MULTI-SECTORAL NUTRITION STRATEGY
Global Learning and Evidence Exchange
East and Southern Africa Regional Meeting

Water, Sanitation, and Hygiene (WASH) Interventions for Improved Nutrition
Kyla Gregoire, USAID/Food for Peace, kgregoire@usaid.gov
Objectives of our Session

1. The ‘Why’ of WASH
2. The ‘How’ of WASH
3. The ‘How’ of WASH-Nut Integration
4. A little exercise
1. How many people in the world practice open defecation?

a) 2.5 million

b) 467 million

c) 946 million
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c) 946 million

Good news! Ethiopia made the biggest reduction in OD from 92% (44 million people) in 1990 to 29% (28 million people) in 2015 – an average reduction of over 4% per year over 25 years.
What would you do?
2. What percentage of child deaths are currently attributed to diarrhea?

a) 1%

b) 19%

c) 25%
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a) 1%

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Test your WASH know-how!

**Fecal Oral Route:** Pathogen infection route that requires ingestion of fecal matter from one host to another, typically by route of contaminated water, food, or disease vectors.
3. In the Lancet Series of 2013, what percent of stunting could be averted globally by taking to scale the 10 nutrition-specific interventions?

a) 20%

b) 45%

c) 70%
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a) 20%

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Bonus Points:
What was the estimated annual cost for scaling to 90% coverage?

Part 1:

The ‘Why’ of WASH
Where is WASH in the three tenets of Nutrition?

**Food Utilization**
- Decrease the fecal-oral route of disease transmission
- Improve environmental health conditions
- i.e. WASH for Health

**Food Availability**
- Water for Agriculture
- Water for Income generating Activities
- i.e. Water for Livelihoods

*Multiple-Use Water Supply (MUS!)*
Three hypothesized WASH-Nutrition Pathways

1. Cycling of *diarrhea* and malnutrition

2. *Parasitic infections* (e.g. soil transmitted helminths, STH)

3. *Gut malfunction* & poor absorption of nutrition (i.e. ‘environmental enteropathy’)

*And they’re not independent of one another…*

Q: Can anyone think of any indirect pathways between WASH & Nutrition?
Insufficient diet → Malnutrition → Fecal-oral Infection → Environmental factor: the ‘F’s
Routes For Pathogen Exposure – ‘F Diagram’ & the fecal-oral route

Sanitation and Clean Environment

Feces

Fluids

Fingers

Flies

Fields/Floors

Food

Safe Drinking Water (collection, transport, storage, treatment)

Handwashing and Food Hygiene

Source: revised from WSP, 2012
Gut bacteria that prevent growth impairments transmitted by microbiota from malnourished children
(from Blanton, Charbonneau, et al., 2016)

A) Model of normal gut microbial community development;

B) Fecal samples from healthy (H) or stunted/malnourished (Un) Malawian children transplanted to mice → Microbiota of Un donors transmitted impaired growth phenotypes to mice.

C) Co-housing H and Un mice resulted in invasion of H microbiota into the Un mice → Improved Growth!
## Food Security and WASH
*(from: Latagne, 2014; Kotloff et al., 2013)*

<table>
<thead>
<tr>
<th>Linkage (Direct/Indirect)</th>
<th>Quality of Evidence</th>
<th>Strength of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>OD ←→ Stunting</td>
<td>Econometric analysis/DHS</td>
<td>Strong</td>
</tr>
<tr>
<td>WASH ←→ Stunting</td>
<td>Mostly observational studies</td>
<td>Suggestive</td>
</tr>
<tr>
<td>Water, hygiene ←→ Stunting</td>
<td>Experimental</td>
<td>Suggestive- modest effect</td>
</tr>
<tr>
<td>WASH ←→ Underweight</td>
<td>Observational studies-evidence</td>
<td>Suggestive</td>
</tr>
<tr>
<td>Diarrhea ←→ Undernutrition</td>
<td>Substantial evidence; inconclusive on stunting</td>
<td>Suggestive on wasting; contribution to stunting ?</td>
</tr>
<tr>
<td>Environmental Enteropathy ←→ Undernutrition</td>
<td>Substantial evidence-biological mechanism</td>
<td>Strong on stunting; suggestive on underweight</td>
</tr>
</tbody>
</table>

Lack of evidence on impact of improved water/sanitation on HAZ
‘Why WASH?’ Exercise

