Aiming to reduce stunting in children under 5 years?

Don't leave Water, Sanitation and Hygiene behind!

Working with rural communities or households with animals at home?

Working in communities with poor access to safe water?

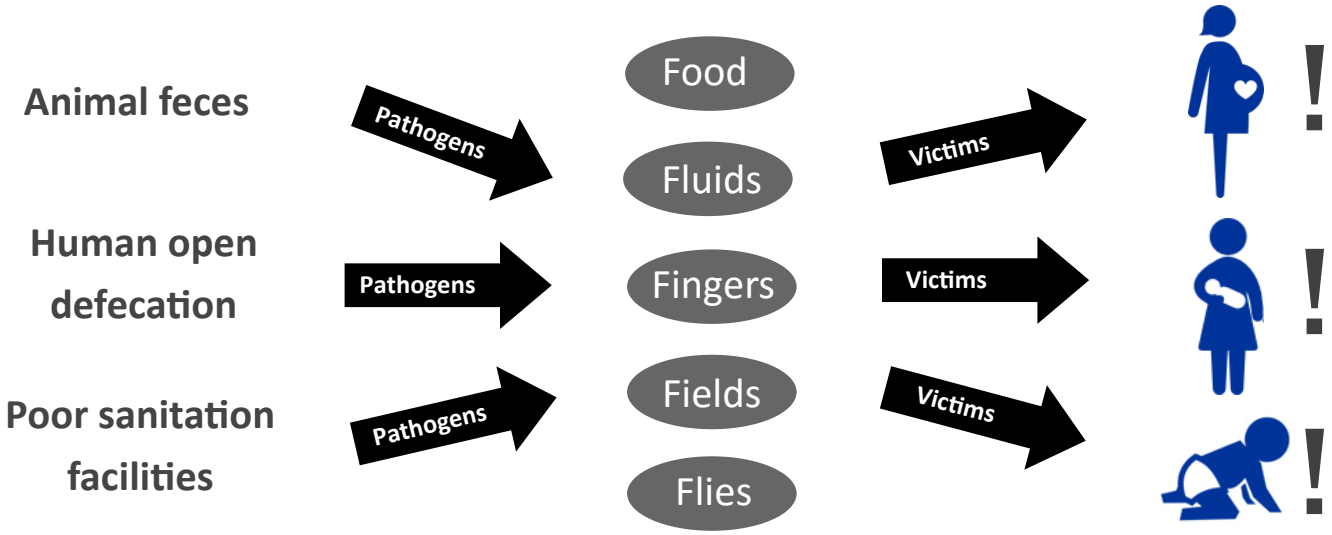
Working with communities with common open defecation or poor sanitation?

Poor hygiene, sanitation and water quality will negatively affect any nutrition-specific intervention!

Studies have shown that the use of all known **nutrition-specific interventions** would **only decrease stunting by 33%** if implemented without adequate WASH interventions.

Frequent fecal-oral transmission of pathogens can lead to environmental enteropathy, which permanently damages the intestine and leads to stunting.

Fecal-oral Transmission



Reducing stunting requires both nutrition-specific and nutrition-sensitive interventions.

Addressing Nutrition Outcomes with Water, Hygiene & Sanitation (WASH)

The frequent ingestion of fecal pathogens can cause recurring inflammation and damage to the intestine leading to malabsorption of nutrients. This is commonly referred to as environmental enteropathy (EE) and has been proven to lead to persistent stunting in children. EE may compromise the efficacy of nutrition-specific interventions (breastfeeding, complimentary feeding, micro-nutrient supplementation) and is thought to reduce the efficacy of oral vaccines for children.

WASH Interventions & Indicators for Change

Safe handling, preparation and storage of food

Indicator ⟶ Proportion of households keeping clean areas where food is prepared and served

Safe household water management, including treatment and storage

Indicator ⟶ Proportion of households consistently storing their drinking-water safely

Keeping animals away from where food is prepared and served to children, child play areas, and water sources

Indicator ⟶ Proportion of households with no domestic animals in food preparation area

Indicator ⟶ Proportion of households with no visible feces in the yard/children's play area

Improved household toilets or latrines, including "child-friendly" latrines (community-led total sanitation)

Indicator ⟶ Number of villages/areas achieving open defecation-free status

Indicator ⟶ Proportion of households with sanitation facilities that are accessible by children

Integration of hygiene practices awareness into all nutrition sessions

Indicator ⟶ Proportion of children aged 0-59 months stunted

Interested in learning more? Check out these resources:

Humphrey, Jean H. (2009). Child undernutrition, tropical enteropathy, toilets, and handwashing. *Lancet* 374(9694): 1032–1035.

Korpe, Poonum S., and William A. Petri (2012). Environmental Enteropathy: Critical Implications of a Poorly Understood Condition. *Trends in Molecular Medicine* 18(6): 328–336.

Lin, Audrie et al. (2013). Household Environmental Conditions Are Associated with Enteropathy and Impaired Growth in Rural Bangladesh. *The American Society of Tropical Medicine and Hygiene* 89(1): 130–137.

Prendergast, Andrew, and Paul Kelly (2012). Enteropathies in the Developing World: Neglected Effects on Global Health. *The American Journal of Tropical Medicine and Hygiene* 86(5): 756–763.