Reviews, Issue 8. URL: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009382.pub2/epdf

Emory/UNICEF (2012): WASH in Schools Empowers Girls' Education in Rural Cochabamba, Bolivia. URL: https://www.unicef.org/wash/schools/files/Bolivia_MHM_Booklet_DM_15_Nov_single_0940_Bolivia.pdf

Eysenbach (2016): Popular Nutrition-Related Mobile Apps: A Feature Assessment. JMIR Mhealth Uhealth, Vol. 4, Issue 3, URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985610/

Gautam et al. (2015): Complementary food hygiene: An overlooked opportunity in the WASH, nutrition and health sectors. Policy Brief, URL: http://motherchildnutrition.org/pdf/Complementary-food-hygiene-A-policy-brief-LSHTM-2015.pdf

Generation Nutrition (2016): Sanitation and Nutrition: Let's break the vicious cycle. URL: https://www.youtube.com/watch?v=yWIr-eJ8FAs

GFSC (2017): Inter-Cluster Food Security & Nutrition Working Group. URL: http://fscluster.org/inter-cluster-working-group-food/workinggroup/inter-cluster-food-security-nutrition (accessed 1 June 2017)

GLAAS Report (2017): Financing universal water, sanitation and hygiene under the Sustainable Development Goals. URL: http://www.who.int/water_sanitation_health/publications/glaas-report-2017/en/

Global Nutrition Cluster (2008): Responsibilities and Accountabilities Matrix for Health, Nutrition and WASH Clusters. URL: http://nutritioncluster.net/wp-content/uploads/sites/4/2016/06/Accountabilities_Matrix_Health_Nutr_and_WASH_Clusters.pdf

Global Nutrition Cluster: Tools & Resources. URL: http://nutritioncluster.net/tools-and-resources/ (accessed 30 May 2017)

Global Nutrition Report (2016): From Promise to Impact. Ending Malnutrition by 2030. URL: http://www.globalnutritionreport.org/the-report/

Global WASH Cluster (2009): Inter-Cluster Matrices of Roles and Accountabilities. URL: http://washcluster.net/wp-content/uploads/sites/5/2014/04/ICM-final-13-01-2010-2.pdf

Global WASH Cluster: Tools & Resources. URL: http://washcluster.net/tools-and-resources/ (accessed: 30 May 2017)

Guerrant et al. (2013): The impoverished gut—a triple burden of diarrhoea, stunting and chronic disease. Nature Review Gastroenterol Hepatol, Vol. 10, Issue 4, 220–229, URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3617052/

GWN (2016): WASH and Nutrition (ePaper). URL: http://www.susana.org/_resources/documents/default/3-2536-7-1461334480.pdf

Haghighi et al. (1997): Tropical sprue and subclinical enteropathy: a vision for the nineties. Critical Reviews in Clinical Laboratory Science, Vol. 34, Issue 4, 313-41. URL: http://www.tandfonline.com/doi/abs/10.3109/10408369708998096

Human Development Report (2006): Beyond scarcity: Power, poverty and the global water crisis. URL: http://hdr.undp.org/sites/default/files/reports/267/hdr06-complete.pdf

Humphrey (2009): Child undernutrition, tropical enteropathy, toilets, and handwashing. The Lancet Vol. 374, No. 9694, 1032–1035, URL: http://thelancet.com/journals/lancet/article/PIIS0140-6736(09)60950-8/fulltext

Independent Commission for Aid Impact (2014): DFID's Contribution to Improving Nutrition. URL: http://icai.independent.gov.uk/wp-content/uploads/ICAI-REPORT-DFIDs-Contribution-to-Improving-Nutrition.pdf

Lin et al (2013): Household Environmental Conditions Are Associated with Enteropathy and Impaired Growth in Rural Bangladesh. American Journal of Tropical Medicine and Hygiene, Vol. 89, Issue 1, 130–137, URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3748469/

Max Foundation (2017): Stunting Free Villages, Bangladesh. URL: http://www.maxfoundation.org/en/our-work/our-impact/projects/stunting-free-villages-bangladesh/ (accessed 15 May 2017)

