

WASHplus LEARNING BRIEF

INTEGRATING WASH AND NUTRITION



Background

Undernutrition is the underlying cause of 45 percent of child deaths each year.¹ The term undernutrition covers three primary anthropometric measures: stunting, which is low height for age; wasting, which is low weight for height; and underweight, which is low weight for age. Despite targeted and comprehensive nutrition-specific interventions, the persistent presence of undernutrition globally has caused a renewed focus on underlying causes that go beyond lack of nutrients.²

Inadequate access to clean water and unsafe sanitation and hygiene practices increase the risk of severe infectious diseases that can contribute to undernutrition.³ New research is underway to further document and expand the evidence base for the connection between water, sanitation, and hygiene (WASH) and undernutrition. Existing research suggests three key pathways by which lack of WASH access and practice contribute to undernutrition.⁴

WASHplus recognizes the importance of integrating water, sanitation, and hygiene into other development priorities, such as nutrition, to achieve its objective of healthy households and communities.



In Mali, WASHplus integrates nutrition and WASH. Children are screened and, if malnourished, referred to centers where they can receive supplemental food. The project conducts community-led total sanitation efforts and promotes handwashing with soap at critical times with children and parents.



USAID
FROM THE AMERICAN PEOPLE

Horizontal programming provides a more integrated and comprehensive approach to programming that mirrors people's lives.

1. Repeated bouts of diarrhea

A vicious cycle exists between diarrhea and undernutrition: children with diarrhea eat less and are less able to absorb the nutrients from their food; malnourished children are more susceptible to diarrhea when exposed to fecal material from their environment.

2. Intestinal worm infection and malaria

Poor environmental hygiene, including open defecation, propagates the vectors for both intestinal worms and malaria. Worms can affect nutritional status by competing for nutrients and inducing intestinal bleeding, and like malaria, can cause frequent anemia and diarrhea.

3. Environmental enteric dysfunction hypothesis

Environmental enteric dysfunction (EED), also called environmental enteropathy, is a chronic disease caused by constant fecal-oral contamination. The intestinal villi flatten, thus reducing their capacity for nutrient absorption, and the small intestinal lining becomes chronically inflamed. In addition, EED is marked by increased gut permeability leading to a disturbed gut immune function. Thus, it is hypothesized that a body experiencing EED cannot absorb nutrients because it is too busy fighting off diseases.⁵ EED may help explain why purely nutritional interventions have failed to reduce undernutrition in many contexts.^{6,7}

Development programming often focuses on a single issue, such as WASH or nutrition, to target resources and maximize returns on investments that can be more directly measured by defined goals, objectives, and single-focus indicators. However, this type of programming does not foster solutions to address the complex problems faced by the poor and vulnerable, and often promotes competition for scarce funding resources. Horizontal programming provides a more integrated and comprehensive approach to programming that mirrors people's lives but can be difficult to measure and demonstrate results, so donors are often reluctant to support such integration.

WASHplus Approach to WASH–Nutrition Integration

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

Global Knowledge Sharing: USAID/WASHplus global knowledge sharing activities around WASH and nutrition include:

- Publishing a brief *WASH and Nutrition: Integrating Water, Sanitation and Hygiene into Nutrition Programming* in 2013 that provides an overview of low-cost, high-impact WASH interventions that USAID implementing partners can integrate into nutrition programming.
- Collaborating with the World Health Organization and UNICEF to produce

a joint publication released in 2015 on how to integrate WASH activities into nutrition programs. This practical publication is geared to nutrition implementers in countries that are looking for ways to extend their achievements in reducing undernutrition.

- Collaborating with other USAID disciplines to incorporate WASH components into nutrition assessment counseling and support (NACS), an approach initially focused on HIV-affected households, but now expanded to the wider community in many countries implementing NACS.
- Expanding integration linkages to include WASH, nutrition, and early childhood development, inter-related developmental areas critical to children under two reaching their full potential by being clean, fed and nurtured.SM
- Facilitating conversations and knowledge sharing about WASH and nutrition with stakeholders in the donor and NGO communities through various forums including:
 - o Maintaining the USAID Community of Practice on WASH/Nutrition to encourage sharing and collaboration among practitioners interested in this topic: <http://usaidlearninglab.org/working-group/community-practice-nexus-between-wash-nutrition-and-feed-future>.
 - o Organizing webinars on WASH and nutrition including: *WASH, Nutrition and Early Childhood Development* and *Environmental Enteropathy and WASH*: <http://www.washplus.org/resources/webinars>
 - o Maintaining a WASH and nutrition blog on the WASHplus website: <http://blogs.washplus.org/washnutrition/>
 - o Facilitating WASH-nutrition knowledge sharing at international forums: <http://www.washplus.org/resources/presentations>

Country Activities: In addition to global activities, WASHplus has integrated WASH and nutrition at different levels and through different programming platforms in three countries: Bangladesh, Mali, and Uganda, using a behavior change approach called small doable actions (SDAs). WASHplus reviews and strengthens WASH within national nutrition policy and guidelines, surveys, curriculum, and capacity building documents.

WASH and Nutrition in Mali

The two-year WASHplus program in Mali was designed as an integrated WASH and nutrition program from the start. District officials from the Ministry of Health identified the 180 intervention communities as areas with high rates of stunting and extremely poor access to and use of sanitation facilities. In addition to traditional nutrition-specific interventions such as the management of moderate acute malnutrition, WASHplus is using SDAs to negotiate integrated WASH and nutrition messages targeting mothers with infants.

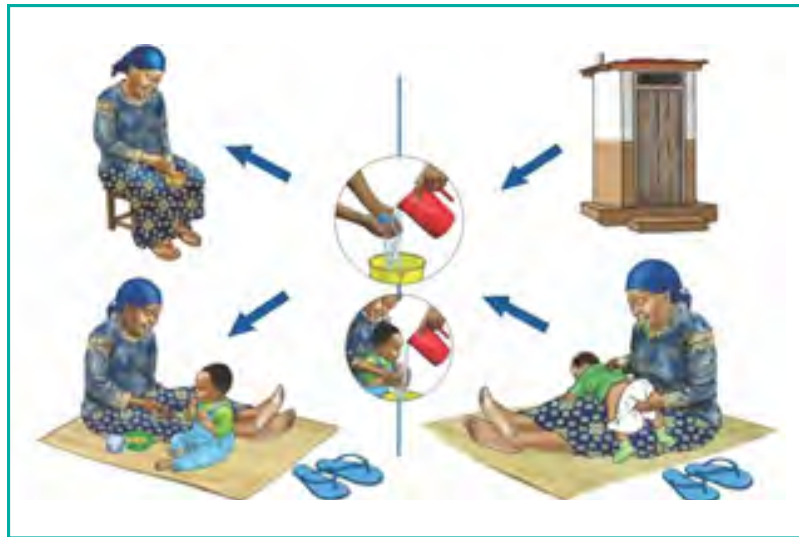
DEFINITION: SMALL DOABLE ACTIONS

A small doable action is a behavior that, when practiced consistently and correctly, will lead to household and public health improvement. It is considered feasible by the householder, from his/her point of view, considering the current practice, the available resources, and the particular social context. Although the behavior may not be an “ideal practice,” a broader number of households will likely adopt it because it is considered “feasible” within the local context. This approach also has the potential to lead to further improvements in the behavior, when/if resources become available.

Cooking demonstrations in Mali introduce recipes for nutritious complementary foods and emphasize the importance of handwashing before food preparation.



WASHplus Mali created this counseling card to illustrate critical times for mothers to wash hands with soap.



Working through community health workers, WASHplus promotes an integrated set of SDAs that draw on WASH and nutrition:

- Handwashing with soap
- Safe disposal of infant feces
- Safe water treatment and storage
- Exclusive breastfeeding
- Complementary feeding

In Bangladesh trained facilitators meet with mother's groups in courtyard sessions to discuss safe infant and young child feeding practices; the importance of handwashing before cooking and feeding; and safe disposal of adult, child, and animal feces. Facilitators also negotiate small doable actions to improve WASH practice.

Other activities include efforts to increase access to sanitation through community-led total sanitation with sanitation marketing; screening and referring malnourished children to health care facilities; rehabilitating water supplies and promoting point-of-use water treatment; and conducting nutrition (cooking) demonstrations. The project is coordinated through the district offices of the Ministry of Health in the Mopti Region. The lessons learned from this pilot are generating dialogue and interest in integrated programming at the regional and national levels.

WASH and Nutrition in Bangladesh



WASHplus is working at the national level to integrate key WASH indicators into nutrition activities and monitoring, to both build the evidence base linking WASH and nutrition programming and increase the frequency of integrated programming, guided by the phrase, "What gets measured gets done."

In addition, WASHplus collaborates with other USAID implementing partners including SPRING and SHIKHA to reinforce handwashing before food preparation and feeding as well as integrate food safety, sanitation, and safe disposal of infant and animal feces into their more traditional nutrition and livelihood activities. These nutrition projects focus on preventing stunting and maternal and child anemia in the first 1,000 days and improving infant and young child feeding. WASHplus provided technical support and training on behavior

change to SPRING, which then rolled out this approach through its Farmer Nutrition School program and Essential Health & Hygiene Actions initiative for community health workers. SPRING has found statistically significant improvements in handwashing practices through its monitoring efforts.

As part of a comprehensive water and sanitation effort carried out in hard-to-reach areas with WaterAid and local NGO outreach workers, WASHplus promotes handwashing—particularly before cooking and feeding (installing two tippy taps, one at the latrine and the other at the cooking/ feeding area)—safe feces disposal, including an emphasis on improving leaky latrines and safe disposal of infant and animal feces; food hygiene; and safe water management during mothers' courtyard sessions.

Among the recommended WASHplus small doable actions for food hygiene is to wash raw fruits and vegetables with soap or Jik and water before storing them.

WASH and Nutrition in Uganda

In Uganda, WASHplus worked through other USAID partners, primarily the FANTA, SPRING, and Community Connector projects, to integrate WASH components into nutrition and food security programs. WASHplus developed a modular WASH-nutrition training and offered both stand-alone and integrated sessions ranging from hours to three days as opportunity allowed and needs required (<http://www.washplus.org/countries/uganda>).

Through a collaborative process with SPRING and Community Connector, WASHplus helped develop SDAs for food hygiene, such as covering food, separating raw meats and vegetables, and reheating food until thoroughly steaming. These partners, in turn, trained government outreach workers and community volunteers. Using discussion guides and traveling video, the partners integrated SDAs around food hygiene and handwashing as part of government and volunteer outreach worker activity. Other actions included reviewing and revising NACS guidance and training at the national level, and promoting WASH-enabling technologies such as tippy taps for handwashing (before cooking and feeding and after defecation), and rainwater harvesting to increase access to water.



Small Doable Actions for Keeping Food Safe: Serving and Food Storage

18

It is especially important to wash hands and food containers with soap and flowing water before handling food to minimise the risk of germs. Adhere to all personal hygiene practices like keeping fingernails short while handling food.



SERVING

- ◆ Wash hands with soap before serving food.
- ◆ Heat leftovers thoroughly until you see steam or bubbles. Stir to ensure they are heated evenly.
- ◆ Reheat leftovers only once then dispose.
- ◆ Cook all meat and eggs until boiled or well cooked throughout.



- ◆ Cover food with net, tray, or cloth to protect food from germs and flies.
- ◆ Store food on a high rack or shelf inside the kitchen area or inside a cupboard
- ◆ Construct a dish rack near dish washing area to dry and store dishes.
- ◆ Dedicate two or three rags or nets for covering food. Store with clean dishes and utensils.
- ◆ Cover hot milk with a net or cloth.



- ◆ Change covering cloth 2-3 times per week. Wash used cloths with soap and water.
- ◆ Store fresh and cooked food separately to avoid cross contamination.
- ◆ Store raw meat, poultry, fish separately from other foods in a bowl, plastic sack, or container.
- ◆ Wash raw fruits and vegetables with soap or Jik and water before storing them.



WASHplus developed small doable actions to keep food safe and incorporated them into a job aid for outreach workers in Uganda, with suggestions for storing, preparing, and serving.

Challenges

Planned vs. Opportunistic Integration

WASHplus and partners have made encouraging progress in integrating WASH into nutrition programs, however, the evidence to support particular approaches is still evolving. When an integrated program is designed at the outset with related project indicators for both WASH and nutrition equally emphasized, then results can be clearly targeted and measured. Despite the best intentions of sector and program managers, a primary challenge is that in most nutrition programs, WASH is considered after the project's initial design, so projects improvise by identifying strategic opportunities as they arise and incorporating one or two WASH components into an established nutrition program, often without the accompanying indicators appropriate to those interventions. Without indicators to track implementation and contribution to the wider intervention package, it is difficult to quantify and justify the inclusion of WASH components. Currently, little evidence exists to show that an integrated program is more effective and efficient than two concurrent vertical programs in the same region.

Issues of Measurement

Attributing WASH-focused activities in reducing undernutrition is difficult. WASH programs typically do not collect anthropometric indicators such as stunting or wasting. Then, even if programs do collect such indicators, it is difficult to determine to what extent the inclusion of WASH interventions has influenced changes in nutritional status and growth. Measuring such changes requires much more sophisticated evaluation design and analysis. In addition, detecting changes in growth patterns often requires timeframes longer than typical WASH programs and funding cycles.

One-way vs. Two-way Integration

While nutrition program managers at global and country level clearly grasp the vital contributions WASH makes to achieving nutrition outcomes, they often want to ensure that the integration is two-way—where WASH managers integrate nutrition components and messages into WASH programs. While this two-way approach may appear most collaborative, available evidence supports only one-way integration of WASH into nutrition. Emphasizing

aspects of improved nutrition is not necessary for achieving WASH goals, but infants and young children cannot grow well without adequate WASH access and practice. Indeed, often WASH practitioners are water or sanitation engineers and may have little connection to health at all. To date, the most feasible WASH actions we have identified are to coordinate

Behavior change moves along a continuum when WASHplus applies its small doable actions approach. Keeping food, containers, and dishes clean and away from animal contamination is one step that moves households closer to the ideal of a clean cooking environment.



geographic co-location of WASH activities to increase access and practice of WASH in areas that are nutritionally vulnerable, rather than incorporate nutrition messaging into WASH outreach.

Targeting Communities vs. Targeting the Most Vulnerable

Additional challenges to integration include “message overload” by increasing the scope and number of behavioral objectives of nutrition activities, stressing both outreach staff and the recipient households. A final challenge includes the apparent conflict in site selection and targeting, where sanitation programming targets entire communities because measurable impact requires that communities are almost 100 percent open defecation free, while nutrition interventions target the most vulnerable households.

Conclusions

WASHplus anticipates that interest in expanding the integration of WASH into nutrition programs will continue to grow over the next decade. Policy engagement is a vital step for integrating WASH and other interventions that impact nutrition programs. Having a national nutrition policy that recognizes the importance of WASH for nutrition outcomes paves the way for the development of integrated programming at all levels. Donors, governments, and implementers should endorse and support an integrated approach. Staff in both sectors needs skills and knowledge to effectively implement integrated programs.

While enough evidence exists to support WASH and nutrition integration, more data is needed to demonstrate how and in which ways specific WASH mechanisms affect nutrition outcomes and determine which implementation modalities are most likely to lead to strong and sustained impact. An integrated program should have a monitoring and evaluation framework with corresponding WASH and nutrition indicators. However, when WASH activities are integrated into an existing nutrition program, WASH indicators need to be added to the monitoring framework.

Traditional WASH interventions focused on human excrement may need to be supplemented with new approaches to break the fecal-oral transmission cycle from animal feces, particularly in infants and young children. WASHplus is working to explore these programmatic approaches along with appropriate monitoring frameworks. WASHplus anticipates that results from the integrated programming in Bangladesh, Mali, and Uganda will be validated and replicated in other countries. As more countries and development partners implement a range of integrated approaches, the evidence base will grow.



▲
WASHplus targets breastfeeding mothers with nutrition and hygiene messages as they introduce complementary and weaning foods—a time of increased exposure to microbes.

To date, the most feasible WASH actions we have identified are to coordinate geographic co-location of WASH activities to increase access and practice of WASH in areas that are nutritionally vulnerable.

ENDNOTES

1. Black R et al. 2013. Maternal and Child Undernutrition and Overweight in Low-Income and Middle-Income Countries. *The Lancet*. 382 (9890): 427–451.
2. Bhutta et al. 2008. What Works? Interventions for Maternal and Child Undernutrition and Survival. Maternal and Child Undernutrition Study Group. *The Lancet*. 371(9610):417-40.
3. Black R et al. 2013.
4. Humphrey. 2012. SHINE Sanitation, Hygiene, Infant Nutrition Efficacy Project (trial in Zimbabwe). Study proposal. 2012. <http://clinicaltrials.gov/show/NCT01824940>. Accessed April 27, 2014.
5. Korpe and Petri. 2012. Environmental Enteropathy: Critical Implications of a Poorly Understood Condition. *Trends in Molecular Medicine*. 18(6): 328-336.
6. Humphrey J. 2009. Child Undernutrition, Tropical Enteropathy, Toilets, and Handwashing. *The Lancet*. 374: 1032–1035.
7. 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*, Volume 1308, Every Child's Potential: Integrating Nutrition and Early Childhood Development Interventions, 118–128.

What is WASHplus?

The WASHplus project supports healthy households and communities by creating and delivering interventions that lead to improvements in water, sanitation, and hygiene (WASH) and household air pollution (HAP). This multi-year project (2010-2016), funded through USAID's Bureau for Global Health and led by FHI 360 in partnership with CARE and Winrock International, uses at-scale programming approaches to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under age 5 globally.

This brief is made possible by the generous support of the American people through the United States Agency for International Development (USAID) Bureau for Global Health under terms of Cooperative Agreement No. AID-OAA-A-10-00040. The contents are the responsibility of FHI 360, and do not necessarily reflect the views of USAID or the United States Government.

For more information, contact:

WASHplus Project
FHI 360
1825 Connecticut Ave, NW
Washington, DC 20009
Tel.: +1 (202) 884-8496
e-mail: washinfo@fhi360.org
www.washplus.org