

Advocacy brief:

Towards Integrated WASH 'Nutrition Programming

The objective

Bringing WASH and Nutrition programming together to ensure maximum synergy and hence better outcomes for women and children.

The problem

Globally, 159 million children under five are undernourished (UNICEF, WHO and World Bank Group, 2015). In South Sudan, over one million children under five are acutely undernourished and 31% of all children are stunted (A2Z Project, 2007).

Undernutrition increases the risk of mortality and illness; it impedes physical growth and cognitive development irreversibly. It therefore reduces achievements at school, reduces physical productivity and results in a decrease in income potential later in life. An undernourished child is at risk of losing 10% of their lifetime earning potential (World Bank, 2015). At national level, losses to gross domestic product (GDP) through undernutrition are as high as 11% per year (International Food Policy Research Institute [IFPRI], 2016). The annual economic losses due to poor sanitation are equivalent to between 1% and 2.5% of GDP (World Bank, 2012). The global economic return on sanitation spending is US\$ 5.5 per US dollar invested

Undernutrition is estimated to cause nearly half of all deaths (45%) of children under five — 2.6 million deaths a year, globally. In South Sudan, this is equivalent to at least 17,310 deaths per year among children under five. Each of these deaths can be prevented (WHO and UNICEF, 2009) by addressing the causes of undernutrition. South Sudan's population has one of the worst access to toilets in the world, resulting in approximately 61% of the population practicing open defecation (World Bank, 2015). In South Sudan, diarrhea is responsible for 10% of deaths in children under 5 years of age (WHO, 2015). Of diarrheal deaths of children under five worldwide, 88% per cent are attributable to unsafe water, inadequate sanitation and poor hygiene.

The causes of undernutrition are complex and multi-factorial, as shown by the causal framework for undernutrition (Figure 1). An unhealthy environment with poor WASH, leading to diseases including diarrhea, helminth infections and conditions such as environmental enteric dysfunction, is a significant causal pathway to undernutrition. Greater investment in policies, processes and practices for scaling up WASH and Nutrition within an overall multi-sectoral approach is therefore needed.

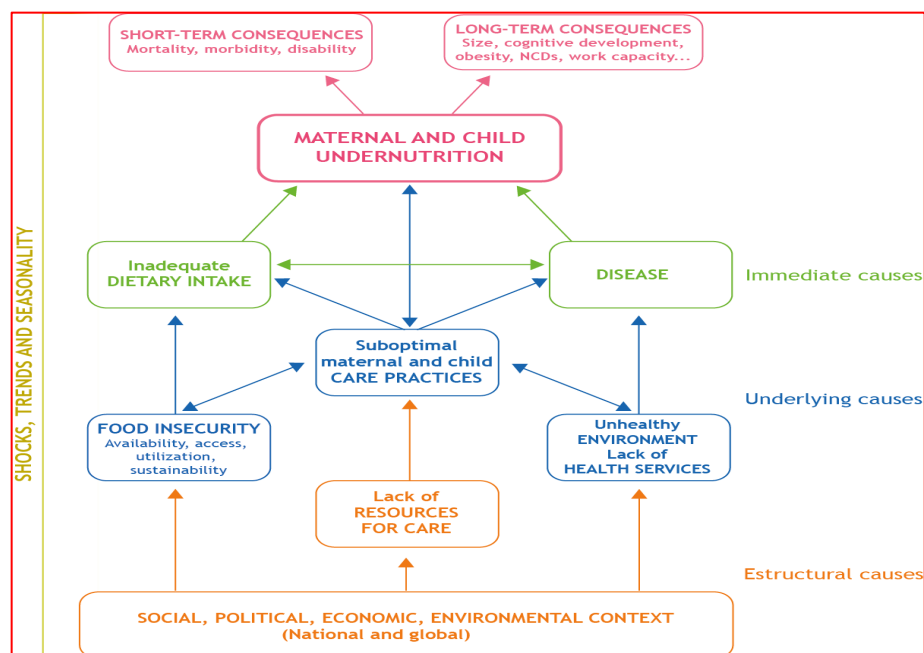


Figure 1 - Causal Framework for Undernutrition

The pathways

There are three main pathways directly linking WASH and Nutrition. Each of these relate to the vicious cycle of infection and nutrition. Infections reduce appetite and the ability to absorb nutrients, causing weight loss; in turn, an undernourished child is weakened and more susceptible to infections.