Netwas International (2017): (NTS0013) Wash and Nutrition. URL: http://www.netwas.org/index.php/events/courses/153-nts0013-prevention-of-wash-related-risks-through-appropriate-nutrition

Ngure et al. (2014): Water, sanitation, and hygiene (WASH), environmental enteropathy, nutrition, and early child development: making the links. Annals of the New York Academy of Sciences, Vol. 1308, 118–128, URL: http://onlinelibrary.wiley.com/doi/10.1111/nyas.12330/abstract

Nutrition Club (2017): Nutrition Olympiad 2017. URL: http://www.nutritionclub-bd.net/event/nutrition-olympiad-2017/ (accessed 15 May 2017)

OECD (2016): Better Policies for 2030. An OECD Action Plan on the Sustainable Development Goals. URL: https://www.oecd.org/dac/Better%20Policies%20for%202030.pdf

Pickering et al. (2015): Effect of a community-led sanitation intervention on child diarrhoea and child growth in rural Mali: a cluster-randomised controlled trial. The Lancet Global Health, Vol. 3, e701–11, URL: http://www.thelancet.com/pdfs/journals/langlo/PIIS2214-109X(15)00144-8.pdf
Prendergast et al. (2014): The stunting syndrome in developing countries. Paediatrics and International Child Health, Vol. 34, Issue 4, 250-265, URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4232245/

Salam et al. (2015): Current Issues and Priorities in Childhood Nutrition, Growth, and Infections. The Journal of Nutrition, Vol. 145, Issue 5, 1116S–1122S, URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4410495/

Sanitation Marketing (2014): Establishment of the Sanitation Marketing Multi-Stakeholder Platform in Ethiopia. URL: http://www.sanitationmarketing.com/announcements/establishment-of-the-sanitation-marketing-multi-stakeholder-platform-in-ethiopia (accessed: 17 May 2017)

SIWI (2016a): Upscaling the WASH-Nutrition Nexus for Sustainable (Body) Growth. URL: http://programme.worldwaterweek.org/event/5789 (accessed 15 May 2017)

SIWI (2016b): WASHoholic Anonymous - Confessions of Failure and how to Reform. URL: http://programme.worldwaterweek.org/event/5745 (accessed 15 May 2017)

Spears et al. (2013): Open Defecation and Childhood Stunting in India: An Ecological Analysis of New Data from 112 Districts. PLoS One, Vol. 8(9), URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3774764/

SPHERE (2017): The SPHERE Project. URL: http://www.sphereproject.org/handbook/ (accessed 1 June 2017)

SUN (2015): Investigating Nutrition in National Budgets. URL: http://docs.scalingupnutrition.org/wp-content/uploads/2015/02/SUN-Budget-Analysis-Short-Synthesis-Report-SUNGG-version-EN.pdf

SWA: Preparatory Process for 2017 HLMs. URL: http://sanitationandwaterforall.org/news/preparatory-process-for-2017-hlms/

The power of Nutrition (2017): The Power of Nutrition. URL: http://www.powerofnutrition.org/news/ (accessed: 15 May 2017)

United Nations (2017): Sustainable Development Knowledge Platform. URL: https://sustainabledevelopment.un.org/ (accessed: 30 May 2017)

UNDP (2009): Handbook on planning, monitoring, and evaluating for development results. URL: http://web.undp.org/evaluation/handbook/documents/english/pme-handbook.pdf

UNICEF (2015): UNICEF's approach to scaling up nutrition. URL: https://www.unicef.org/nutrition/files/Unicef_Nutrition_Strategy.pdf

UNICEF (2016): Nutrition - WASH Toolkit. Guide for Practical Joint Actions. URL: https://www.unicef.org/eapro/WASH_Nutrition_Toolkit_EAPRO_Final_w_ISBN_web_version_7Nov2016.pdf

UNICEF (2016a): UNICEF's Strategy for Water, Sanitation and Hygiene 2016–2030. URL: https://www.unicef.org/wash/files/UNICEF_Strategy_for_WASH_2016-2030.pdf

UNICEF (2016b): The world has missed the MDG sanitation target by almost 700 million https://data.unicef.org/topic/water-and-sanitation/sanitation/ (accessed: 30 May 2017)

UNICEF et al. (2015): Progress on sanitation and drinking water – 2015 update and MDG assessment (JMP). URL: https://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf

UNICEF et al. (2017): Levels and Trends in Child Malnutrition. URL: https://data.unicef.org/wp-content/uploads/2017/05/JME-2017-brochure.pdf

USAID (2017): WASH is a Key Ingredient in Tackling Poverty in Kenya. URL: https://medium.com/usaid-global-waters/tackling-malnutrition-at-every-turn-ff0961ade674 (accessed: 15 May 2017)

Wagner et al. (1958): Excreta Disposal for Rural Areas and Small Communities. WHO Monograph Series No 39.

