

Session 3: What is the evidence from food security evaluations?

Carolyn Huang

Senior Evaluation Specialist, 3ie
chuang@3ieimpact.org

DLL Food Security Incubator

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Objectives

- What is an Evidence Gap Map
 - What research questions does it answer?
- How to use an Evidence Gap Map
- Summary of select findings across 3ie EGMs



What is an evidence gap map?



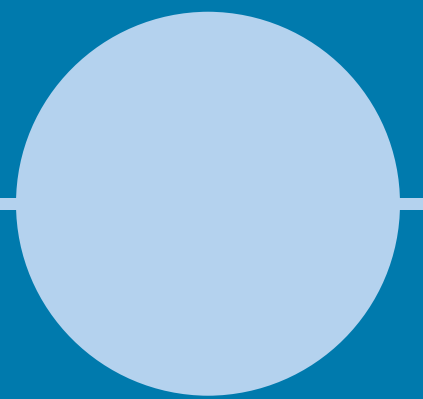
What questions can an EGM answer?



For which interventions and outcomes do we have evidence (or not)?

Where can I find that evidence?

Where should we invest in future research or evaluation to help inform policies and programs?



How to use an evidence gap map

Example from 3ie's Nutrition-Sensitive Ag EGM

Go to: <https://developmentevidence.3ieimpact.org/egm/reaper-nutrition-evidence-gap-map>

Nutrition-Sensitive Agriculture Evidence Gap Map

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In this evidence gap map (EGM), we systematically describe the available evidence on the effects of nutrition-sensitive agriculture interventions across food systems in low- and middle-income countries (LMICs). The map covers interventions related to 1) production; 2) transport and distribution; 3) support for food processing, storage, and packaging; 4) fortification and re-formulation; 5) pricing and profit initiatives; 6) market places; 7) voluntary adoption of standards and ethical practices; 8) women's empowerment; and 9) consumer behavior. To the extent possible, we categorized intervention groups into education interventions; the direct provision of goods, services, or technologies; market-based approaches; and structural approaches. The map is focused on impact evaluations and systematic reviews of impact evaluations. It provides a starting point for exploring and accessing the available literature. Other sources of evidence, including qualitative research and local knowledge, were not identified in this map, but can and should be used to interpret and contextualize the research presented.

How to interpret an evidence gap map: An evidence gap map answers questions about the extent and characteristics of the evidence base. To answer questions about effectiveness, consult high and medium confidence systematic reviews. The existence of evidence should not be interpreted as evidence of effectiveness; a large evidence base could show conclusively that an intervention does not work. Conversely, the absence of evidence should not be interpreted as evidence of ineffectiveness, it may reflect the emergence of a new development approach or evidence base, or challenges conducting impact evaluations on certain types of interventions.

How to use an EGM

Findings

Research implications

CLICK ON a bubble to see details with links to studies. CLICK ON a link in the axes to see an explanation for Intervention / Outcome. UNSELECT side filter options to hide rows or columns. TOGGLE study categories on and off using the legend at the bottom of the chart. EXPORT the chart using menu button at the top right of the chart.

Region

All

Country

All

Study design

All

Population targeted

All

OR

Age

All

OR

Sex

All

Digitalization

All

Target product

All

OR

Population whose health is targeted

All

OR

Reach of intervention

All

Cost evidence

All

Filter condition (between filters):

AND

Update Chart

Total unique studies:
26

Interventions

Outcomes																
Affordability and availability							Nutrient availability		Micronutrient status					Diet quality		
Food distribution centres	Food access	Food availability&supply	Affordability	Food insecurity measures	Food stressed households	Food nutrient content	Nutrient bioavailability	Iron	Iodine	Vitamin A	Zinc	Other micronutrient status outcome	Breastfeeding	Dietary diversity	Insufficient diet	

Feedback



Summary of findings

Production - Education/ information

Examples: Farmer field schools, agricultural extension programs, capacity building interventions

Overall: 117 studies of various education/information-focused modalities examining food security outcomes. Some primary evidence suggests positive results, but 1) used weak identification strategies; 2) included limited food security outcomes; 3) was dated; or 4) lacked generalizability across contexts

Intervention	SRs	IEs
Farmer field schools	2014, but only on ag outcomes, not on food security	2011 Bangladesh (+) 2014 Tanzania (+) 2018 Uganda (+)
Ag extension programs, capacity building	0 SRs	2013 Kenya (+) 2015 Zimbabwe (+) 2017 DRC (FFS>F2F) 2018 Congo (+)

From 3ie's Nutrition-Sensitive Agriculture EGM, Intervention domain "Production", Category "**Edu. / info. - ag. Production**"

<https://developmentevidence.3ieimpact.org/egm/reaper-nutrition-evidence-gap-map>

Aquaculture / watershed management / small scale irrigation

Examples: Drilling wells, Constructing dams, Installing small-scale irrigation, Natural resource management

Overall: Evidence on aquaculture effectiveness exists, but it examines a very limited number of food security measures; Small scale irrigation evidence also exists, but most studies are methodologically limited (PSM or lack a counterfactual)

Intervention	SRs	IEs
Aquaculture / watershed management	1 SR 2021 “Aquaculture interventions lead to a small increase in the production value, income, total expenditures and food consumption of participants. The limited availability of evidence prevented us from assessing other nutritional and women's empowerment outcomes.”	
Small scale irrigation	0 high confidence reviews	14, 12 on food security measures alone 2008 Ethiopia (0) 2011 South Africa (+) 2017 Senegal (+) 2017 Bangladesh (+) 2021 Ethiopia (+) 2021 Multi (+) 2021 Senegal (+)

From 3ie's Nutrition-Sensitive Agriculture EGM, Intervention domain “Production”, Category “Direct provision of goods and services: water access and management”

<https://developmentevidence.3ieimpact.org/egm/reaper-nutrition-evidence-gap-map>

Improved seeds

Examples: Climate or pest resilient seeds

Overall: Evidence exists, but is mixed; methodological limitations to most studies.

Intervention	SRs	IEs
Improved seeds	1 medium confidence SR (2018) on agriculture input subsidies (+)	11 IEs total, 2011 India (0) 2014 DRC (+, food adequacy) 2015 Tanzania (0)* 2015 Uganda (+)* 2017 The Gambia (+) 2019 Uganda (+) 2021 Tanzania (+, 0 anthropometrics)* 2022 Ethiopia (+; 0 on diet diversity) * Utilized a rigorous counterfactual design



Early warning systems

Although 3ie's Resilience Evidence Gap Map did not explicitly examine food security measures, we found no impact evaluations examining these interventions.

Other helpful resources:

Nutrition & Food Systems EGM:

<https://developmentevidence.3ieimpact.org/egm/food-systems-and-nutrition-evidence-gap-map>

For agriculture interventions & outcomes:

<https://developmentevidence.3ieimpact.org/egm/agriculture-led-growth-in-low-and-middle-income-countries-an-evidence-gap-map>

Food security interventions in humanitarian settings:

<https://developmentevidence.3ieimpact.org/egm/food-security-in-humanitarian-settings-egm>



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