The 3 main direct pathways are

- **Repeated bouts of diarrhea** — children with diarrhea eat less and are less able to absorb nutrients from the food they do eat; undernourished children are more susceptible to diarrhea when exposed to fecal contamination from their environment (Caulfield, et al., 2004).
- **Intestinal worm infection** — poor sanitation directly causes the soil-transmitted helminth infections roundworm, hookworm and whipworm, which affect nutritional status by causing malabsorption of nutrients, loss of appetite and blood loss.
- **Environmental enteric dysfunction** — a subclinical gut disorder which affects the structure and function of the gut and reduces the capacity to absorb nutrients, whilst at the same time increasing requirements. It, rather than diarrhea, is thought to be the primary pathway linking WASH, stunting and anemia (Humphrey, 2009).

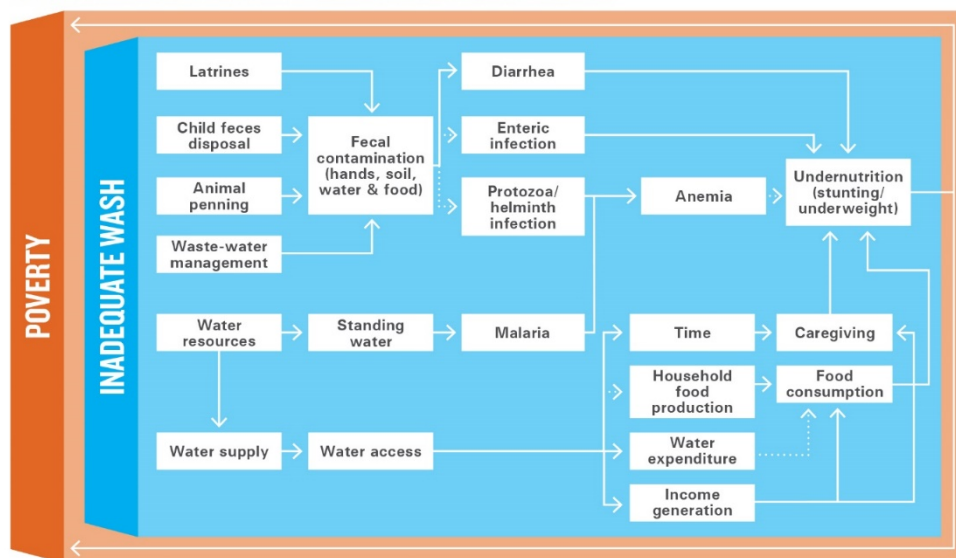
There are additional, indirect pathways linking WASH and Nutrition

- The time spent by women and children in collecting water, often traveling long distances, and the cost of water purchased from vendors when it is not readily available at home, impact on the amount and quality of water consumed, and on care and hygiene practices. These in turn affect nutrition (Fenn, et al., 2012).

- Time and costs associated with caring for and seeking treatment for children who are ill with diseases associated with poor water and sanitation.
- Time spent sick and fetching water affects educational attainment, which, in turn, has a significant impact on health, nutrition, wellbeing and poverty over a lifetime, and from one generation to the next.

These pathways are illustrated in figure 2.

FIGURE 2. PATHWAYS LINKING WASH AND NUTRITION OUTCOMES



Adapted from Chase and Ngure (2016).

The evidence for linkages between WASH and Nutrition

There is a strong and growing body of evidence of linking poor WASH to undernutrition, with the linkages stronger than previously understood.

A recent World Bank report (Spears, 2013) based on the analysis of trends in DHS data suggests that open defecation explained 54% of international variation in child height. This was in contrast with GDP, which explained 29%. The effect was particularly strong for areas with high population density areas and in children under two years.

- The WHO estimates that half of all cases of undernutrition, translating into over half a million children in South Sudan, are associated with repeated diarrheal or intestinal worm infections — a direct result of unsafe water and poor hygiene practices (WHO, 2008).
- Around one quarter of stunting cases, presenting around 152,350 children in South Sudan, can be attributed to five or more episodes of diarrhea before the age of two years. Each episode of diarrhea may increase the possibility of stunting by 4% (Walker, et al., 2013).

- At country level, hygiene promotion and improved water and sanitation coverage have been shown to contribute to declines in stunting. (eg. In Bangladesh, a 12% reduction in stunting between 1997 and 2011; in Brazil, a 30% fall between 1975 and 2007, IFPRI, 2014).

Diarrhea can be a major cause of the rapid weight loss associated with wasting and acute malnutrition.

South Sudan specific linkages between WASH and Nutrition

Beyond what is known globally about the important linkages between WASH and Nutrition, there is also direct evidence of the links emerging from South Sudan.

- An investigation into the determinants of nutrition status in South Sudan (A2Z, 2007) found that while Food insecurity is important, the causes of malnutrition are much broader and include a high burden of infectious diseases including malaria, diarrhea, and pneumonia, and that these infections worsen the severity of malnutrition that already exists.
- An Integrated Food and Nutrition Security Causal Analysis (IFANSCA, 2017) found that the population with highest GAM levels had the highest child morbidity. And that the most common morbidities amongst children were water and sanitation related – being malaria and diarrhea. In this analysis one of the three independent predictors of morbidity was whether the household owned a toilet.
- A study done by Mercy Corps in Northern Bahr el Ghazal (2017) indicated positive WASH behaviours are correlated with better nutritional outcomes (through the disease pathway) with the strongest connection being between drinking from unsafe water sources and prevalence of undernutrition.
- A nutrition causal analysis lead by ACF, also in Northern Bahr el Ghazal (2011), found that household water treatment, hand washing behaviour, child illness especially diarrhea and malaria, and excreta and household waste disposal were all significantly associated with acute undernutrition.

The evidence for integrated WASH and Nutrition service delivery

Lessons learned from USAID WASHplus projects in Mali, Uganda and Bangladesh

- **Impact on stunting** — programs with integrated WASH activities show greater impact on the reduction of stunting that programs with nutrition activities alone
- **Planned vs opportunistic integration** — WASH is often added to the nutrition program after it starts and this makes it more difficult to track the results of integration
- **Attribution** — there are challenges in measuring the extent to which nutritional outcomes are the result of WASH interventions or of joint interventions
- **Benefits of two-way integration** — while two-way integration appears logical and more collaborative evidence strongly supports the WASH contribution to nutrition outcomes, there is little evidence to suggest that integrating Nutrition into WASH enhances WASH outcomes
- **Targeting scope** — Nutrition activities target outreach staff and caregivers whereas many of the WASH activities target the whole community
- **Adapted sanitation interventions** — traditional WASH interventions to reduce open defecation may need to be supplemented with new approaches to break the fecal-oral transmission cycle of animal feces

WHY integrate WASH and Nutrition programming in South Sudan?

➤ **It makes common sense!**

The associations and pathways between WASH and Nutrition described above provide a strong case for more synergized programming. Although the evidence base for the effectiveness of incorporating WASH actions into nutrition programs and Nutrition actions into WASH programs is limited, more joined-up programming makes theoretical sense and has a strong plausibility and observational evidence base.

➤ **Sustainable improvements in undernutrition will not be achieved without complementary WASH improvements** (among other nutrition-sensitive approaches) to address the key underlying causes that nutrition-specific interventions do not address.

➤ **It maximizes opportunities and can create efficiencies**

There are many common entry points for integrating actions across WASH and Nutrition at different levels. Simple activities require minimal additional resources and small programming changes to maximize opportunities and create efficiencies. Nutrition interventions already have a high cost-benefit ratio. Every \$1 spent on preventing undernutrition delivers \$16 in returns on investment (Hoddinott, et al., 2013). Similarly, WASH interventions have been shown to have a high cost-benefit ratio (\$1-\$2 for water and \$1-\$5.5 for sanitation) (Hutton, 2013) without taking into account the potential nutrition benefits.

There could be a strong economic argument for integration if the targeting of WASH investments brings greater returns, as measured by health and nutrition outcomes. Similarly, leveraging delivery channels could lead to cost savings, resulting in more cost-effective programs.

➤ **It is supported by international conventions, policies and frameworks**

There is a strong policy base. The Conventions on the Rights of the Child, the International Covenant on Economic, Social, and Cultural Rights, resolutions adopted by the UN General Assembly and the World Health Assembly, the International Conferences on Nutrition (1992 and 2014) and the SUN Movement, to name but a few, all support joint actions on WASH and Nutrition.

➤ **It is in line with key donor priorities and strategies**

Integrating WASH and Nutrition programming and approaching programming from a comprehensive and cost-effective approach:

- Contributes to the achievement of donor goals and targets in the reduction of undernutrition
- Accelerates progress towards the Sustainable Development Goals (SDGs)
- Contributes to the scale-up of multi-sector, nutrition-sensitive interventions
- Focuses on the 1,000 days
- Focuses on women and children, and can help to address gender disparities
- Can contribute to better value for money through more efficient cross-sector planning and programming
- Contributes to improving resilience of households and communities.

A strategic framework for integration WASH and Nutrition in South Sudan

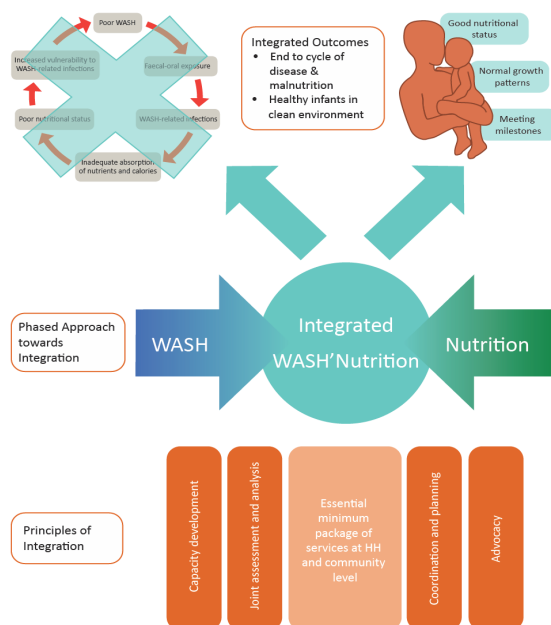
A 3-year strategic framework was developed at the beginning of 2018 to support the Clusters on integrating key WASH and Nutrition actions.

Objectives

- Focus interventions both at nutritional centre and at home toward breaking the “diarrhea/nematodes/enteropathy-malnutrition” vicious circle;
- Work towards more integrated WASH and Nutrition services to achieve maximum impact on health, nutrition and wellbeing of the most vulnerable households

Principles

- I. **Essential minimum package of integrated services.** The package details nutrition sensitive WASH services, as well as a series of essential WASH actions that should be integrated into all nutrition programmes.
- II. **Joint assessment and analysis.** Standard emergency and routine assessment and surveillance tools should include both WASH and nutrition indicators. A joint analysis platform should be established between the Clusters.
- III. **Capacity development.** There needs to be comprehensive and deliberate training on WASH’Nutrition in order to build cross-sectoral understanding and capacities.
- IV. **Cross-sectoral coordination, planning and advocacy.** Joint meetings of both Clusters’ Strategic Advisory Groups should ensure that joint analysis is being used for planning. There should be improved articulation and communication for how the sectors influence and impact each other and how that translates into a healthier population.



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