WASH Advocates (2014): Water, Sanitation, and Hygiene Effort in Nutrition. A Resource Guide. URL: http://www.washadvocates.org/wp-content/uploads/2014/10/WASH-Nutrition-Resource-Guide-2014.pdf

WASH Benefits (2017): Cluster randomized trials in rural Bangladesh and Kenya. URL: http://www.washbenefits.net/overview.html (accessed: 15 May 2017)
WaterAid (2016): The missing ingredients. URL: http://www.wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=f4d6cc89-9f08-4052-b0aa-7461b4ad6e93

WHO (2017): Diarrhoeal disease. Factsheet, URL: http://www.who.int/mediacentre/factsheets/fs330/en/ (accessed: 30 May 2017)

WHO/UNICEF/USAID (2015): Improving nutrition outcomes with better water, sanitation and hygiene: Practical solutions for policy and programmes. URL: http://www.susana.org/en/resources/library/details/2365

World Bank (2016): Multisectoral Approaches to Improving Nutrition: Water, Sanitation, and Hygiene. URL: http://www.susana.org/en/resources/library/details/2441

World Bank et al. (2016): Investing in Nutrition – The Foundation for Development. URL: http://donors4nutrition.r4d.org/assets/pdf/R4D_1000_Days_Executive_Summary.pdf

Youssoufane (2017): Multi-sectoral coordination for nutrition in Chad: a comprehensive and dynamic multi-stakeholder platform: http://www.ennonline.net/multisectoralnutritioninchad

# 9. Annex

# Annex 1:
Respondents

### Advocacy (17) – survey respondents

ACF (2)
Bill and Melinda Gates Foundation (1)
CBM (1)
Das Hunger Projekt e.V. (1)
ENN (1)
Freelance (1)
GIZ (1)
Global Handwashing Partnership (1)
Integrated Regional Support Programme (1)
SUN Civil Society Network (1)
SUN Movement (1)
SWA (1)
Vision Africa Regional Network - Zambia (1)
WaterAid (1)
Water Integrity Network (1)

Other (1)

Interview: SUN / GIZ

### Research (9) – survey respondents

CSIR (1)
FSC, University of Hohenheim (1)
GAIN (1)
Great Lakes University of Kisumu (1)
PASTEUR (1)
SHARE / LSHTM (1)
University of Malawi and University of Strathclyde (1)
ZEF, University of Bonn (1)

Other (1)

Interview: Institute of Development Studies,
University of North Carolina

### Implementation (42) – survey respondents

ACF (1)
action medeor (1)
arche noVa e.V. (1)
ARISU GmbH (1)
Association (Niwaafa) (1)
Austrian Red Cross (2)
Concern (1)
Convoy of Hope (1)
German Leprosy and Tuberculosis Relief Association (DAHW) (1)
Freelance (1)
Ghana Health Service
Ghana health Service- Nadowli District Hospital
GIZ (6)
Global Aid Network, Canada (1)
IMC (1)
Jesus Cares Ministries (1)
Livelihood Relief & Development Organization (1)
Malteser International (2)
Max Foundation (1)
Namibia Alliance for Improved Nutrition (1)
Nigerian Women Agro Allied Farmers (1)
PAH / GIZ (1)
Plan International Deutschland e.V. (1)
Programm Ernährungssicherung (1)
Relief Association (1)
Tearfund (1)
UNICEF (2)
University of Melbourne (1)
Urban Food International (UFI) (1)
Welthungerhilfe (1)
WeWorld (1)
World Relief Deutschland e.V. (1)
World Vision (1)

Other (1)

