How to Do It Better: Innovative Research and Communications for Healthy Diets and Sustainable Agriculture and Food Systems

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Conflict of Interest Disclosure

I have no conflict of interest to report in relation to this presentation.
From Sustainable Farms to Better Nutrition: Linking Global Commitments to Research, Policy and Practice

Consumer demand, food preparation and preferences

Food production

Food handling, storage and processing

Food trade and marketing

Cross-cutting issues
- Nutrition-sensitive value chains
- Women’s empowerment and gender equality
- Food loss and waste:
Recent Guidance from UN

FAO, 2017

UN Network for SUN/REACH in collaboration with RBA, UNICEF, WHO, 2016
Nutrition Interventions Delivered through Reproductive & Paediatric Health Services

- Family planning support
- ANC, birthing services & post-natal care
- Paediatric health care (early childhood & adolescence)
- Enabling environment actions

Micronutrient Supplementation
- Micronutrient suppl. schemes in WRA (incl. adolescent girls)
- Micronutrient suppl. schemes in pregnancy
- Micronutrient suppl. schemes in postpartum or lactating women
- Micronutrient suppl. schemes in infants & children
- Micronutrient suppl. in other circumstances
- Enabling environment actions

Management of Acute Malnutrition
- Management of SAM & MAM
- Enabling environment actions

Disease Prevention & Management
- Anti-anemia
- Diarrhoea management
- Nutritional care & support in HIV prevention & mgt.
- Nutritional care & support for tuberculosis patients
- Nutritional care & support for children with measles
- Nutritional care & support of individuals with EVD
- Prevention & mgt. of nutrition-related NCDs
- Enabling environment actions

Water, Sanitation & Hygiene
- Hygiene promotion
- Sanitation systems & management
- Water quantity & quality support
- Enabling environment actions

Food Consumption Practices for Healthy Diets
- Food-based nutrition education
- Consumer protection to ensure healthy diets
- Complementary feeding
- Supportive environments for healthy diets
- Enabling environment actions

Crops/Horticulture
- Diversification & locally adapted varieties
- Biofortification
- Enabling environment actions

Livestock & Fisheries
- Animal husbandry, fisheries & insect farming
- Enabling environment actions

Food Processing, Fortification & Storage
- Food processing (excluding fortification)
- Fortification (incl. salt iodization & fortification of complementary foods)
- Food storage
- Enabling environment actions

Social Protection
- In-kind & quasi in-kind transfers
- Unconditional cash transfers
- School-based programmes
- Social transfers
- Conditional cash transfers/vouchers
- Public Works programmes
- Insurance

Labour Market Programmes
- Publicly funded asset transfers with skills training
- Enabling environment actions

Facilitation of Multi-sectoral Nutrition Governance
- Assessment and information
- Policy coherence
- Legislation, regulations/standards, protocols and guidelines

Planning, budgeting and management
- Advocacy and communications
- Coordination
- Other enabling environment actions

1. The selection of these actions should be tailored to the country’s nutrition situation. In some cases, the nomenclature presented here may be summarized in view of space/layout constraints with respect to the full nomenclature used elsewhere in the CAN.

2. Thematic areas marked in bold, black text under the four main sections.

3. Cross-cutting areas

BF = breastfeeding; ANC = antenatal care; SAM = severe acute malnutrition; WRA = women of reproductive age; MAM = moderate acute malnutrition; NCDs = noncommunicable diseases; EVD = Ebola virus disease
(1) **Synthesized evidence**: meta-analyses and systematic reviews. Number of studies included in reviews varies.

(2) **Published primary studies**: No synthesized evidence exists, but evidence is published in peer-reviewed journals; and

(3) **Practice-based studies exist**: There is published experience-based evidence documented in the ‘grey literature’ although no evidence has been published in peer-reviewed journals – either in the form of synthesized evidence or single studies. This indicates that further research is warranted.

(4) **Enabling Environment** section were not classified by evidence category because they are considered to be key to fostering an enabling environment irrespective of the existing level of evidence.

** Evidence reviewed contributed either directly to nutrition outcome or part of the impact pathway
## Food production

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Reviews/Evaluations</th>
<th>CAN</th>
<th>Diet impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced homestead food production</td>
<td>Massett et al., 2012 Girard et al., 2012 Burkina Faso (Olney et al., 2015, 2016) Zambia evaluation report</td>
<td>Synthesized evidence</td>
<td>Increased consumption of target food groups, increased DD, some impacts on mn status</td>
</tr>
<tr>
<td>Homestead livestock/aquaculture for healthy diets</td>
<td>Girard et al, 2012 Burkina Faso (Olney et al. 2015)</td>
<td>Synthesized evidence</td>
<td>Increased consumption of ASF; DD</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>Jones, 2017, Bioversity, 2017 and Powell, 2016</td>
<td>Primary studies *</td>
<td>Increased DD</td>
</tr>
<tr>
<td>Biofortification</td>
<td>Harvest Plus evidence brief, 2017 GLoPAn brief on biofortification, 2015</td>
<td>Synthesized evidence</td>
<td>Improves micronutrient status.</td>
</tr>
</tbody>
</table>
## Consumer demand, food preparation and preferences

