

Online appendix B: Search strategy

B1. Websites searched

Academic databases

We conducted electronic searches of the following databases of published sources:

- MEDLINE
- EMBASE
- Cochrane Controlled Trials Register (CENTRAL)
- CINAHL
- CAB Global Health
- CAB Abstracts
- Agricola
- PsychINFO
- Africa-Wide Information
- Academic Search Complete
- Scopus
- Campbell Library

Grey literature sites searched

To identify relevant grey literature, we searched the following databases (some of which contain a mixture of published and grey literature):

- Google Scholar
- EconLit
- ENN-Network
- IDEAS/RePEc
- Innovative Methods and Metrics for Agriculture and Nutrition Actions grantee database
- WHO Global Index Medicus
- Grey Literature Report
- Social Science Research Network (SSRN)
- Eldis
- Epistemonikos
- 3ie Development Evidence Portal
- Registry of International Development Impact Evaluations (RIDIE)
- Oxfam Policy & Practice

Below is a list of organisational websites we manually searched for additional related studies.

- [AgEcon Search \(University of Minnesota\)](#)
- [Innovations for Poverty Action](#)
- [Abdul Latif Jameel Poverty Action Lab](#)
- [Global Development Network](#)
- [World Bank Development Impact Evaluation \(DIME\) and Impact Evaluation Policy Papers](#)
- [Inter-American Development Bank](#)
- [Center for Global Development](#)
- [Center for Effective Global Action \(CEGA\)](#)
- [Department for International Development Research for Development \(R4D\)](#)
- [USAID](#)
- [International Food Policy Research Institute](#)
- [CIGAR](#)

- [Food and Agriculture Organization of the United Nations \(FAO\)](#)
- [High Level Panel of Experts on Food Security and Nutrition](#)
- [World Food Programme](#)
- [Action Against Hunger](#)
- [UNICEF](#)
- [United Nations Evaluation Group](#)
- [Asian Development Bank](#)
- [World Agroforestry Centre \(ICRAF\)](#)
- [International Livestock Research Institute \(ILRI\)](#)
- [Nutrition International](#)

B2. Search terms

Table B1 below presents the terms we used in the literature/ search to capture key concepts in the EGM framework. For each of the terms shown in the table, we used multiple variants to capture alternative spellings and word forms.

Table B1: Search terms

Concept	Terms	
Study type and geography		
Impact evaluations	Random Experiment Propensity score matching Difference-in-differences Quasi-experiment	Counterfactual evaluation Instrumental variables Regression discontinuity Time series regression
Systematic reviews	Systematic review Literature review	Meta-analysis
Low- and middle-income countries (LMICs)	Developing Low/middle income Underserved Transitional/emerging economy Global south	Deprived Poor Low GDP Terms associated with each LMIC (see full list below)
Interventions		
Production systems	Food systems/production Kitchen garden Agriculture/aquaculture inputs Livestock Improved seeds/varieties/crops Agriculture/crop subsidies Price purchase guarantee Crop/rain/weather/index insurance Drought/pest resistant GMOs Fertiliser/pesticide/insecticide Land management Water meter Rain-fed Trench and hill method Fixed distance planting Row planting Irrigation	Water break Terracing Contour bunding Mechanisation Intercropping Companion plants/species Integrated soil fertility management Farmer training/field schools Demonstration plots Agricultural/rural extension Farmers' organisations Social protection

Concept	Terms	
Storage & distribution	Silo Storage/storehouse Shed Warehouse	Collection/distribution centre Cold chain Refrigerated transport
Processing & packaging	Fortification (Non-)plastic packaging Post-harvest cleaning/ winnowing/canning/milling/threshing/ hulling Drying	Food donation/transfer Food bank/pantry Soup kitchen
Food environment	Food environment Zoning Farmers market Food desert School meals/feeding/lunches Cash transfers	Social assistance/safety net Advertising bans/regulations Store re-design Front-of-package labelling Food safety/quality Food certification
Consumer behaviour	Sugar-sweetened beverage tax Consumer subsidies Nudge campaigns	Social norms Women's empowerment/decision-making Information/education
Outcomes		
Anthropometric	Height, Height-for-age (Z-score) Weight, Weight-for-age (Z-score) Weight-for-length (Z-score) Short stature Stunting Elevated weight Low (birth) weight Small/large for gestational age Body mass index Head circumference	Adiposity Lean body/muscle mass Dual-energy X-ray Absorptiometry Electroimpedence Whole body air displacement Plethysmography Skin fold Arm fat Hit-to-waist/shoulder ratio
Micronutrients	Iron/fe Vitamin A B12 Cobalamin Calcium/ca Zinc/zn Folate/folic acid Haemoglobin	Anaemia Ferritin Transferrin Urinary iodine concentration Goitre Serum thyroid stimulating hormone Serum thyroglobulin
Diet quality and adequacy	Food consumption/variety score Dietary diversity Dietary adequacy/sufficiency Food groups consumed Meal frequency Minimal acceptable diet Estimated average requirement Reference daily intake	Recommended daily allowance Fruit/vegetable consumption Healthy eating index Nutrient-rich food index Mediterranean diet score Nova food groups Dietary pattern score
Infant and young child feeding	Breastfeeding (exclusive, early, extended, initiation, frequency) Mixed feeding Introduction of complementary foods	Weaning Infant and Young Child Feeding Index

Concept	Terms
Food security	Food (in)security Household food insecurity access scale Poverty line/index Income/wealth inequality Market access Food desert Food basket Consumer price index
	Shannon measure/metric/score Modified functional attribute diversity Food stress Hunger Skipped/missed meals Coping strategy index Food affordability

B3: Example full search strategy

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to April 06, 2020>

Search Strategy:

1 (random* or experiment* or (match* adj2 (propensity or coarsened or covariate)) or "propensity score" or ("difference in difference*" or "difference-in-difference*" or "differences in difference*" or "differences-in-difference*" or "double difference*") or ("quasi-experimental" or "quasi experimental" or "quasi-experiment" or "quasi experiment") or ((estimator or counterfactual) and evaluation*) or "instrumental variable*" or (IV adj2 (estimation or approach)) or regression discontinuity or time series or segment* regression).ti,ab,kw. (3158100)

2 Randomized Controlled Trial/ or Random Allocation/ or Evaluation Studies/ or Propensity Score/ or Interrupted Time Series Analysis/ or Controlled Before-After Studies/ or Controlled Clinical Trial/ or Non-Randomized Controlled Trials as Topic/ (931395)

3 1 or 2 (3600883)

4 (review or meta-analysis).pt. (2687667)

5 cochrane database of systematic reviews.jn. (14735)

6 (systematic review or literature review).ti. (154171)

7 4 or 5 or 6 (2731803)

8 3 or 7 (6034861)

9 developing countries.sh,kf. (85389)

10 (Africa or Asia or Caribbean or West Indies or South America or Latin America or Central America).ti,ab,kw. (216058)

11 Africa/ or Asia/ or Caribbean/ or West Indies/ or South America/ or Latin America/ or Central America/ (76022)

12 (Afghanistan or Albania or Algeria or Angola or Argentina or Armenia or Armenian or Azerbaijan or Bangladesh or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brazil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Camerons or Cameron or Camerons or Cape Verde or Central

African Republic or Chad or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d'Ivoire or Ivory Coast or Cuba or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timor or Timor Leste or Ecuador or Egypt or United Arab Republic or El Salvador or Eritrea or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia Republic or Georgian Republic or Ghana or Grenada or Guatemala or Guinea or Guiana or Guyana or Haiti or Honduras or India or Maldives or Indonesia or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz Republic or Kirghiz or Kirgizstan or Lao PDR or Laos or Lebanon or Lesotho or Basutoland or Liberia or Libya or Macedonia or Madagascar or Malagasy Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Mali or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldavia or Moldovan or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or Nicaragua or Niger or Nigeria or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillipines or Papua New Guinea or Romania or Rumania or Roumania or Rwanda or Ruanda or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao Tome or Senegal or Serbia or Montenegro or Seychelles or Sierra Leone or Sri Lanka or Solomon Islands or Somalia or Sudan or Suriname or Surinam or Swaziland or South Africa or Syria or Tajikistan or Tadjhikistan or Tadjikistan or Tadjhik or Tanzania or Thailand or Togo or Togolese Republic or Tonga or Tunisia or Turkey or Turkmenistan or Turkmen or Uganda or Ukraine or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Venezuela or Vietnam or Viet Nam or West Bank or Yemen or Zambia or Zimbabwe).ti,ab,kw,sh. (1423829)

13 ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj (countr* or nation? or population? or world or state*)).ti,ab,kw. (98986)

14 ((developing or less* developed or under developed or underdeveloped or middle income or low* income) adj (economy or economies)).ti,ab,kw. (535)

15 (low* adj (gdp or gnp or gross domestic or gross national)).ti,ab,kw. (243)

16 (low adj3 middle adj3 countr*).ti,ab,kw. (15731)

17 (Imic or Imics or third world or lami countr*).ti,ab,kw. (7551)

18 (transitional countr* or emerging econom* or global south).ti,ab,kw. (1010)

19 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 (1594007)

20 8 and 19 (255764)

21 exp Agriculture/ or Food Assistance/ or exp Food Packaging/ or Food Preservation/ or Food Storage/ or Food-Processing Industry/ or exp Meat-Packing Industry/ or exp Food Quality/ or exp Nutrition Policy/ or exp Nutrition Therapy/ (311574)

22 (((agricultur* or aquacultur*) adj3 input*) or (improv* adj3 (seed* or variet* crop*)) or (genetic* adj3 modif* adj3 (food* or organism*)) or GMO or fertili* or pesticid* or insecticid* or compost* or manure* or mulch* or ((drought* or pest* or insect*) adj3 (toleran* or resist*)) or (rotat* adj3 crop*) or (land adj3 manage*) or "fixed distance planting" or (plant* adj3 row?) or ((farm* or crop or agricultur* or aquacultur*) adj6 subsid*) or (price* adj6 purchas* adj6 guarantee*) or ((crop* or rain* or weather or index) adj6 insurance) or (irrigat* adj6 (project* or program* or access* or improv*)) or "water meter*" or (rain* adj3 (fed or feed*)) or (trench* adj3 hill*) or hilling or "water break" or terrac* or ((farm* or agricultur* or aquacultur*) adj3 (mechani#e* or mechani#ation*)) or intercrop* or

(companion adj3 (plant* or variet* or species))).ti,ab,kw. (274307)

23 (((grain* or crop* or agricultur* or aquacultur* or farm* or produce) adj6 (silos* or stor* or shed* or warehous*)) or ((agricultur* or aquacultur* or farm*) adj3 (collection or distribution) adj3 (centre* or center*)) or ((farm* or produce or food* or agricultur* or aquacultur*) adj6 ("cold chain*" or ((refrigerat* or cold) adj3 (truck* or transport* or transit))))).ti,ab,kw. (4047)

24 (((food* or crop* or staple*) adj3 (fortif* or biofortif*)) or ((recycl* or compost* or biodegrad* or plastic*) adj3 (pack* or sache*)) or (post-harvest adj6 (clean* or winnow* or cann* or mill* or thresh* or hull*)) or ((food* or crop* or grain*) adj3 dry*) or ((food* or grocer* or soup) adj6 (donat* or pantr* or bank* or kitchen or transfer*)) or (food* adj6 near* adj6 spoil*).ti,ab,kw. (9156)

25 ("food environment*" or (zoning and (food* adj3 (security or access*))) or "farmers market" or "food desert" or (school adj6 (meal* or feed* or food* or lunch*)) or (food* adj6 (cash or "social assistance" or "social safety net"))) or (food* adj6 ((advertis* or label* or market*) adj3 (ban* or restrict* or regulat* or polic* or law*))) or ((supermarket or ((food* or grocer* or convenience or corner) adj (store* or market*))) adj6 (design* or redesign* or re-design* or layout*)) or (front adj3 pack* adj3 label*) or (food* adj3 (safe* or quality) adj3 (regulat* or restrict* or polic* or law* or inspect*)) or (food* adj3 certif*).ti,ab,kw. (8820)

26 (((sugar* or SSB) adj3 tax*) or ((food* or consumer*) adj6 subsid*) or nudg* or ((food* or eat* or feed* or meal* or diet*) adj6 (deci* or ((cultur* or social) adj3 (norm* or preferen*))) or (wom#n adj6 (food* or eat* or feed* or meal* or diet*) adj6 (empower* or deci*)) or ((food* or eat* or feed* or meal* or diet*) adj3 (inform* or educat* or promot* or campaign* or media or initiative))).ti,ab,kw. (33515)

27 or/21-26 (608240)

28 Breast Feeding/ or Child Nutritional Physiological Phenomena/ or Adolescent Nutritional Physiological Phenomena/ or Infant Nutritional Physiological Phenomena/ or Weaning/ or Energy Intake/ or Diet, Healthy/ or Eating/ or Elder Nutritional Physiological Phenomena/ or Food Preferences/ or exp Maternal Nutritional Physiological Phenomena/ or exp Nutritional Requirements/ or Nutritional Status/ or exp Nutritive Value/ or exp Nutrition Disorders/ or Nutrition Assessment/ or exp Food Supply/ (548239)

29 (height? or length? or length-for-age or LAZ or "short stature" or stunt* or weight? or weight-for-age or WAZ or "elevated weight" or underweight or "low weight" or "body mass index*" or "weight-for-length" or WLZ or BMI or BMlz or wasted or wasting or obes* or overweight or "mid-upper arm circumference" or MUAC or "low birth weight" or LBW or ((small or large) adj3 "gestational age*") or "head circumference*" or adiposity or (lean adj3 ("muscle mass" or "body mass")) or DEXA or "dual-energy x-ray" or absorptiometry or electroimpedence or "whole body air displacement" or plethysmography or "skin fold*" or "arm fat" or ((hip-to-waist or hip-to-shoulder) adj ratio*).ti,ab,kw. (1939806)

30 (((iron or fe or iodine or "vitamin a" or b12 or cobalamin or calcium or ca or zinc or zn or folate or "folic acid") adj3 deficien*) or h?emoglobin or an?emia or ferritin or transferrin or "urinary iodine concentration*" or goitre* or goiter* or "serum thyroid stimulating hormone" or TSH or (serum adj (thyroglobulin or tg))).ti,ab,kw. (388485)

31 ((food adj (consumption or variety) adj score*) or (diet* adj6 divers*) or DDS or "food groups consumed" or ((meal or "food consumption") adj frequency) or "minimal acceptable diet*" or "estimated average requirement" or "reference daily intake" or RDI or "recommended daily allowance" or RDA or (diet* adj6 (adequa* or sufficien*)) or ((fruit* or vegetable*) adj6 consum*) or "healthy eating index" or HEI or "nutrient rich food index" or "Mediterranean diet score" or "nova food groups" or "dietary pattern score*" or (probability adj3 adequa*).ti,ab,kw. (38256)

32 ((breastfeed* adj3 (exclusive* or early or extend* or initiat* or frequen*)) or "mixed feeding" or weaning or ((food* or feed*) adj6 complement* adj6 introduc*) or (index adj3 feed* adj3 (infant or child)) or IYCF).ti,ab,kw. (38042)

33 ((food adj (security or insecurity)) or "household food insecurity access scale" or HFIAS or "poverty index" or "poverty line" or ((income or wealth) adj3 (inequality or relative)) or (access* adj3 market*) or "food desert*" or (food* adj3 basket*) or (index adj3 "food consumer price*") or FCPI or (Shannon adj (measure or metric or score)) or (modified adj3 functional adj3 attribute adj3 diversity) or (stress* adj3 food) or hunger or hungry or ((meal* or food* or feed*) adj3 (skip* or miss*)) or "coping strategy index" or (food* adj6 afford*).ti,ab,kw. (25766)

34 or/28-33 (2604578)

35 exp Animals/ (23074750)

36 Humans/ (18388397)

37 35 not (35 and 36) (4686353)

38 34 not 37 (2088346)

39 20 and 27 and 38 (4339)