Interview: ARISU, CARE, GFSC

### Donors (6) – survey respondents

BMZ (2)
DFID (1)
Integrated Nutrition Program FATA (MNCH) (1)
KfW (1)
USAID/OFDA (1)

Interview: BMZ, USAID, SDC

## **Annex 2:**
## Overview of Nutrition-Health-WASH SDG Goals, Targets and Indicators

| Goals | Targets | Indicators |
|---|---|---|
| 2 ZERO HUNGER | **SDG 2.1**<br>By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round<br><br>**SDG 2.2**<br>By 2030, end all forms of malnutrition, including-achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons | **2.1.1** Prevalence of undernourishment<br>**2.2.1** Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age<br>**2.2.2** Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight) |
| 3 GOOD HEALTH AND WELL-BEING | **SDG 3.2**<br>By 2030, end preventable deaths of new-borns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1 000 live births and under-5 mortality to at least as low as 25 per 1 000 live births<br><br>**SDG 3.3**<br>By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases<br><br>**SDG 3.9**<br>By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination | **3.1.2** Proportion of births attended by skilled health personnel<br>**3.2.1** Under-five mortality rate<br>**3.c.1** Health worker density and distribution<br>**3.3.5** Number of people requiring interventions against neglected tropical diseases<br>**3.3.5** Number of people requiring interventions against neglected tropical diseases<br>**3.9.2** Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services) |
| 6 CLEAN WATER AND SANITATION | **SDG 6.1**<br>By 2030, achieve universal and equitable access to safe and affordable drinking water for all<br><br>**SDG 6.2**<br>By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations | **6.1.1** Proportion of population using safely managed drinking water services<br>**6.2.1** Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water |

| Goals | Targets | Indicators |
|---|---|---|
| 17 PARTNERSHIPS FOR THE GOALS | **Systemic Issues (Policy and Institutional coherence):**<br><br>**SDG 17.14**<br>Enhance policy coherence for sustainable development<br><br>**SDG 17.15**<br>Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development (Multi-stakeholder partnerships)<br><br>**SDG 17.16**<br>Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries<br><br>**SDG 17.17**<br>Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships (Data, monitoring and accountability)<br><br>**SDG 17.19**<br>By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries | **17.14.1** Number of countries with mechanisms in place to enhance policy coherence of sustainable development<br>**17.15.1** Extent of use of country-owned results frameworks and planning tools by providers of development cooperation<br>**17.16.1** Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals<br>**17.17.1** Amount of United States dollars committed to public-private and civil society partnerships<br>**17.19.1** Dollar value of all resources made available to strengthen statistical capacity in developing countries<br>**17.19.2** Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration |

Source: United Nations (2017), adapted

# Annex 3:
## Common WASH-Nutrition Indicators for Logical Frameworks [87]

| Activities and inputs | ▸ Outputs | | ▸ Outcomes | ▸ Impacts |
|---|---|---|---|---|
| **Policy Dialogue and Development** | (National) Nutrition Plan includes Wash<br><br>(National) WASH Plans include nutrition sensitve measures (co-targeting, co-location etc.) | ▶ | **Infant and young child feeding**<br>1. Proportion of infants (0 – 6 months)<br>• who are exclusively breastfed<br>• who are breastfed within 1 hour after birth<br>2. Proportion of children (6 – 23 months) who receive minimum acceptable diet<br>3. Proportion of children (12 – 15 months and 20 – 23 months) who are fed breast milk<br><br>**Water**<br>1. Proportion of households<br>• with access to an improved water source<br>• consistently storing a their drinking-water safely<br>• consistently treating their drinking-water with recommended HWT technologies (e.g. level of chlorine residual in stored water)<br>• with knowledge of at least one HWT method<br>2. Proportion of health care and nutrition centers<br>• with access to safe drinking water<br>• sufficient water storage capacity<br><br>**Sanitation**<br>1. Proportion of households<br>• using an improved sanitation facility<br>• safely disposing children's faeces<br>• with sanitation facilities that are accessible by children and disabled members<br>2. Number of villages achieving open defecation free status<br>3. Proportion of health care and nutrition centers<br>• with sufficient improved sanitation facilities<br>• with separated facilities for patients and staff, women and men<br>• with available potties for small children<br>• with regular O & M and cleaning of latrines (O & M plan)<br>4. Proportion of schools<br>• with sufficient (WHO standard) improved sanitation facilities<br>• with facilities that are accessible by children and disabled children | **Undernutrition**<br>1. Proportion of children aged 0 – 59 months<br>• stunted (height-for-age z -score < −2 standard deviations of WHO Child Growth Standards median)<br>• wasted (weight-for-height z -score < −2 standard deviations of WHO Child Growth Standards median)<br>• with anaemia (haemoglobin measurement of < 8g/dL)<br>2. Proportion of women underweight (body mass index < 18.5)<br>3. Proportion of women of reproductive age with anaemia (percentage of women aged 15 – 49 years screened for haemoglobin levels who have a level < 12 g/dL [pregnant women < 11 g/dL])<br>4. Proportion of low birth weight children (< 2500 g) |
| **Joint Adovcacy** | Joint advocacy messages are developed and communicated | ▶ | | |
| **Integrated financing and tracking of financial flows** | Proportion of domestic/foreign funding available for integrated programmes<br><br>Tracking of financial flows allocated to nutrition sensitive programming (commitments/expenditures) | ▶ | | |
| **Institutional support** | (Inter-ministerial/-authority) coordination platforms are in place<br><br>Number of strategies, initiatives, partnerships, agreements advocating for collaboration/integration<br><br>Proportion of targeted institutions collaborating for integration (joint policies, work plans, documents) | ▶ | | |

87 UNDP (2009); WHO/UNICEF/USAID (2015); ACF (2017)

| Activities and inputs | ▸ Outputs | | ▸ Outcomes | ▸ Impacts |
|---|---|---|---|---|
| **Joint planning and Targeting** | Proportion/number of nutrition programmes that include a WASH element<br><br>Proportion/number of areas with high prevalence of 1) acute malnutrition, 2) stunting targeted by WASH activities, 3) diarrhoea<br><br>Proportion of households with children enrolled in acute malnutrition treatment programmes receiving services that include a WASH element<br><br>Number of Children under 5 years of age reached by joint nutrition and WASH programmes | ▶ | **Hygiene**<br>1. Handwashing: Proportion of households<br>• with handwashing station<br>• received hygiene counceling<br>• consistently using water and soap for handwashing<br>• where primary caregiver can cite critical times for handwashing with soap<br>2. Food hygiene: Proportion of households<br>• keeping areas clean where (children's) food is prepared and served<br>• safely storing (children's) food<br>• using clean kitchen utensils (to feed children)<br>• that use treated and/or safely stored drinking-water for preparing (children's) food<br>• washing raw vegetables with treated water before feeding<br>• reheating (children's) food thoroughly before feeding them<br>• cover food and protect it from flies<br>3. Environmental hygiene: Proportion of households<br>• with no visible faeces (animal or human) in the compound / yard / children's play area<br>• Proportion of households with no domestic animals in food preparation area<br>4. Proportion of health care and nutrition centers<br>• with soap in all handwashing installations<br>• with sufficient water storage in all handwashing installations<br>• where staff is consistingly using water and soap or alcohol based hand rubs for handwashing<br>• with no open defecation around the compound<br>• with clean places and tools to prepare therapeutic products<br>5. Proportion of schools<br>• with handwashing installations at every sanitation facility<br>• with soap and sufficient water storage in all handwashing installations | **Diarrhoea**<br>1. Proportion of children under 2 or 5 years of age who had diarrhoea (WHO: a passage of three or more loose or liquid stools in a day in the 2 weeks preceding the survey)<br>2. Proportion of children under 2 or 5 years of age who had diarrhoea in the preceding 24 hours preceding the survey<br><br>**Environmental Enteric Dysfunction**<br>Proportion of children under 2 or 5 years of age affected by EED syndrome (diagnoses using dual sugar absorption test)<br><br>**Neglected Tropical Diseases**<br>Proportion of children under 2 or 5 years of age infected with<br>• soil transmitted helminthes (detection of helminth eggs in stool samples using Kato-Katz technique)<br>• schistosomiasis (detection of schistosome eggs in stool samples using Kato-Katz technique) |
| **Human resources and capacity developement** | Number of nutrition professionals trained in WASH and vice versa | ▶ | | |
| **Mutual technical support/cooperation** | Number of working hours / days spent by WASH professionals on technical support for nutrition programmes and vice versa | ▶ | | |
| **Awareness raising & behavior change** | Proportion of households in target areas participating in activities where both nutrition and WASH messages were delivered | ▶ | **Health**<br>1. Proportion of households with access to key health interventions such as prevention and management of<br>• Pneumonia<br>• Diarrhea<br>2. Proportion of adults / children under 5 years of age who have participated in deworming programmes to control<br>• Soil transmitted helminthes infections<br>• Schistosomiasis | |