Group Exercise

1. Volunteers, please! 3 Groups of 3-5 people

2. You have 5 minutes to develop a convincing argument to pitch to a stakeholder (e.g. mission director; AOR; Nutrition Program lead) on **why you should integrate WASH into a nutrition program**

3. Each group will have 3 minutes (timed!) to pitch your argument. Props are welcome!
Part 2: The ‘How’ of WASH
The ‘How’ of WASH

The ‘How’ often starts with a needs assessment

- ID prominent WASH-nutrition pathways (i.e. fecal-oral routes) in the country/district/community/household
- Indicators can be a good clue! Diarrheal rates, sanitation access, handwashing, water quality... *(Hint: for good data sources, see reference slide)*
- Est. targets & coverage needed to impact nutrition
  - Consider both percentage and raw numbers

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‘SaniPath’ & Fecal exposure pathways

Greatest risks for young children (2-5 yr) from eating and playing on the ground

The ‘How’ of WASH

Potential Step 2: Develop a *Strategy* to address Needs

**Likely Strategy Goals:**

1. **Impact** on nutrition

2. **Sustainability** of Outcomes and Impact are your raison d’etre

Addt’l Elements of a WASH-Nut strategy:

- Partnerships
- Building on success/momentum
- Catalytic change is the gold at the end of the rainbow.
Impact: Improved WASH reduces diarrheal disease

High Impact WASH Interventions

- Safe Feces Disposal
- Handwashing With Soap
- Drinking Water Supply
- Drinking Water Treatment & Safe Storage
- Food hygiene

Each of these can reduce diarrhea by at least 30% in children under five living in unhygienic conditions.

Actual reduction depends on correct, consistent and sustained adoption of the behavior.

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Impact: Demand-driven sanitation

Giving away latrines does not work

Increase Knowledge on WASH & Health → Motivating idea/ emotion (e.g. disgust; pride) → Generate Demand → Improve supply & technical capacity → Community-driven Sanitation

Demand-driven sanitation should facilitate options & improvements.

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Impact: What doesn’t work

Missing environmental hygiene

Also:

• Poor quality inputs and infrastructure
• Focusing only at the HH-level
We’re having an impact!
And here’s a bit of evidence

Reductions in Diarrhea Prevalence in Preschool Children after 2–4 years in Title II Programs with WASH

Sustainability: What we know

• What we know about sustainability
• What we don’t know about sustainability
• Oxford’s Rural WS, Handpump & payment study
Pillars for WASH Sustainability

Adapted from the USAID Water Strategy 2013-2018.
Sustainability: It is possible!

Ex-poste evaluation of FFP WASH Interventions (3-5 yr ex-poste)

<table>
<thead>
<tr>
<th>Access</th>
<th>Improved</th>
<th>Sustained</th>
<th>Deteriorated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to improved latrine</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Access to improved water source</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Households purifying water</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Households with handwashing observed</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Percent of HHs with access to year-round piped water (Honduras)

- **ADRA**
  - N/A; 1,054; 638
  - Baseline: 71%, Endline: 91%, Follow-Up: 90% (NS)

- **SC**
  - 797; 800
  - Baseline: 61%, Endline: 76% (*****

- **WV**
  - N/A; 1,180; 634
  - Baseline: 77%, Endline: 89%, Follow-Up: 92% (*)
The ‘How’ of Integration

Co-location?

Some other ways:
Joint design?
Joint budgeting?
Interdisciplinary teams?
Consolidate reporting?

Program Integration?

From the new WHO-USAID ‘Practical Solutions’ publication:
www.who.int/water_sanitation_health/publications/washandnutrition/en/
A few practical WASH-Nut Integration Points:

Schools (kids as catalysts)

Clinics (moms as catalysts)

Nutrition counseling

Agriculture & Livelihood Activities
Group Exercise:

- Three groups of 3-5
- (5 min) Pick an intervention point (or come up with your own!), and detail **a few specific Nut-WASH activities that would be impactful and sustainable.**
  - Could also be ideas for higher-level integration! (policy, budgeting,
  - Bonus points for being innovative!
- Each group will have 3 minutes to present their strategy.
WASH and WASH-Nut Resources

- Online resources
  - www.washplus.org/wash-nutrition
  - www.who.int/pmnch/knowledge/publications/summaries/ks30/en

- USAID Water Update (internal)
- Global Waters (external)
- USAID Webinars & training
- WASH Advisors at USAID/W & Missions
Questions?
Kyla Gregoire
kgregoire@usaid.gov
202-712-5276