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<tr>
<td>Behaviour change communication</td>
<td>Olney et al., 2016.2017 Arkipo et al., 2015</td>
<td>Synthesized evidence</td>
<td>Increases DD Reduced anemia Increased K&amp;P (maternal)</td>
</tr>
<tr>
<td>Food Labelling</td>
<td>Mozafarrian et al., 2012 WHO, 2013</td>
<td>Synthesized evidence</td>
<td>Consumer protection of healthy diets (part of WHO evidence based prevention of NCD)</td>
</tr>
<tr>
<td>Food based dietary guidelines</td>
<td>Hawkes, 2013 Fischer and Garnett, 2016</td>
<td>Enabling Environment</td>
<td>Little evidence on impact on diet. Supportive policy tool</td>
</tr>
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</table>
## Food trade and marketing

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<tr>
<td>Food marketing and advertising of healthier items (Media campaigns)</td>
<td>Hawkes, 2013</td>
<td></td>
<td>Effective in increasing knowledge and consumption of specific healthful foods (mainly F/V)</td>
</tr>
<tr>
<td></td>
<td>Mozafarrian, 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer protection from marketing less healthy food</td>
<td>WHO, 2013</td>
<td>Synthesized evidence</td>
<td>Avoid harm (breastfeeding, ads to children);</td>
</tr>
<tr>
<td></td>
<td>ELENA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product reformulation</td>
<td>WHO, 2013</td>
<td>Synthesized evidence</td>
<td>Reduces food item concentration of less healthy ingredients ? Total impact on diet</td>
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<td></td>
<td>Downs et al., 2013 (trans-fat)</td>
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<td></td>
<td>Trieu et al., 2015, 2016 (salt)</td>
<td></td>
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<tr>
<td>Fiscal interventions (taxes/subsidies)</td>
<td>Alagiyawanna et al., 2015</td>
<td>Enabling Environment</td>
<td>Has an impact on healthy food consumption, lack of evidence available Mid and Lower income countries</td>
</tr>
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</table>
### Food handling, storage and processing

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<tr>
<td>Improved food storage and safety technologies</td>
<td></td>
<td>Primary studies</td>
<td>Understudied</td>
</tr>
<tr>
<td>Thermal/ mechanical processing, soaking, fermentation, and germination/malting</td>
<td>Aworh, O.C. 2008, Hotz, C. &amp; Gibson, R.S. 2007</td>
<td>Primary studies</td>
<td>Understudied. Reducing the effects of seasonality on food access Enhance the bioavailability of micronutrients in plant-based diets</td>
</tr>
<tr>
<td>Food fortification</td>
<td>Pachon et al., 2015, WHO, 2014, WHO, 2013</td>
<td>Synthesized evidence</td>
<td>MN adequacy *cautionary role in decreasing diet quality if sugar, salt, oil fortified</td>
</tr>
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# Cross-cutting issues

<table>
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<tr>
<th>Issue</th>
<th>Reviews/Evaluations</th>
<th>Diet Impact</th>
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</thead>
<tbody>
<tr>
<td>Nutrition sensitive value chains</td>
<td>Le Port et al., 2017.</td>
<td>Understudied. Impact most likely through income.</td>
</tr>
</tbody>
</table>
| Women’s empowerment  
- Cash transfers  
- *Women’s Income and Control over Resources* | Van den Bold et al., 2013 | Consistent evidence important in ag-nutrition pathway. Decision making on nutrition, control over income/resources to improve DD/consumption of nutrient dense food |
Weigh the risk of inaction (what are the consequences of doing nothing?)
Are there potential harms in taking No Action? (eg. further loss of biodiversity, further environmental degradation)
What are the potential harms of the action? (women’s workload, reduction in diet quality)
The Grey Zone

“The implementation of policy-level strategies does not always require perfect evidence; risks versus benefits and associated costs and alternative approaches may warrant implementation” Mozafarrian et al., 2012
CONCLUSIONS

- Systems (rather than linear) thinking – large shift in focus toward Food Systems thinking
  - Fewer studies on some food system elements processing, trade, food handling, food safety, NSVC
- More holistic (water, sanitation, health + AGRICULTURE)
- Impact pathways, theory of change and measuring steps along pathway
- Impact (+ or -) on women
- Designs for complex research

- Many initiatives contributing new evidence (ANH Academy, CoP, IMMANA)
### SOME NEW IMMANA METRICS

<table>
<thead>
<tr>
<th>Metric</th>
<th>Institution</th>
</tr>
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<tbody>
<tr>
<td>Womens Empowerment</td>
<td>Indira Gandhi Institute Emory University</td>
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<tr>
<td>Climate smart ag</td>
<td>ICRAF</td>
</tr>
<tr>
<td>Value chains</td>
<td>IFPRI/WFP</td>
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<tr>
<td>Affordability of nutritious diets</td>
<td>Tufts/ Columbia</td>
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<tr>
<td>Livelihood nutrition linkages</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Nutritional Postharvest Loss Estimation</td>
<td>NRI, University of Greenwich</td>
</tr>
<tr>
<td>Labor saving innovations and women’s time use</td>
<td>NRI, University of Greenwich</td>
</tr>
<tr>
<td>Intra-hh time use and income</td>
<td>CIAT</td>
</tr>
</tbody>
</table>
Thank you!