Source: WHO/UNICEF/USAID (2015), ACF (2017) and UNDP (2009), adapted

# Annex 4:
Glossary

## Water, Sanitation, Hygiene (WASH)

**CLTS**
Community Led Total Sanitation is a methodology for mobilising communities to completely eliminate open defecation (OD). Communities are facilitated to conduct their own appraisal and analysis of open defecation (OD) and take their own action to become ODF (open defecation free).

**Diarrhoea**
The presence of three or more loose or fluid stools over a 24 hour period, accompanied or not by blood, mucous or fever. Diarrhoea is caused by various bacteria or by viruses, or may be a symptom of other infections.

**Faecal Sludge Management**
Faecal Sludge Management is the removal of sludge from all kind of on-site sanitation systems such as septic tanks, bucket latrines and pit latrines. Proper FSM includes de-sludging of sanitation facilities, safe handling and transport of sludge, treatment of sludge, and its safe disposal or reuse.

**GLAAS Report**
The Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) is a UN-Water initiative implemented by the World Health Organization (WHO). The objective of UN-Water GLAAS is to provide policy makers at all levels with a reliable, easily accessible, comprehensive and global analysis of the evidence to make informed decisions in sanitation and drinking-water.

**Hygiene Promotion**
Hygiene promotion is a planned approach which encourages people to adopt safe hygiene practices and behaviours

**JMP**
The WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation is the primary source of global, regional and national data on sustainable access to safe drinking-water and basic sanitation, for use by governments, donors, international organizations and civil society.

**Ladders for sanitation and drinking water services**
The JMP have developed 'ladders' for sanitation and drinking water services, which give an understanding of the proportion of population globally with no water or sanitation facilities at all, of those reliant on technologies defined by the JMP as "unimproved," (e.g. rivers or ponds for drinking water, bucket latrines for sanitation) of those sharing sanitation or water facilities of otherwise acceptable technology, and those using private "improved" facilities (e.g. tap or standpipe for water, pit latrine with slab), which separate excreta from human contact. The new SDG ladders expand the MDG continuum by safely managed services for sanitation (improved private facilities, safe disposal and/or treatment faecal waste) and drinking water (incl. improved source, located on premises, available when needed, free from contamination).

**MHM**
Menstrual Hygiene Management: Knowledge about and dealing with menstruation is a trigger for empowering girls and women.

**NTDs**
Neglected tropical diseases are a diverse group of communicable diseases that prevail in tropical and subtropical conditions. Populations living in poverty, without adequate WASH and in close contact with infectious vectors and animals/livestock are those worst affected. NTDs include WASH related intestional worm infections like soil-transmitted helminths and schistosomiasis, which are among the world's most prevalent afflictions of humans (approx. 2 billion people affected). Intestinal worms live inside their human host and use incoming nutrients for their own growth. This deprives the host of valuable nutrients and can perpetuate undernutrition.

**Open Defecation**
Open defecation refers to the practice of defecating outside, often without privacy due to the lack of sanitation facilities and/or habit, leading to the pathogenic contaminated environment and severe health risks of communities.

**Sanitation Chain**
Ensuring human waste is safely managed, including transportation or storage, treatment, and disposal or re-use.

**SuSanA**
The Sustainable Sanitation Alliance is an open international alliance with members who are dedicated to understanding viable and sustainable sanitation solutions. 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.

**SWA**
SWA is a global partnership of over 170 country governments, private sector and civil society organizations, external support agencies, research and learning institutions 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 sanitation, hygiene and water for all, always and everywhere.

