



**Issue 179 | Feb 20, 2015 | Focus on WASH & Nutrition**

This weekly contains recent webinars, articles, and reports on issues related to WASH and nutrition integration. Included are a policy brief on food hygiene, a handwashing and sanitation study in Tanzania, an overview of the nutrition situation in Asia, a review of the health impact of household water treatment, and other resources.

**UPCOMING EVENTS**

**Global Maternal Newborn Health Conference, Oct. 18–21, 2015, Mexico City. [Link](#)**

The year 2015 is a critical milestone in international development: the deadline for the Millennium Development Goals (MDGs) and the anticipated adoption of an ambitious new agenda, the Sustainable Development Goals. This USAID– and Government of Mexico– sponsored conference will offer the first opportunity for the global maternal and newborn health communities to discuss and strategize the new goals. The conference will have a technical focus, highlighting strategies and lessons from programs, policies, research, and advocacy for improving both maternal and newborn health.

**WEBINARS/BLOG POSTS/TRAINING MATERIALS**

**Integrating Safe Water, Sanitation, and Hygiene into Infant and Child Nutrition Programmes: A Training and Resource Pack for Uganda, 2014. WASHplus. [Link](#)**

The overall objective of this resource pack is to facilitate the training of village health teams, community knowledge workers, peer support groups, and other outreach workers on how they can help household and community members overcome, or change, the many daily obstacles to improved water, sanitation, and hygiene (WASH) practices in the home.

**Webinar on Multi-Sectoral Approaches to Improve Child Growth through WASH, Nutrition, and Early Childhood Development, Jan 2015. WASHplus; CORE Group; Clean, Fed & Nurtured. [Link](#)**

WASHplus collaborated with the CORE Group’s Nutrition and Social and Behavior Change working groups to host a one-hour webinar on multisectoral approaches to improve child growth and development, with a focus on improving the community knowledge of practice and sharing integration efforts for early childhood development, nutrition, and WASH integration. The Clean, Fed & Nurtured community of practice explained why WASH, nutrition, and early childhood development should be integrated.

**Progress in Reducing Child Under-Nutrition: Evidence from Maharashtra.** *Economic & Political Weekly*, Jan 2015. S Jose. [Link](#)

Assessing the progress made in reducing under-nutrition among children who are less than 2 years old in Maharashtra between 2005–2006 and 2012, this article points out that child under-nutrition, especially stunting, declined significantly in the state during this period. It holds that this decline can be associated with the interventions initiated through the Rajmata Jijau Mother-Child Health and Nutrition Mission, which began in 2005, and that this indicates the critical role the state can play in reducing child under-nutrition in India.

**Q&A with Noreen Mucha, Multisectoral Nutrition Advisor.** *WASHplus WASH & Nutrition Library*, Jan 2015. [Link](#)

With more than 14 years of experience working in international development, Noreen Mucha primarily focuses on the public health sector but also within the agriculture and education sectors. In the interview she discusses her work at the Global Alliance for Improved Nutrition and her recent publication “Preventing Moderate Acute Malnutrition through Nutrition-Sensitive Interventions.”

## REPORTS

**Policy Brief: Complementary Food Hygiene—An Overlooked Opportunity in the WASH, Nutrition and Health Sectors**, 2015. SHARE. [Link](#)

This policy brief highlights the often overlooked opportunity to improve health outcomes by addressing complementary food hygiene. It outlines SHARE’s contribution to narrowing the evidence gap concerning the relationship between food hygiene and child health, indicates opportunities for future research, and offers insights that could influence policy and improve programming in the WASH, nutrition, and health sectors globally.

**WASH and Nutrition Case Studies**, 2014. WASHplus. [Link](#)

These 12 case studies were collected as part of putting together a joint donor document on Integrating Water, Sanitation, and Hygiene into Nutrition Policies and Programmes, which will soon be published by UNICEF, USAID, and the World Health Organization. In selecting these case studies, priority was given to activities that achieved measurable nutrition-related impact.

**Benefits and Costs of the Water Sanitation and Hygiene Targets for the Post-2015 Development Agenda: Assessment Paper**, 2015. G Hutton, The World Bank. [Link](#)

Within the area of water and sanitation the targets with the highest benefit-cost ratio are: basic water and basic sanitation in rural areas and eliminating open defecation in rural areas. Other valuable targets in this focus area include: basic sanitation and basic water in urban areas.

**Post-2015 Consensus: Water and Sanitation Perspective**, 2015. D Whittington. [Link](#)

The author reviews the Guy Hutton assessment paper (above) and argues for a carefully done cost-benefit analysis to show that many WASH interventions are economically attractive investments.

**Greater Investment in Water, Sanitation and Hygiene is Key to the Fight Against Undernutrition**, 2015. C Denis, Action Contre La Faim. [Link](#)

The report concludes that the WASH sector must be funded at levels that reflect its impact on under-nutrition and that strategies and programs for fighting under-nutrition must

incorporate a long-term multisector component that includes WASH targets and indicators.

**Water, Sanitation and Hygiene: Determining a Health Goal that Works for All**, 2015. WaterAid. [Link](#)

Access to basic drinking water, sanitation, and hygiene is vital to improving health and quality of life globally. As discussions on the post-2015 framework and the Sustainable Development Goals reach their crucial final phase, WaterAid is calling for WASH to be recognized as a key influential factor to be closely integrated into any health goal and priorities taken up by governments and civil society.

**Promoting Handwashing and Sanitation Evidence from a Large-Scale Randomized Trial in Rural Tanzania**, 2015. B Briceño, The World Bank. [Link](#)

This paper presents the results of two large-scale, government-led handwashing and sanitation promotion campaigns in rural Tanzania. For the campaign, 181 wards were randomly assigned to receive sanitation promotion, handwashing promotion, both interventions together, or neither. One year after the end of the program, sanitation wards increased latrine construction rates from 38.6 to 51 percent and reduced regular open defecation from 23.1 to 11.1 percent. Households in handwashing wards showed marginal improvements in handwashing behavior related to food preparation, but not at other critical junctures.

**Culture and the Health Transition: Understanding Sanitation Behavior in Rural North India**, 2015. D Coffey. [Link](#)

This paper draws on new qualitative and quantitative data to examine the cultural meanings of latrine use and open defecation. It finds that beliefs, values, and norms about purity and pollution of private spaces and of bodies help explain widespread open defecation, and that renegotiation of caste and untouchability complicates the adoption of simple latrine technologies.

**Policy Memo on Toilet Technology & Culture**, 2015. RICE Institute. [Link](#)

This notes asks why rural India has uniquely high rates of open defecation. It first explains that the “usual suspects”—GDP, poverty, education, water access—are not to blame for widespread open defecation in rural India. Second, it discusses how the sanitation technology used in rural India differs from the rest of the developing world—in short, very few rural Indian households use latrines with inexpensive underground soak pits. Third, it presents qualitative and quantitative evidence that Hindu practices of purity and pollution, as well as India’s unique history and renegotiation of untouchability, complicate the adoption of the kinds of simple, inexpensive latrines that have been used to reduce open defecation in other developing countries.

**Nutritional Status of Women and Children: A 2014 Update on Nutritional Status by Sociodemographic and Water, Sanitation, and Hygiene (WASH) Indicators Collected in Demographic and Health Surveys**, 2014. M Kothari, PATH. [Link](#)

To provide current context, this report looks at stunting in the framework of common WASH indicators. This report provides a descriptive analysis of the status of women and children in the context of nutrition, breastfeeding, complementary feeding, anemia, dietary diversity, and micronutrient supplementation. The report also provides information on the nutritional status of women and children, with data disaggregated by selected WASH indicators.

**Large Decrease in Child Stunting in Bangladesh Despite Limited Improvement in**

**Children's Food Intake**, 2014. M Jain, HarvestPlus, International Food Policy Research Institute. [Link](#)

Bangladesh recorded one of the fastest reductions in child stunting between 1997 and 2007. The author does a descriptive decomposition analysis of this rapid decrease, focusing on the role of nutrient intake relative to other important child health inputs, such as maternal health, sanitation, maternal education, and access to health services. Among other factors, maternal health and access to sanitation were found to be the largest drivers of the growth of children across time. Maternal education and access to health services also have a positive, but non-robust, association with growth.

**Overview of the Nutrition Situation in 11 Countries in Asia**, 2015. FANTA III. [Link](#)  
FANTA conducted a critical review of the nutrition situation in 11 countries in Asia, which is presented by region (South-Central Asia and Southeast Asia) and by country. The two nutrition overview reports and 11 country profiles provide an in-depth analysis of the key drivers of malnutrition; current statistical nutrition data and trends for each country, and recommendations for areas to invest in to improve nutrition.

**Professor Cairncross at the STOP Stunting Conference**, 2014. SHARE. [Video](#)

In this video Sandy Cairncross, SHARE research director, shares his thoughts on why reducing stunting is such a priority for South Asia. Professor Cairncross attended the STOP Stunting Conference in New Delhi (November 2014) to deliver a presentation on the links between sanitation and stunting.

## JOURNAL ARTICLES/VIDEOS

**Household Water Treatment and Safe Storage to Prevent Diarrheal Disease in Developing Countries.** *Current Environmental Health Reports*, Jan 2015. T Clasen. [Link](#)  
Household water treatment and safe storage, such as boiling, filtering, or chlorinating water at home, have been shown to be effective in improving the microbiological quality of drinking water. However, estimates of their protective effect against diarrhea, a major killer, have varied widely. While results may be exaggerated because of reporting bias, this heterogeneity is consistent with other environmental interventions that are implemented with varying levels of coverage and uptake in settings where the source of exposure represents one of many transmission pathways.

**Household Sanitation and Personal Hygiene Practices are Associated with Child Stunting in Rural India: A Cross-Sectional Analysis of Surveys.** *BMJ Open*, Feb 2015. J Rah. [Link](#)

Improved conditions of sanitation and hygiene practices are associated with reduced prevalence of stunting in rural India. Policies and programming that aim to address child stunting should encompass WASH interventions, thus shifting the emphasis from nutrition-specific to nutrition-sensitive programming. Future randomized trials are warranted to validate the causal association.

**Risk Factors Associated with Recurrent Diarrheal Illnesses among Children in Kabul, Afghanistan: A Prospective Cohort Study.** *PLoS One*, Feb 2015. A Aluisio. [Link](#)

Maternal handwashing and improved sanitation facilities were protective, and represent important prevention points among public health endeavors. The discrepancy between soap availability and use suggests barriers to access and knowledge, and programs simultaneously addressing these aspects would likely be beneficial. Enhanced maternal education and

economic status were protective in this population, and these findings support multisector interventions to combat illness.

**Age-Related Factors Influencing the Occurrence of Undernutrition in Northeastern Ethiopia.** *BMC Public Health*, Feb 2015. A Degarege. [Link](#)

The objective of the current study was to assess the prevalence of under-nutrition in different age groups and examine the relationship of the disease to parasitic and socioeconomic factors among communities in Harbu Town, northeastern Ethiopia. The odds of under-nutrition significantly decreased with an increase in the age of individuals. The odds of under-nutrition in the 5 to 19 years age group was significantly higher in those who did not wash their hands before eating than in those who did. The prevalence of under-nutrition in children younger than 5 years was significantly lower in those whose families were educated and had a family size less than five compared to those with illiterate families and a family size greater than five.

**Assessing Factors that Lead to Use of Appropriate Technology: Handwashing Stations in Mali, West Africa.** *Journal of Water, Sanitation and Hygiene for Development*, In Press 2015. C Naughton. [Abstract/Order info](#)

This study presents results of a mixed methods approach and comprehensive monitoring strategy of five use variables (use of soap, handwashing station functionality, presence of cleansing agent including soap or white ash, ground wetness, and amount of water in the jug) over two years for 42–64 appropriate technology handwashing stations located in two communities in Mali. Six factors were studied as potentially critical for lasting use of handwashing stations (gender, educational training, water proximity, seasonality, wealth, and station adoption). Statistically significant results include: a 29 percent decrease in use of soap between the dry and rainy seasons; a 35 percent decrease in stations with cleansing agent (e.g., soap or white ash) present over one year; greater station use in wealthy households; and greater use of stations built by women in one community.

**The WASH Approach: Fighting Waterborne Diseases in Emergency Situations.** *Environmental Health Perspectives*, Jan 2015. W Nicole. [Link](#)

Poor hygiene and fecal contamination were major factors in one of the world's biggest outbreaks of hepatitis E, which began in October 2007 and persisted for a couple of years. This outbreak affected camps for internally displaced persons (IDPs) in northern Uganda's Kitgum District, infecting more than 10,000 people and killing 160, mostly pregnant women and young children. Other recent hepatitis E outbreaks have occurred among refugees and IDPs in Kenya, South Sudan, and Chad.

**The Other Asian Enigma: Explaining the Rapid Reduction of Undernutrition in Bangladesh.** *World Development*, Feb 2015. D Headey. [Link](#)

Although South Asia has long been synonymous with persistent and unusually high rates of child under-nutrition—the so called Asian Enigma—Bangladesh has managed to sustain a surprisingly rapid reduction in the rate of child under-nutrition for at least two decades. This unheralded success is investigated through a regression and decomposition analysis of changes in child growth outcomes across five rounds of Demographic and Health Surveys from 1997 to 2011. Among the findings: rapid wealth accumulation and large gains in parental education are the two largest drivers of change, though health, sanitation, and demographic factors have played significant secondary roles.

**Hand-to-Mouth Contacts Result in Greater Ingestion of Feces than Dietary Water Consumption in Tanzania: A Quantitative Fecal Exposure Assessment Model.**

*Environmental Science & Technology*, Jan 2015. M Mattioli. [Link](#)

Contaminated drinking water and hands are two important environmental transmission routes of diarrhea-causing pathogens to young children in low-income countries. The objective of this research is to evaluate the relative contribution of these two major exposure pathways in a low-income country setting. The model outcome is a distribution of a child's daily dose of feces via each exposure route. The model results show that Tanzanian children ingest a significantly greater amount of feces each day from hand-to-mouth contacts than from drinking water, which may help elucidate why interventions focused on water without also addressing hygiene often see little to no effect on reported incidence of diarrhea.

### **Reducing Child Undernutrition: Past Drivers and Priorities for the Post-MDG Era.**

*World Development*, Apr 2015. L Smith. [Link](#)

As the post-MDG era approaches in 2016, reducing child under-nutrition is gaining high priority on the international development agenda, both as a maker and marker of development. Revisiting Smith and Haddad (2000), this article uses data from 1970 to 2012 for 116 countries, finding that safe water access, sanitation, women's education, gender equality, and the quantity and quality of food available in countries have been key drivers of past reductions in stunting. Income growth and governance played essential facilitating roles. Complementary to nutrition-specific and nutrition-sensitive programs and policies, accelerating reductions in under-nutrition in the future will require increased investment in these priority areas.

### **Seasonal Variation of Fecal Contamination in Drinking Water Sources in Developing Countries: A Systematic Review.**

*Science of the Total Environment*, May 2015. C Kostylaa. [Abstract/order info](#)

Accounting for fecal contamination of drinking water sources is an important step in improving monitoring of global access to safe drinking water. Fecal contamination varies with time while its monitoring is often infrequent. This study sought to understand seasonal trends in fecal contamination to guide best practices to capture seasonal variation and ascertain the extent to which the results of a single sample may overestimate compliance with health guidelines. The findings from 22 studies from developing countries were analyzed. Fecal contamination in improved drinking water sources was shown to follow a statistically significant seasonal trend of greater contamination during the wet season. This trend was consistent across fecal indicator bacteria, five source types, and across both rural and urban areas. Guidance on seasonally representative water quality monitoring by the World Health Organization and national water quality agencies could lead to improved assessments of access to safe drinking water.

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WASHplus Weeklies highlight topics such as Urban WASH, Household Air Pollution, Innovation, Household Water Treatment and Storage, Hand Washing, Integration, and more. If you would like to feature your organization's materials in upcoming issues, please send them to Dan Campbell, WASHplus Knowledge Resources Specialist, at [dacampbell@fhi360.org](mailto:dacampbell@fhi360.org).



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**About WASHplus** - WASHplus, a five-year project funded through USAID's Bureau for Global Health, supports healthy households and communities by creating and delivering interventions that lead to improvements in access, practice and health outcomes related to water, sanitation, hygiene (WASH) and household air pollution

(HAP). WASHplus uses at-scale, targeted as well as integrated approaches to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under five years of age globally. For information, visit [www.washplus.org](http://www.washplus.org) or email: [contact@washplus.org](mailto:contact@washplus.org).