**Water Point**
A generic term used to describe any point of access to water for domestic uses. This includes a household connection, stand-pipe, well, borehole, spring, rainwater harvesting unit, water kiosk or other point of transaction with a water vendor.

## Nutrition

**EED**
Environmental Enteric Dysfunction is an incompletely defined syndrome of inflammation, reduced absorptive capacity, and reduced barrier function in the small intestine.

**ENN**
The Emergency Nutrition Network (ENN) aims to strengthen the evidence and know-how for effective nutrition interventions in countries prone to crisis and high levels of malnutrition.

**GNR**
The Global Nutrition Report convenes existing processes, highlights progress in combating malnutrition and identifies gaps and proposes ways to fill them. Through this, the Report helps to guide action, build accountability and spark increased commitment for further progress towards reducing malnutrition much faster.

**ICN2**
The Second International Conference on Nutrition (ICN2) was a high-level intergovernmental meeting in 2014 that focused global attention on addressing malnutrition in all its forms. The two main outcome documents – the Rome Declaration on Nutrition and the Framework for Action – were endorsed by participating governments at the conference, committing world leaders to establishing national policies aimed at eradicating malnutrition and transforming food systems to make nutritious diets available to all.

**Malnutrition**
The broadest definition encompassing both under- and over-nutrition, including stunting, wasting, micronutrient deficiency, overweight, obesity and non-communicable diseases.

**N4G**
Nutrition for Growth (N4G) is an international commitment-making process led by the United Kingdom, Brazil and Japan governments. The first N4G summit was held in London in 2013 and over $4 billion of new commitments to fight malnutrition was pledged. A second N4G event was held in Brazil on the eve of the Rio 2016 Olympics. A further N4G pledging summit is expected in 2017, and Japan are committed to holding an N4G summit at the Tokyo 2020 Olympics.

**Nutrition-sensitive**
Nutrition-sensitive interventions address the underlying determinants of malnutrition and incorporate specific nutrition goals and actions. Interventions involve collaboration with sectors including WASH, education, agriculture and social protection.

**Nutrition-specific**
Nutrition-specific interventions address the immediate causes of sub-optimum growth and development. Interventions include food fortification, vitamin and mineral supplementation and promotion of exclusive breastfeeding.

**SAM**
Severe Acute Malnutrition (SAM) is the most dangerous form of malnutrition. If left untreated, SAM can result in death. It can manifest in two ways: severe wasting (characterised by massive loss of body tissue and muscle) and oedema (characterised by accumulation of fluids in body tissues)

**SMART Commitments**
Specific, measurable, achievable, relevant and timebound commitments are needed from governments and donors to achieve an end to malnutrition by 2030.

**Stunting**
A form of undernutrition manifesting in a child being low height for age. There is strong evidence of the links between stunting and infections and intestinal worms caused by poor WASH.

**SUN**
The Scaling Up Nutrition (SUN) Movement unites governments, civil society, the United Nations, donors, businesses and researchers—in a collective nationally-led effort to improve nutrition.

**Undernutrition**
An outcome of insufficient food intake or nutrient absorption, and repeated infectious diseases, undernutrition manifests as stunting (low height-for-age), wasting (low weight-for-height) and deficiencies in micronutrients.

**Wasting**
A form of undernutrition manifesting in a child being low weight for height. Also known as moderate acute malnutrition.

**The First 1 000 Days**
The time between conception and a child's 2nd birthday. It is regarded as a significant window of opportunity to improve health and thus future opportunities of an individual.

# The German WASH Network

**Water, Sanitation and Hygiene for all**

The German WASH Network consists of German non-governmental organisations actively engaged in the WASH sector. The members work in development co-operation as well as in humanitarian assistance and rehabilitation. They share the vision that all people on our planet have sustainable access to safe water and sanitation and independently practice all elementary principles of hygiene. Apart from joint advocacy activities to strengthen the WASH sector in Germany and beyond, the network aims to contribute to a professionalisation of the sector through continuous knowledge exchange and quality control, project cooperation and the improved interaction between humanitarian assistance and development cooperation.

**www.washnet.de**

Published by

GERMAN WASH NETWORK

German Toilet Organization

Financially supported by

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH