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DEval DISCUSSION PAPER

THE EFFECTIVENESS OF CAPACITY STRENGTHENING INTERVENTIONS ON FOOD SECURITY AND NUTRITION FOR VULNERABLE POPULATIONS

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Abstract

Access to food is a fundamental human right that applies to everyone everywhere. However, vulnerable populations are disproportionately affected by human rights violations, including those relating to their right to food. This paper presents findings of the effects of information, capacity strengthening and behaviour change (ICSBC) interventions on food security and nutrition outcomes among vulnerable groups in sub-Saharan Africa. The specific groups considered were women, children and youth, people with disabilities, older adults, indigenous people, displacement-affected populations and less educated populations. For each group, the paper provides details on group-specific barriers to food system participation, evidence on the effectiveness of ICSBC interventions and promising intervention approaches.

The paper finds that ICSBC interventions are most impactful for vulnerable populations if they are tailored to their needs, demands and capacities. Otherwise, only those who are already well positioned to access resources will benefit, reinforcing existing inequalities. For some vulnerable populations, group-specific data on the effectiveness of ICSBC interventions is not available. Therefore, investment in evaluation and research is imperative for improving the outcomes of these groups through development interventions.

We argue that **to realise the right to food for vulnerable populations, development practitioners must address other fundamental human rights that are connected to the right to food**, including land rights, access to resources, and legal and social equality. Only when these rights are in place can vulnerable populations act on the information and capacities shared by ICSBC interventions and play an active role in the food system. Overall, this discussion paper demonstrates the interdependence of human rights.

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ABBREVIATIONS AND ACRONYMS

3ie	International Initiative for Impact Evaluation
BMZ	Federal Ministry for Economic Co-operation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung)
CESCR	Committee on Economic, Social and Cultural Rights
CFS	Committee on World Food Security
DEval	German Institute for Development Evaluation (Deutsches Evaluierungsinstitut der Entwicklungszusammenarbeit)
FAO	Food and Agriculture Organization of the United Nations
HRBA	Human Rights-Based Approach
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICSBC	information, capacity strengthening and behaviour change
LMICs	low- and middle-income countries
LNOB	Leave no one behind
PANTHER	Participation, Accountability, Non-Discrimination, Transparency, Human Dignity, Empowerment and Rule of law
SDG	Sustainable Development Goal
UNICEF	The United Nations Children's Fund
UN/ISDR	International Strategy for Disaster Risk Reduction

1. INTRODUCTION

1.1 Background

Access to food is a fundamental human right. However, hunger, malnutrition and food insecurity are persistent global challenges. Because food insecurity is often driven by social and cultural patterns (HLPE, 2023), contemporary frameworks for food security and nutrition place structural inequalities at the centre.

The High-Level Panel of Experts of the Committee on World Food Security (HLPE-CFS) identifies based on the four dimensional definition of Food and Agriculture Organization of the United Nations (FAO) six pillars of food security: availability, accessibility, utilisation, stability, agency and sustainability (HLPE, 2020).² The “**agency**” pillar, added by the HLPE-CFS in 2022, and highlights the role that structural and power inequalities play in negatively influencing food security. It emphasises that every individual, household and community should be empowered to make their own decisions regarding food consumption and production (Clapp and Moseley, 2021; Clapp et al., 2022). This reflects the Human Rights-Based Approach (HRBA) to development cooperation, which focuses on the capacities of rights-holders (individuals demanding and acting on their rights) and duty-bearers (those that hold the duty to realise human rights) (UNSDG, 2003).

Vulnerable populations are disproportionately affected by human rights violations, including violations of the right to food. Structural inequalities impact their **rights**, access to **resources** and **representation**, leading to increased risk of hunger and malnutrition (Towns et al., 2023). For example, women and indigenous groups have historically had fewer rights, fewer resources and reduced representation in community or political decision-making processes.

The United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR) defines vulnerability as “the **physical, social, economic, and environmental conditions** which increase the susceptibility of a community to the impact of hazards” (for example, conflict, climate change and economic recession) (UN/ISDR, 2004; Box 1). These conditions can lead to lower wealth and less access to education, information and food markets for certain groups. Particular physiological traits, such as menstruation and periods of rapid growth, can predispose some groups to nutritional inadequacies and deficiencies (HLPE, 2020). Environmental megatrends impacting agricultural production, such as climate change and the loss of ecosystem services and biodiversity, also affect some groups more than others. This discussion paper therefore uses the term “vulnerable populations” to refer to the overall category of people who are more likely to be harmed by external challenges, physiological requirements, shocks and human rights violations and who, as a result, have a lower capacity to absorb shocks (HLPE, 2023). There are discussions around the use of appropriate terms to define these groups, which are further summarised in Box 1.

Vulnerable populations are not homogeneous. They often have diverse experiences, needs and demands, which likely translate into different outcomes arising from the same or similar development cooperation interventions. In the following, we name the specific groups and vulnerabilities whenever applicable. Commonly highlighted vulnerable populations are (pregnant and lactating) women; children and youth; people with disabilities; older adults; indigenous people; displacement-affected populations; and less educated populations. These **conditions can overlap or be connected, creating intersectional vulnerability**. Individual characteristics compound structural constraints such as discrimination, creating layers of vulnerability. For example, low education compounds with vulnerabilities stemming from – among other characteristics – gender, location, age, ethnicity and disability.

² The **availability** of food refers to the physical supply and is determined by food production, stock levels and net trade. **Access** means the physical, economic and social access to food. **Utilisation** is affected by the knowledge and means to consume food that is safe and sufficient to meet physiological needs. Food **stability** means the ability of individuals and communities to secure nutritious food for current and future consumption over time. **Agency** is defined as the capability to make decisions about food production, consumption and related activities. **Sustainable** food systems meet current food security and nutrition needs without compromising future needs (CFS, 2009; FAO, 1996).

Box 1 Defining vulnerability

The concept of vulnerability is multifaceted and has shifted over time. Definitions vary (see Alwang et al., 2001; Armaş and Albuşescu, 2025; Miller et al., 2010), but **vulnerability** is typically described as a combination of exposure, sensitivity and adaptive capacity that makes it more difficult for certain groups to react when experiencing external challenges or shocks, such as climate change, conflict or economic downturn (Paloviita et al., 2016). Therefore, vulnerability is inherently linked to the concept of resilience. **Vulnerable populations** are groups that are more likely to be harmed by external shocks than others (Miller et al., 2010).

To highlight those structural conditions which drive vulnerability, the term “groups in vulnerable situations” has gained popularity. This terminology redirects attention from the groups themselves to the systemic issues that create vulnerability and that are within the responsibility of duty-bearers (Gabel et al., 2022). While we agree with this focus, we continue to use the term “vulnerable populations” for linguistic ease and clarity.

1.1.1 Evidence of food systems inequality

Even though the right to food is universal, food insecurity is characterised and exacerbated by significant inequality. The prevalence of hunger, malnutrition and food insecurity varies by age, location, ethnicity, sex and other socio-economic characteristics (HLPE, 2023).

The rate of undernourishment in **sub-Saharan Africa** (20%) is more than double the global average (8%) (FAO et al., 2025). This undernourishment is concentrated in **children under five**, 23% of whom are stunted and 7% of whom are wasted (UNSD, 2025). **Women** experience poorer food security and nutrition outcomes than men (Mbow and Rosenzweig, 2019; Schipanski et al., 2016). Globally, women are two percentage points more likely to experience food insecurity than men (26% versus 24%), but disparities vary geographically (FAO et al., 2025). In Latin America and the Caribbean, women are five percentage points more likely to experience food insecurity, but in sub-Saharan Africa, only 1.5 percentage points more likely (FAO et al., 2025). Within the 15 countries experiencing food crisis, there is higher food insecurity among **displaced populations** than among host populations (FSIN and GNAFC, 2025). Globally, **older adults** are not more food insecure than other populations (Leblang et al., 2025). However, this likely varies by geography, as they can be excluded from some public aid programmes (Selvamani et al., 2023). Furthermore, higher levels of poverty among older adults were linked to a number of food and healthcare challenges in low- and middle-income countries (Duraó et al., 2020; Selvamani et al., 2023).

To fight inequalities in food security, it is important to understand what food security means and which aspects are crucial to achieve it. However, we lack the data to understand how food secure or insecure some vulnerable populations are. For example, there are no global estimates of the number of **people with disabilities** who are food insecure, but single studies suggest that they experience food insecurity at a rate ten percentage points higher on average (Hadfield-Spoor et al., 2022; Schwartz et al., 2019). No data is available on the global prevalence of hunger and malnutrition within **indigenous groups**, but here again, single studies show that these communities often struggle with food insecurity and hunger (Mamo, 2025). At least part of the reason for this is that they have often been relocated to places with low natural resource endowments (Mamo, 2025).

1.1.2 Inequalities in the food system and the role of development cooperation

Within a food system, **vulnerabilities exist for both structural and individual reasons** (Montalbano and Romano, 2023), which often overlap and intersect. Vulnerabilities can develop because of systemic legal, economic, cultural or societal inequalities that prevent some groups from fully engaging with and benefiting from food systems, thereby affecting their human right to food (Abdullahi et al., 2024; HLPE, 2023; Onyeaka et al., 2024).

Socio-economic constraints are a major driver of food insecurity. Poverty decreases food access through lower purchasing power and food availability due to limited or inefficient food production (HLPE, 2023; Onyeaka et al., 2024). Since vulnerable populations tend to spend a larger portion of their incomes on food, their food access is disproportionately reduced during periods of inflation, and this has become a specific problem globally since the beginning of Russia's war of aggression against Ukraine (FAO et al., 2025). Certain agricultural products might be prohibited for use by some populations for cultural reasons. These constraints prevent vulnerable populations from interacting with modern value chains; markets; storage, processing and distribution systems; and international trade (HLPE, 2023).

Furthermore, it is common for vulnerable populations to be surrounded by unhealthy food environments, to live in areas with limited access to healthy diets and to be targeted by marketing campaigns for unhealthy foods (HLPE, 2023). Across all domains of the food system, unequal power dynamics within households, communities or countries can limit vulnerable populations' bargaining power, preventing them from realising the full benefits of their contributions to food systems (HLPE, 2023).

These inequalities in the food system violate not only the human right to adequate food but also the 2030 Agenda "Leave no one behind" (LNOB) principle, which focuses on fighting inequalities. Therefore, to realise the universal right to food, development cooperation must attempt to mitigate the inequalities that lead to certain groups becoming vulnerable. Development cooperation can offer the support, resources, knowledge and financing to enable vulnerable populations to positively engage with their food system. However, what works and which interventions are most effective? Addressing food security and nutrition for vulnerable populations is particularly challenging because the same factors that make them vulnerable impede their access to the support and resources offered through development cooperation (3ie, 2022; IOB, 2017: 33, 2024; Raab et al., 2025).

1.2 Objective and scope of this paper

This discussion paper accompanies and builds on a rapid evidence assessment (an evidence synthesis including a meta-analysis) conducted by the International Initiative for Impact Evaluation (3ie) and the German Institute for Development Evaluation (Deutsches Evaluierungsinstitut der Entwicklungszusammenarbeit – DEval) (Lwamba et al., 2026), which presents findings on information, capacity strengthening and behavioural change (ICSBC) interventions to improve food security and nutrition in sub-Saharan Africa. The findings of the rapid evidence assessment are summarised in the corresponding final DEval evaluation report (Römmling et al., 2025).

Capacity strengthening interventions are the focus of these reports because they have become common development cooperation interventions, especially since the early 2000s. Interest in capacity building started to rise in the 1990s, with the United Nations Development Programme publication *Rethinking Technical Cooperation: Reforms for Capacity Building in Africa* (Berg, 1993) highlighting the need to support local management skills. Other international organisations followed in rearranging their existing frameworks to shift towards more mutual learning (Fukuda-Parr and Lopes, 2013; WFP, 2004). The 2005 Paris Declaration of Aid Effectiveness named capacity as an important precondition for effective aid and represented a milestone in the rise of capacity strengthening interventions within the international development agenda (Zamfir, 2017). This approach is also reflected in the HRBA to development cooperation and the inclusion of the "agency" dimension in the FAO definition of food security and nutrition.

The rapid evidence assessment (Lwamba et al., 2026) and this discussion paper focus on sub-Saharan Africa because:

1. it is a focus region for development cooperation that aims to improve food security and nutrition
2. it is characterised by high levels of food insecurity
3. comparatively more relevant studies have been conducted in this region.

During the preparation of the rapid evidence assessment, stakeholders expressed specific interest in interventions that support vulnerable populations. However, the rapid evidence assessment could not adequately address this topic within its methodological scope. It mainly relied on quantitative impact evaluations, which generally did not disaggregate results by aspects of vulnerability. Therefore, the evaluation team conducted a qualitative assessment of the results reported in the quantitative studies and supplemented these findings with additional literature research (see Chapter 3). While the DEval report (Römling et al., 2025) presents a summary of this literature review, the present discussion paper provides further detail and contextual information that could not be captured within the scope of the main report. The purpose of this paper is to offer additional **theoretical underpinning and further findings on the effects of ICSBC interventions on vulnerable populations in sub-Saharan Africa.**

This introduction is followed by a presentation of the conceptual framework for addressing vulnerable populations through development cooperation (see Chapter 2), after which the methodology is presented in detail (see Chapter 3). The main chapter of this report is the findings, which are organised around vulnerable populations: women, children and youth, people with disabilities, older adults, indigenous people, displacement-affected populations and less educated populations (see Chapter 4). Finally, Chapter 5 offers concluding remarks.

2. CONCEPTUAL FRAMEWORK

2.1 Overarching frameworks for development cooperation

Human rights provide the overarching framework for development cooperation (UNSDG, 2003). The international human rights framework is governed by a set of principles: universality, inalienability, indivisibility, interdependency, equality and non-discrimination (OHCHR, 1996). This means they apply equally to everyone everywhere. The Universal Declaration of Human Rights enshrines these rights and specifically establishes the right to an adequate standard of living (art. 25), including health, food and shelter (UN General Assembly, 1948).

If international cooperation is to realise human rights globally for all people and communities, it is essential to identify and target groups and individuals that are excluded from the comprehensive fulfilment of these rights. In 2003, UN specialised agencies established a unified understanding of the realisation of fundamental human rights in international cooperation through the **Human Rights-Based Approach** to development cooperation for the UN agencies (UNSDG, 2003). The HRBA is built around the principles of human rights, participation and empowerment. Programmes that align with the HRBA focus on marginalised, disadvantaged and excluded groups as holders of human rights (rights-holders) and supports states (duty-bearers) to realise those rights for all. Many bilateral donors, including Germany and Sweden, apply the HRBA in their development cooperation policy (BMZ, 2024; SIDA, 2024).

The **2030 Agenda for Sustainable Development** reflects this human rights perspective. All 17 Sustainable Development Goals (SDGs) are centred around three principles: **(i) the HRBA, (ii) “Leave no one behind” and (iii) “Gender equality and women’s empowerment”**. These principles place a strong focus on the most vulnerable and marginalised people, households and communities to fight increasing inequalities. Several SDGs specifically highlight the need to target vulnerable populations. For example, the first target of **SDG 2 (Zero hunger)** states: “By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious, and sufficient food all year round” (UNSD, 2025). Additionally, two SDGs explicitly address the need to fight structural inequalities: SDG 5 (Gender equality) and SDG 10 (Inequality within and among countries). Through their endeavours to monitor progress, actors are encouraged to collect **disaggregated data** that enables them to measure progress for specific groups to ensure the LNOB principle (OHCHR, 2018). This data supports an understanding of the effects of development cooperation interventions on vulnerable population groups.

2.2 Food security and nutrition frameworks for development cooperation

The **right to adequate food** is a fundamental human right enshrined in the International Covenant on Economic, Social and Cultural Rights (ICESCR) (1966, art. 11). The convention is a treaty under public international law which defines human rights in a legally binding instrument. States are required to refrain from any discrimination in access to food, as well as to the means and entitlements for its procurement, on the grounds of race, sex, language, age, religion, political or other opinion, national or social origin, property, birth or other status. The FAO interpreted this right as “ensuring that everyone has access to sufficient, safe, and nutritious food to live with dignity” (FAO, 2024), which reflects the dimensions of food security outlined above.

States that are party to the ICESCR are obliged to take appropriate steps to progressively realise the right to adequate food. The concept of progressive realisation affirms the states’ obligation to continuously advance the full realisation of rights to the maximum of available resources (UN/ECOSOC, 2007; ICESCR, 1966, art. 2, para. 1). According to the Committee on Economic, Social and Cultural Rights (CESCR), this also requires **respecting the right to adequate food in other countries**, protecting that right and providing necessary aid when required (UN CESCR, 1999: General Comment No. 12, E/C.12/1999/5, para. 36), making development cooperation to that effect an imperative.

To provide development cooperation actors with further concrete guidelines on promoting and reinforcing the realisation of the right to food, the FAO devised a set of principles based on the HRBA: **Participation, Accountability, Non-discrimination, Transparency, Human dignity, Empowerment and Rule of law (PANTHER principles, see Table 1)** (FAO, 2009). They combine the human rights principles, the principles of HRBA and the “agency” dimension of food security and nutrition, with a specific focus on food systems. The PANTHER principles highlight the role of inclusion, participation and empowerment in addressing structural inequalities to realise the right to food.

Table 1 The PANTHER principles

Guiding principle	Definition
Participation	Effective participation enables people and groups to participate meaningfully in decisions that affect their livelihood and their capacity to feed themselves.
Accountability	Governments and all their officials must be accountable to the people they serve. People should be able to challenge both the process and the substance of decisions that affect their livelihoods.
Non-discrimination	Non-discrimination is paramount and may require that people and groups in fundamentally different situations are treated differently to achieve equality.
Transparency	Governments must ensure that information about right to food activities, policies, laws and budgets is accessible, uses language that can be understood easily and is disseminated through appropriate media.
Human dignity	Public authorities must ensure that measures affecting people’s livelihoods and the capacity to realise their right to food are carried out in a way that respects them and their dignity.
Empowerment	Empowerment means recognising and addressing power relations within society and between a government and its people. It requires authorities to educate, inform and meaningfully consult people, ensuring that citizens have agency to influence, choose and exert control over decisions affecting their livelihoods.
Rule of law	Every member of society, including decision-makers, must obey the law. Accountability and access to justice (through tribunals, human rights institutions, administrative processes or other means of conflict resolution) are essential for the rule of law to be upheld.

Source: DEval, own visualisation, based on FAO (2012)

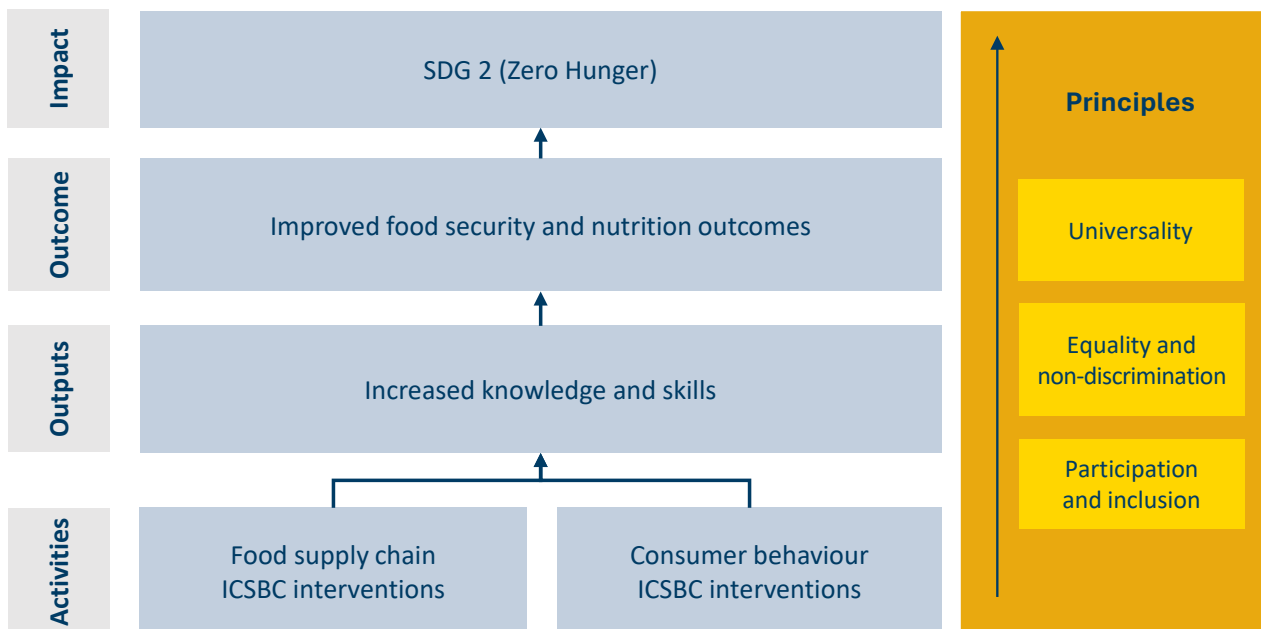
2.3 Framework of ICSBC interventions for vulnerable groups

ICSBC interventions aim to provide information, capacity strengthening or support to encourage positive behaviour change. Activities can include counselling, sensitisation workshops, exchanges of experiences and discussion groups that strengthen the knowledge, skills and good practices of the targeted populations. The FAO considers ICSBC interventions promising approaches to enhance food security and nutrition by improving knowledge, attitudes and practices related to food and nutrition among target groups (FAO, 2022), ultimately leading to positive shifts in food production and consumption. ICSBC interventions aim to improve food security and nutrition by training and sensitising farmers, communities, agricultural extension officers, public officials and consumers to support the production and consumption of nutritious, diverse, sufficient and high-quality food (FAO, 2022). Some interventions combine agricultural and nutritional ICSBC, with promising results on nutrition outcomes (Watson et al., 2023).

ICSBC interventions aim to increase the **agency** of individuals and communities to make informed and independent decisions about their engagement with their food system, as envisaged in the HRBA and the PANTHER principles. They empower people to make decisions about what they eat, what they produce and how they engage with their food system. Therefore, ICSBC interventions are especially important for vulnerable rights-holders, who may have less agency and empowerment than other groups. ICSBC interventions may also improve other dimensions of food security through their effects on agency.

The **Theory of Change** shown in Figure 1 is an abstract depiction of how ICSBC interventions aim to improve food security and nutrition. Activities that strengthen knowledge and skills are intended to lead to the integration of knowledge into practice. Ultimately, this should result in behaviour change that improves food security and nutrition outcomes through enhanced food access, availability, stability, utilisation, agency or sustainability. Improvements in these dimensions are an important contribution to the eradication of hunger and thus to achieving SDG 2 (Zero hunger). The principles of HRBA, PANTHER and LNOB need to be considered in each step, especially in designing interventions to respond to the needs and demands of vulnerable groups.

Figure 1 Theory of Change for ICSBC interventions



Source: DEval, own visualisation adapted from Lwamba et al. (2026) and Römling et al. (2025)

3. METHODOLOGY

3.1 Rapid literature review

This paper is a **rapid literature review** building on Lwamba et al. (2026). It targeted two types of evidence: (1) evidence on the unique barriers and constraints to food security experienced by vulnerable populations and (2) evidence on the effectiveness of ICSBC interventions for vulnerable populations. Qualitative, quantitative and theory-based³ research was considered. Evidence was identified through a semi-structured, iterative search and screening process.

The rapid literature review followed two steps. The first was to review the **rigorous impact evaluations** and related qualitative studies included in Lwamba et al.'s (2026) rapid evidence assessment and corresponding datasets. Second, to complement those findings, a **rapid literature search** was undertaken, **with a focus on sub-Saharan Africa**.

Search strings were optimised for each population through an iterative process to identify search terms that yielded the most relevant results. This process resulted in search strings that differed for each group. For example, the term “supporting” was not included in the search string for children and youth because it led to many irrelevant results. In some cases, where evidence within the target region of sub-Saharan Africa was too limited, evidence from other regions was included. A separate search was not run for evidence on women, as sufficient evidence on this population was identified through the other included literature.

Searches were conducted using Google Scholar and EBSCO Discovery. In line with the inclusion criteria established by Lwamba et al. (2026), only studies published since 2015 were included. For each search string, the titles of the first 20 to 50 articles were screened for relevance, with more titles generally reviewed in cases where few relevant studies were identified (see Table 2). In a few cases, it quickly became apparent that searches did not return relevant studies and review was halted.

The newly identified papers and the dataset from the rapid evidence assessment were carefully reviewed to extract effect estimates, findings and conclusions relevant to vulnerable populations. Effects on the general population were not considered unless otherwise stated and could be larger, smaller or the same as effects on vulnerable populations. Findings were documented throughout the search, screening and review process in a cumulative note-taking document, rather than through the use of a formal data extraction template. This enabled ongoing synthesis and aided the refinement of search terms and insights.

The search, screening and data extraction process was carried out broadly sequentially for each vulnerable population; however, relevant findings for all groups were extracted when identified. The final review is presented in a narrative format organised by population.

³ Theory-based research refers to papers that propose conceptual frameworks, philosophical and ethical considerations, and epistemological approaches which are grounded in qualitative and quantitative work but generally rely heavily on the author's own interpretations.

Table 2 Summary of search strategy

Group	Search strings	Search platform	# titles reviewed	# full texts reviewed
All vulnerable groups	<ul style="list-style-type: none"> • Food systems interventions vulnerable groups • Equity informed food systems interventions 	Google Scholar EBSCO Discovery	160	34
Children and youth	<ul style="list-style-type: none"> • Food systems interventions in sub-Saharan Africa children and youth 	Google Scholar	10	7
People with disabilities and older adults	<ul style="list-style-type: none"> • Supporting disabled and elderly in food systems participation • Supporting disabled and elderly in food systems participation in sub-Saharan Africa • Interventions disabled and elderly in food systems participation in sub-Saharan Africa 	Google Scholar	60	36
Indigenous people	<ul style="list-style-type: none"> • Supporting indigenous communities' food systems participation 	Google Scholar	30	16
Displacement-affected populations	<ul style="list-style-type: none"> • Supporting displaced populations, refugees and asylum seekers in food systems participation 	Google Scholar	10	4
Less educated populations	<ul style="list-style-type: none"> • Supporting people without a primary education in food systems participation • Relationship between education and agriculture in sub-Saharan Africa 	Google Scholar	60	29

Source: DEval, own visualisation

Note: Each search string was run as a separate search. The number of articles reviewed represents the total number reviewed across all search strings indicated in that row. Selected additional sources were also reviewed based on the author's existing knowledge of the field.

3.2 Limitations

Rapid literature reviews use methodological shortcuts that are not taken by systematic reviews (Grant and Booth, 2009; Snyder, 2019). The primary concern surrounding this form of literature review is the risk of selection and reporting bias, as reviewers tend to disproportionately extract and present information that supports their a priori conclusions (Grant and Booth, 2009). In addition, the design of the strategy for the supplemental search – the search that took place outside of Lwamba et al.'s (2026) rapid evidence assessment – was more likely to surface studies with statistically significant effects than those with null effects.

To mitigate this, the inclusion of studies was based on quality and relevance to the topic. The decision was taken to exclude literature reviews that themselves appeared to be biased and primary studies that presented misleading interpretations of results. When reviews rated the quality of evidence, these quality ratings were considered in the presentation of findings. Nonetheless, **results should be interpreted as showing instances of “what worked”**; they cannot show “what does not work”, nor can they indicate if specific types of interventions work consistently.

4. FINDINGS

Overall, ICSBC interventions must be tailored to the needs, demands and capacities of vulnerable populations. If they fail to cater to them, only those who are already better positioned to access resources will benefit (Lwamba et al., 2026; Ofosu-Ampong et al., 2025). This will only reinforce – or worsen – existing inequalities, countering the HRBA and LNOB principles.

In contexts where it is possible to resolve external constraints (such as lack of access to tools, financial capital and technical skills), ICSBC interventions that address the specific challenges faced by vulnerable groups may be effective at supporting positive outcomes for them. Interventions that empower vulnerable populations in agriculture through assets, education and economic power can improve productivity, sustainability, food security, economic and rural development, and equity (Ofosu-Ampong et al., 2025).

This suggests that multicomponent interventions are important for vulnerable populations. Moreover, Römling et al (2025) demonstrate how they can generate additional benefits beyond ICSBC interventions. This is because multiple components can address various dimensions of food security and nutrition while simultaneously supporting the resilience of households in the event of a food crisis.

The evidence is strongest for women and children, with Lwamba et al. (2026) drawing on several studies relating to these groups, including rigorous impact evaluations. The evidence for people with disabilities, older adults and indigenous groups is especially scarce. Therefore, this study focuses on the specific constraints and possible coping mechanisms that could be addressed through ICSBC interventions for these groups.

The following sections are organised by the vulnerable populations highlighted (see 1.1) and, where sufficient evidence is available, are each divided into three parts. The first presents specific barriers that prevent the group from actively engaging with the food system. The second focuses on the effectiveness of ICSBC interventions on food security and nutrition outcomes for that group. Finally, each section ends with recommendations for types of interventions or approaches that might work well in reaching that specific population.

4.1 Women

Barriers to participating in the food system

Social norms disadvantage women in terms of power, roles and responsibilities at the household and community level. Women's greater reliance on subsistence agriculture leaves them more exposed to climate shocks (food stability), while their limited access to resources, such as land, technical assistance and information, undermines their ability to produce food (food availability) (Mbow and Rosenzweig, 2019; Onyeaka et al., 2024; Schipanski et al., 2016). Within households, women often control fewer financial resources (food accessibility), have lower decision-making power (food agency) and are typically the first to reduce their consumption during times of scarcity, prioritising the needs of other family members – especially children – over their own (food stability) (Mbow and Rosenzweig, 2019; Onyeaka et al., 2024; Schipanski et al., 2016). These disadvantages are compounded by women's distinct nutritional needs during pregnancy, breastfeeding and menstruation, which place additional demands on food utilisation. Women can experience intersecting vulnerabilities. For example, in refugee contexts, women and girls are affected by violence, which can negatively impact their access to food if protection is not adequately provided (Nisbet et al., 2022) (see also 4.6).

Effectiveness of ICSBC interventions

Due to women's limited access to male-dominated information networks, it may be particularly useful to provide them with relevant information on agricultural techniques and local best practices through ICSBC interventions. However, the adoption of improved agricultural techniques by women is often limited, predominantly because they lack access to financial resources or land. Across sub-Saharan Africa, there is great variability in the adoption of climate-smart agricultural practices by gender (Ogisi and Begho, 2023).

Due to gendered differences in resource access and household-level decision-making power, women may prefer approaches that require less upfront investment (Mnukwa et al., 2025; Ogisi and Begho, 2023). When access to resources is controlled for, however, women are more likely than men to adopt certain climate-smart agricultural practices, such as soil and water conservation (Mnukwa et al., 2025). In Tanzania, women's restricted access to land, labour, credit, training opportunities and gender-aligned extension services may have caused their lower adoption of climate-smart agricultural practices, despite perceived higher responsiveness (Awoke et al., 2025).

Household decision-making power dynamics further constrain women's engagement and the positive outcomes of interventions. In Tanzania, farmer field schools increased women's group membership ($\hat{g} = 0.15$; 95% CI: 0.09, 0.22; $p < 0.001$)⁴ and membership in influential groups ($\hat{g} = 0.12$; 95% CI: 0.05, 0.19; $p < 0.001$) but had no statistically significant effect on their input into productive decisions at the household level (Garbero and Chichaibelu, 2018).⁵ Fahki and Sikira (2018) found that women were excluded from intervention activities due to household duties or the need to obtain their husbands' permission. In Ghana, a sustainable agriculture and livelihoods diversification programme increased group participation among female household heads but had no effect on food stability and reduced food agency ($\hat{g} = -0.13$; 95% CI: -0.25, -0.01; $p = 0.04$), despite overall programme success (Pretari, 2019).⁶ Together, these studies suggest that women's inclusion in interventions and groups was nominal and not substantive: they may have been invited or physically present but did not meaningfully develop agency.

Even when women adopted improved practices, their food security did not always improve without men's support. In Ghana, pest management information provided to women led to higher rates of adoption ($\hat{g} = 0.94$; 95% CI: 0.48, 1.40; $p < 0.001$) but had no effect on yield or dietary diversity unless men were also provided with information (Tambo et al., 2023). When both men and women received information, adoption ($\hat{g} = 0.74$; 95% CI: 0.43, 1.05; $p < 0.001$), yield ($\hat{g} = 0.56$; 95% CI: 0.25, 0.86; $p < 0.001$) and dietary diversity ($\hat{g} = 0.84$; 95% CI: 0.53, 1.16; $p < 0.001$) improved, suggesting that men's buy-in was needed for women to convert their improved agricultural practices into improved outcomes.⁷

Contextually relevant communication extends beyond translating tools into local languages; messages must also resonate with diverse local cultures (Lwamba et al., 2026). As an example of what happens when messages are not culturally tailored, the Singida Nutrition and Agroecology Project faced such strong backlash against its gender messaging that a mentor farmer had to leave the programme and the participation of his entire village suffered (Santoso et al., 2023).

Multi-stakeholder partnerships with a robust gender strategy may overcome barriers to women's meaningful engagement in intervention activities by establishing widespread support, improving women's leadership and allowing for improvements in their access to education and income-generating opportunities (Millennium Promise, 2010). The Singida Nutrition and Agroecology Project was able to overcome this challenge and had slightly higher attendance among women than men (Santoso et al., 2023).⁸

⁴ The reported effect sizes are standardised effect sizes as calculated by Lwamba et al. (2026).

⁵ The authors do not offer an explanation for this finding. They analyse many of the indicators of the PRO-WEAI and most do not improve by a statistically significant amount. However, the aggregate indicator is not analysed.

⁶ The intervention improved food stability (as measured by an overall resilience index) for households in the pooled dataset ($\hat{g} = 0.16$; 95% CI: 0.04, 0.29; $p = 0.01$) and male-headed households ($\hat{g} = 0.33$; 95% CI: 0.20, 0.45; $p < 0.001$). It also improved food agency (as measured by an index of transformative capacity) for households in the pooled dataset ($\hat{g} = 0.20$; 95% CI: 0.07, 0.32; $p = 0.002$) and male-headed households ($\hat{g} = 0.33$; 95% CI: 0.20, 0.45; $p < 0.001$). Although effects were different when results were stratified by the gender of the household head, these differences were not statistically significant when formally tested using interaction terms. In other words, the intervention's impact did not differ significantly between male- and female-headed households. The intervention had no statistically significant impacts on dietary diversity, availability of food at the beginning of lean season or quantity of food.

⁷ Effects were non-significant when information was given only to men, suggesting that they did not adopt integrated pest management practices.

⁸ The authors do not provide an explanation as to how this was achieved.

The combination of ICSCB interventions with cash transfers does not necessarily produce consistently positive effects for women. On the one hand, in Togo, an unconditional cash transfer programme that also provided community support for women during the first 1 000 days of their child's life had mixed effects on maternal nutrition⁹ and reduced empowerment on children's nutrition, health and education ($\hat{g} = -0.13$; 95% CI: -0.23, 0-0.03; $p = 0.001$); (Briaux et al., 2020). Reduced empowerment was likely because husbands started to engage more in decision-making about childcare to ensure the "proper" use of cash transfers, reducing women's ability to make independent decisions. On the other hand, in Nigeria, women were able to maintain control over cash transfers provided to them due to cultural norms (Carneiro et al., 2021). While these transfers did not consistently improve women's food security or nutrition outcomes,¹⁰ they improved household-level outcomes (Carneiro et al., 2021). Two other studies reported either non-significant effects for women (Galasso et al., 2019) or effects that were similar for men and women (Osei et al., 2018).

How to realise the right to food for women

To effectively support women's food security and nutrition and to realise their right to food, targeted interventions must go beyond inclusion and directly address the cultural and structural barriers that constrain women's agency, resource access and household decision-making power.

- Interventions may be more likely to succeed when they incorporate strong gender-transformative approaches; include men; address social norms; and build women's leadership, confidence and control over productive assets so that women can adopt improved agricultural practices.
- Pairing gender-sensitive approaches with improvements in women's education, training and livelihood opportunities may be critical to enabling meaningful and sustained improvements in food security and nutrition for women.

4.2 Children and youth

Barriers to participating in the food system

Children and youth are deeply embedded in food systems across sub-Saharan Africa, often contributing to food production (food availability) on family farms (Glover and Sumberg, 2020; Nchanji et al., 2023). However, they rarely control land or agricultural resources and have little control over food access and household decision-making (food agency). Children's food security is closely tied their mothers, with limited household resources and restrictive social norms frequently constraining their food access (UNICEF, 2020). Children have unique food utilisation requirements, including breastfeeding, heightened hygiene needs and specific care practices (UNICEF, 2019, 2020). Especially during a child's early years of life, adequate nutrition plays a vital role in ensuring lifelong health and development (Schwarzenberg et al., 2018). The diversity of farm production – particularly that of livestock production on farms – is associated with height-for-age in children and adolescents (Khonje et al., 2022). This association is greatest in areas with limited market access, likely due to increased reliance on family food production for consumption (Khonje et al., 2018).

When youth grow older and more independent, they often face a rapid expansion in responsibilities and expectations to secure their own food when outside the home, without an equivalent expansion in their resources and food access (Glover and Sumberg, 2020). They increasingly engage with external food environments through stores but do not control financial resources to purchase food (food access, food agency)

⁹ It increased the odds of women having at least three meals ($\hat{g} = 0.09$; 95% CI: 0.01, 0.18; $p = 0.02$) and at least two animal-sourced foods ($\hat{g} = 0.09$; 95% CI: 0.01, 0.17; $p = 0.03$) but had no significant effects on dietary diversity.

¹⁰ No statistically significant changes for maternal weight, height, BMI or risk of being malnourished. Reduced risk of not having enough food in the past year at endline ($\hat{g} = -0.37$; 95% CI: 0.20, 0.53; $p < 0.001$). Increase in monthly food expenditure at midline ($\hat{g} = 0.23$; 95% CI: 0.07, 0.40; $p = 0.005$) but not at endline among women who were not pregnant at baseline.

(Glover and Sumberg, 2020). Youth often engage in wage work and entrepreneurship, but many still aspire to productive agricultural livelihoods (Glover and Sumberg, 2020). Rapid physical development during this period continues to impose high demands for food utilisation, with lifelong health and productivity consequences if these demands are not met (Glover and Sumberg, 2020). Cost (food access) and taste (food utilisation) are the two dominant barriers to healthy diets among youth (UNICEF, 2019). While a certain amount of taste preferences is individual, preferences are also learned through early exposure to food and influenced by the external food environment, which often specifically targets youth with unhealthy food messages (UNICEF, 2019).

For children especially, vulnerabilities intersect with their environment. Special nutritional needs meet structural causes of vulnerability within their families, tied to their mothers and rooted in limiting factors within their food environment, like financial resources and social norms (Schwarzenberg et al., 2018; UNICEF, 2020). For example, parental education, parental employment and household wealth significantly contribute to the differences in dietary diversity between children that experience multidimensional poverty and those that do not (Endawkie et al., 2025). This often results in compounding negative effects.

Effectiveness of ICSBC interventions

Interventions that target children and youth are often designed around the school environment. However, **evidence on school-based nutrition programmes is mixed.**

A systematic review found that **peer-led, school-based** ICSBC interventions were effective at improving a variety of nutrition outcomes among youth aged 10 to 19 years in low- and middle-income countries (LMICs) (Ekubagewargies et al., 2025). Seven of the eight interventions evaluated achieved positive effects on diet, with the intervention that failed to achieve positive effects possibly impeded by a short time frame, small sample size and baseline differences between treatment and control groups. Multifaceted, integrated approaches may yield superior outcomes compared to interventions focusing on a single ICSBC component. Extended intervention periods were associated with more substantial improvements among participants. Despite the review's emphasis on LMICs, the study populations demonstrated considerable variation in age composition, demographic characteristics and ethnic backgrounds, reflecting the adaptability of peer-led programmes for different target audiences (Ekubagewargies et al., 2025).

Less clear is the evidence on **generalised, school-based** nutrition education and behaviour change programmes. One review found that they improved nutrition knowledge but did not consistently improve nutrition behaviours (Kyere et al., 2020), while another found consistent positive effects on the double burden of malnutrition (Escher et al., 2024).¹¹ In both cases, the evidence base was small. In Tanzania, an ICSBC intervention providing nutrition education, school gardens and community workshops improved diet quality but had largely non-significant or negative effects on adolescent anthropometrics (Wang et al., 2024).¹² Authors argued that the short time frame of the intervention might explain the lack of effect on anthropometrics, but this does not explain the *negative* effects that suggest adolescents were slightly heavier and shorter unless provided school meals in addition to the ICSBC components. A supportive school food environment might be necessary to convert improved knowledge into improved behaviour (Kyere et al., 2020; UNICEF, 2019).

¹¹ The double burden of malnutrition refers to a growing phenomenon whereby over- and undernutrition are observed within the same country, community, household or even individual. It is often characterised by a pattern of overweight or obese adults and stunted children existing within the same households. However, a single individual could be overweight and stunted.

¹² The intervention improved diet quality, regardless of whether or not school meals were provided. When school meals were not provided, weight, BMI and BMI z-score increased while height and height-for-age decreased. When school meals were provided, these effects were not statistically significant. When comparing effects among students who did and did not receive school meals, the only difference was in height-for-age, with the provision of school meals counteracting the negative effects of the intervention. No effects on haemoglobin were identified.

The **combination of ICSBC interventions and cash transfers has mixed effects.**¹³ The Child Development Grant Programme provided unconditional cash transfers and information on recommended practices for pregnancy and infant care in Nigeria. It increased height-for-age and reduced the odds of stunting at midline, but many of these effects became non-significant by endline (Carneiro et al., 2021).¹⁴ This reduction in effect at endline might be because the intervention resulted in reduced birth spacing, which could have counteracted the positive effects on growth (Carneiro et al., 2021). In Ethiopia, a cash transfer programme that included support from social workers and community care coalitions to improve nutrition did not improve children's dietary diversity (Gilligan et al., 2020). Largely non-significant effects were likely driven by implementation challenges which resulted in intervention activities being administered by health extension workers and not social workers as planned (Gilligan et al., 2020). An intervention in Togo that provided unconditional cash transfers and community behaviour change communication on nutrition improved child height-for-age and household food security according to the Household Food Insecurity Access Scale (HFIAS) ($\hat{g} = 0.11$; 95% CI: 0.02, 0.20; $p = 0.01$) but did not have statistically significant effects on other child nutrition indicators (Briaux et al., 2020).¹⁵

Combining ICSBC interventions with the provision of food, including supplements, generally proved effective. In food secure contexts, breastfeeding promotion and complementary feeding ICSBC interventions can improve child nutrition, but these may need to be bundled with food supplementation in food insecure contexts (Keats et al., 2021). Escher et al. (2024) found that maternal and child health interventions that include the provision of food effectively reduce undernutrition but may increase overnutrition. Maternal and child health interventions that focus only on behaviour change seem to be effective in reducing the double burden of malnutrition (Escher et al., 2024). However, a four-arm trial of a lipid-nutrient supplementation programme that also provided stimulation counselling and home visits had no effects on children's dietary diversity in Madagascar (Galasso et al., 2019).¹⁶ The authors propose that the lack of effect could be due to delivery and statistical limitations as well as challenges, constraints and trade-offs in the adoption of supported behaviours due to participant poverty and food insecurity. In general, food supplementation and fortification can consistently reduce micronutrient deficiencies and improve cognitive outcomes among children (Escher et al., 2024; Galasso et al., 2019; Keats et al., 2021).

ICSBC interventions are also implemented on the producer side to improve food security and nutrition for children or youth. In Tanzania, the Singida Nutrition and Agroecology Project, which included training for farmers on child dietary diversity, improved children's dietary diversity ($\hat{g} = 0.40$; 95% CI: 0.29, 0.51; $p < 0.001$) but the effect reduced after three years ($\hat{g} = 0.19$; 95% CI: 0.08, 0.31; $p < 0.001$; Santoso et al., 2021). Education, information and communication technology interventions in livestock support youth empowerment; however, the effects of these interventions on food security and nutrition were not reported (Nchanji et al., 2023).

¹³ There are also studies that look at the effect of cash transfers as a stand-alone intervention. Cash transfers may have positive effects on children and youth's food security, but the evidence is mixed. One review found that conditional cash transfers reduced the double burden of malnutrition (Escher et al., 2024), while another found no effect on anthropometric outcomes for children under five (Keats et al., 2021). A third review found inconsistent evidence on the effects of both conditional and unconditional cash transfers on a variety of food security and nutrition outcomes for children (Duraio et al., 2020).

¹⁴ Among children whose mothers were not pregnant at baseline, height-for-age increased by 0.20 (95% CI: 0.03, 0.36; $p = 0.02$) and the odds of stunting reduced by 0.24 (95% CI: 0.08, 0.21; $p = 0.004$) at midline. Among children whose mothers were pregnant at baseline, height-for-age reduced by 0.17 (95% CI: 0.05, 0.28; $p = 0.003$) at midline and 0.11 (95% CI: 0.003, 0.23; $p = 0.04$); odds of being stunted reduced by 0.12 (95% CI: 0.01, 0.23; $p = 0.03$) at midline; and odds of being severely stunted reduced by 0.12 (95% CI: 0.01, 0.24; $p = 0.03$) at midline, but these effects became non-significant at endline.

¹⁵ Height-for-age was not extracted by 3ie, so the normalised effect is not reported. None of the following were found to improve by statistically significant amounts: mean dietary diversity; consuming at least two animal source foods; minimum dietary diversity; minimum meal frequency; minimum acceptable diet; and optimal breastfeeding for children aged 6–29 months.

¹⁶ The supplementation component of this intervention reduced stunting among children exposed to the intervention before six months of age.

How to realise the right to food for children and youth

In food secure settings, ICSBC interventions with the aim of realising the right to food for children and youth may be effective on their own, but they may need to be bundled with the provision of food in food insecure settings.

- School-based interventions, particularly peer-led interventions, can be successful in improving nutrition for children and youth. However, these interventions inherently exclude out-of-school children and youth, who might be the most vulnerable. Specific information on reaching out-of-school children and youth was not identified.
- Traditional nutrition education approaches are likely to improve nutrition for children. The United Nations Children’s Fund (UNICEF) advocates innovative, fun, memorable and engaging communication strategies and front-of-package labelling to support healthy diets among children and youth (UNICEF, 2019).
- Combining ICSBC interventions with in-kind food support – such as school meals or supplementation and fortification – are likely to improve food security and nutrition but may increase overnutrition.

4.3 People with disabilities

People with disabilities have long-term physical, mental, intellectual or sensory impairments. These disabilities interact with structural barriers, hindering full, effective and equitable participation in society (UN, 2006).

Neither Lwamba et al. (2026) and Römling et al. (2025) nor the additional literature review conducted for this paper found conclusive evidence on impactful ICSBC interventions that aim to realise the right to food for people with disabilities. The lack of evidence is confirmed by another mapping review that sought evidence on interventions to support nutrition among people with disabilities in LMICs (Saran et al., 2020). That review identified only ten relevant studies, none of which reached a minimum level of quality while also having been conducted in sub-Saharan Africa. This is despite studies showing that people with disabilities are very likely to experience food insecurity, with social exclusion and discrimination being major factors hindering their food access in particular (Awuviry-Newton et al., 2022; Onyeaka et al., 2024).

This lack of evidence undermines efforts to design and implement interventions that guarantee the right to food for people with disabilities. However, from the available evidence on barriers, needs and demands, it can be deduced that interventions aiming to address structural discrimination, social exclusion and a loss of economic opportunities are likely to be effective.

To effectively design interventions that improve food security and nutrition for people with disabilities, **rigorous research is an imperative** and an important prerequisite to implementing the HRBA and LNOB.

4.4 Older adults

Barriers to participating in the food system

Older adults, defined as individuals aged 60 and over, face overlapping challenges with people with disabilities that increase their vulnerability to food insecurity. Functional disability is common among older adults and they can, like people with disabilities, experience social exclusion and discrimination that limits their food access (Braithwaite and Rosenberg, 2022; Onyeaka et al., 2024). Older adults experience reduced digestive efficiency, loss of appetite and taste, musculoskeletal limitations, and co-morbidities that affect food utilisation (Audain et al., 2017). Older adults often rely on their immediate environment and social networks for food access, but farming, foraging and collecting firewood become increasingly difficult with age (food access) (Braithwaite and Rosenberg, 2022).

Modernisation is eroding traditional food access pathways for older adults: shifts in household power weaken the control of older men over family assets and agricultural mechanisation displace older women from certain roles, such as threshing.

With gender a compounding factor, older women may be particularly vulnerable. In Ghana, for example, older adults, especially women, were stigmatised as witches and excluded from community support systems (food access, food agency) (Brammah and Rosenberg, 2022).

Effectiveness of ICSBC interventions

As with people with disabilities, the evidence base for interventions to improve nutrition among older adults remains extremely limited and no evaluations that focus on older adults have been identified.

Implementation evidence suggests limited **information access and social exclusion** can reduce the impacts of interventions targeting older adults. Even when interventions were available, older or physically constrained individuals may choose not to participate due to risk aversion or the labour demands of programme participation and behaviour adoption (Wairimu, 2023). The relationship between age and the adoption of climate-smart agricultural practices is variable (food availability), likely due to the information environment (Mnukwa et al., 2025; Nchanji et al., 2023; Ofosu-Ampong et al., 2025). Older individuals may have better access to information through interventions and agricultural outreach programmes, causing them to be more likely to adopt climate-smart agricultural practices. However, youth may increasingly access agricultural information through information and communication technology, including phone-based applications. Older individuals can also have more traditional preferences, reducing the likelihood that they adopt climate-smart agriculture.

How to realise the right to food for older adults

Existing evidence does not demonstrate which interventions effectively help to fulfil the right to food for older adults. More evidence is crucial to address the needs and demands involved in realising the right to food for this group.

4.5 Indigenous people

Barriers to participating in the food system

Given that native and underutilised crops are often more resilient to climate change than modern varieties, it could be assumed that indigenous communities, with access to traditional knowledge, would be advantaged within the food system. There are, for example, growing efforts to re-mainstream the use of indigenous crops (food stability) (Mabhaudhi et al., 2018; Mbow and Rosenzweig, 2019). However, promoting indigenous crops without addressing structural barriers, such as land rights and governance, does not guarantee equity for indigenous populations (Mabhaudhi et al., 2018). Indigenous agricultural systems across sub-Saharan Africa are undermined by limited policy attention and corporate capture (Onyeaka et al., 2024). Loss of land, a lack of formal land rights and exclusion from governmental structures often reduce indigenous food security, largely in terms of the access and availability pillars (Dawson et al., 2021; Errico, 2021; Kuhnlein, 2015). This is compounded by the fact that indigenous groups often face social exclusion and discrimination, which limit their food access (Onyeaka et al., 2024).

Indigenous reliance on ecosystem services can make them especially vulnerable to biodiversity loss, deforestation, over-exploitation of forest resources, water shortages, dam construction, water pollution, contamination of the food web, soil deterioration and climate change (Kuhnlein, 2015). These factors limit access to foraged foods and wild game, reducing food availability, accessibility and agency. Supporting local food systems may insulate indigenous communities from ecological, climatic and economic shocks, thereby building resilient food systems (Kuhnlein, 2015).

Effectiveness of ICSBC interventions

No studies included in the rapid evidence assessment related specifically to indigenous populations. ICSBC interventions targeting indigenous communities may specifically avoid promoting modern agricultural techniques because they could undermine indigenous culture. Instead, ICSBC interventions to support food security for indigenous populations could aim to empower their stewardship and management of ecosystems, with support from external partners (Dawson et al., 2021). Conservation interventions that empowered local institutions resulted in better outcomes for people and the environment than market-based interventions for conservation (such as supporting agricultural development), which increased inequality (Dawson et al., 2021).¹⁷ Some interventions provided education on traditional foods and judicious commercial food shopping (Kuhnlein, 2015) to counteract loss of indigenous knowledge systems due to Western education (Onyeaka et al., 2024).

How to realise the right to food for indigenous people

Only limited evidence is available on the effectiveness of ICSBC interventions that aim to realise the right to food for indigenous people. Therefore, **generating evidence on interventions for indigenous groups should be a priority**. Although specific evidence quantifying effects was not identified, available evidence suggests that capacity building interventions strengthening local governance structures to support indigenous land rights and conservation efforts may be effective approaches to improving food security and nutrition. Information interventions that promote indigenous culture may also be beneficial in contexts where indigenous communities have basic rights. The following good practices to realise the right to food for indigenous populations were identified (Kuhnlein, 2015):¹⁸

- Indigenous populations often face social exclusion and a lack of other rights which prevent them from fully exercising their right to food. Therefore, the interventions likely to be most effective are those that aim to reduce inequalities by supporting collaboration with governmental and civil society organisations to increase indigenous rights and inclusion.
- Interventions that meaningfully include indigenous groups in the development of resources on the land they occupy could help to address the structural barriers they face. This can involve re-establishing their rights to use traditional land for foraging and agriculture while supporting collaboration with governmental and civil society groups to ensure sustainable land use.
- To establish trust in and legitimacy of interventions, local ecological knowledge should be reflected in governance structures. This trust and legitimacy is necessary for community mobilisation, conflict resolution and intervention implementation (Dawson et al., 2021).
- Interventions that focus on traditional knowledge and its integration into programme design could also support cultural renewal. Messaging campaigns through elders, media and schools may empower indigenous communities to restore ecosystems, creating additional co-benefits.
- Interventions could further integrate local and indigenous customs surrounding food by providing information about local foods and nutrition and encouraging the use of nutritious, traditional foods in everyday meals. This can increase cultural pride, demand for local and traditional foods, and ecosystem protection.

¹⁷ This review focused on conservation and biodiversity, not agriculture. However, because natural resources are a key component of food security for indigenous communities (Kuhnlein, 2015), this is considered to be relevant.

¹⁸ Unless otherwise indicated, the recommendations provided below are drawn from Kuhnlein (2015).

4.6 Displacement-affected populations

Barriers to participating in the food system

The term “displaced populations” refers to people who have been *forcibly* displaced (internally and externally) (UNHCR, 2010). Refugees are a subcategory of displaced populations who have been displaced across international borders (UNHCR, 2025). Host communities are “communities that host large populations of refugees or internally displaced persons, typically in camps or directly integrated into households” (UNHCR, 2010). “Displacement-affected populations” include displaced populations, host communities and returnees (GNDR, 2022). We name the specific group wherever relevant.

Forced displacement is both a cause and a consequence of acute food insecurity and malnutrition (FSIN and GNAFC, 2023, 2025; Onyeaka et al., 2024; Vos et al., 2020). Similarly, conflict, climate extremes and economic shocks cause displacement and jeopardise food stability (FSIN and GNAFC, 2023, 2025; Vos et al., 2020). Through their displacement, households lose their land and access to food production resources (food availability). In their new communities, they are often excluded from legal employment and financial services (food access) (FSIN and GNAFC, 2023, 2025; Onyeaka et al., 2024). Human rights violations can force displaced populations to adopt harmful coping strategies such as increasing debt, child labour, engagement in armed groups and the sale of sex to gain food access. Severe underfunding of food aid programmes has reduced food availability for displaced populations (FSIN and GNAFC, 2023). The increased population pressures associated with large-scale, forced displacement can strain natural resources and markets, elevate tensions with host communities and reduce food sustainability (FSIN and GNAFC, 2023; Vos et al., 2020).

Effectiveness of ICSBC interventions

Effective ICSBC interventions supporting displacement-affected populations extend beyond direct information provision to facilitate integration, establish local support and mitigate hostilities between displaced populations and host communities (Nisbet et al., 2022; Vos et al., 2020). Such hostilities can arise from a perception that refugees are prioritised over host community members by aid organisations (Nisbet et al., 2022). Including host communities in targeting criteria may mitigate this.

Interventions that work with host communities to help refugees access documentation and the same rights as citizens can be an important component of food security by securing access to education, healthcare and employment (Nisbet et al., 2022). ICSBC interventions can facilitate the behaviour change necessary to reduce discrimination against displaced populations, causing host communities to legalise their status. ICSBC interventions can also provide capacity strengthening to support document processing. Integrating refugees into local economies and food systems through livelihoods and land interventions can enable self-sufficiency and the development of durable solutions for all (Nisbet et al., 2022; Vos et al., 2020). When intervention designers decide which livelihoods to support, they can select those that refugees are already engaging in within their new communities (Vos et al., 2020).

The Kalobeyei Integrated Socio-Economic Development Plan in Kenya provides a compelling example of integrating displaced communities into host communities (MacPherson and Sterck, 2021). The settlement was opened near the Kakuma refugee camp and generally had the same legal and geographic framework, including legal restrictions on refugees' rights to work and freedom of movement. However, the settlement was open to both refugees and host community members, relied heavily on cash transfers and markets to provide food and supported kitchen gardens. Refugees in the settlement had better dietary diversity ($\hat{g} = 0.41$; 95% CI: 0.17, 0.64; $p < 0.001$), caloric intake ($\hat{g} = 0.59$; 95% CI: 0.27, 0.90; $p < 0.001$), food security ($\hat{g} = 0.73$; 95% CI: 0.41, 1.05; $p < 0.001$) and independence from food aid ($\hat{g} = 0.43$; 95% CI: 0.13, 0.74; $p = 0.005$) than those in the camp. Mediation analysis suggests that effects were largely driven by cash transfers and not by the use of kitchen gardens. Managing the settlement and cash transfers was cheaper than managing the refugee camp and food aid, allowing for the possibility of spending an additional three US dollars per person per month if the camp system was replaced by a settlement system. In addition, although not mentioned by the study authors, the use of a market-based approach to food aid likely improved the livelihoods of host community members more than in-kind food aid.

Two additional studies on displacement-affected populations were identified, but most indicators did not achieve statistically significant changes. One study considered a capacity building intervention within the fish value chain in an area with a high concentration of displaced and recently returned people in the Democratic Republic of Congo. The intervention increased food expenditures for fishers ($\hat{g} = 0.47$; 95% CI: 0.14, 0.80; $p = 0.005$) but not fish processors. It had no effects on food security for fishers or fish processors (Fuller, 2012). The non-significant effects could have been driven by the short time frame, lack of intervention intensity and high attrition rates (Fuller, 2012). Only 40% of the fish processors supported by the intervention were still in the area at endline. Significant movement and loss to follow-up are likely to be consistent challenges for interventions working with on-the-move populations. Another study focused on a mobile health intervention in internally displaced persons camps in Somalia. The intervention improved household ($\hat{g} = 0.38$; 95% CI: 0.13, 0.62; $p = 0.003$) and child ($\hat{g} = 0.42$; 95% CI: 0.17, 0.66; $p < 0.001$) dietary diversity (Grijalva-Eternod et al., 2023). The cash transfer component of the same intervention increased child dietary diversity ($\hat{g} = 0.38$; 95% CI: 0.12, 0.61; $p = 0.003$) but had no effect on household dietary diversity.¹⁹

How to realise the right to food for displacement-affected populations

Generally, ICSBC interventions for displacement-affected populations should prioritise safety and coordination.

- When designing interventions for displacement-affected populations, special attention may be required to address intersecting vulnerabilities – for instance, by ensuring the safety of displaced women and girls trying to access services (Nisbet et al., 2022).
- Interventions should ensure coordination among the various actors often working in these fields as they can be crowded and duplicative (Nisbet et al., 2022; Vos et al., 2020).
- After meeting basic needs or bundled alongside interventions to meet basic needs, ICSBC food security interventions may focus on smoothing relations between host communities and displaced populations, facilitating access to services and developing sustainable livelihoods for all. Cash transfer programmes may be used to meet basic needs in areas with functioning markets (Nisbet et al., 2022; Vos et al., 2020).

¹⁹ This evaluation also considered effects on reduced coping strategies, household expenditure on food, maternal knowledge on health and nutrition, and exclusive breastfeeding but did not find statistically significant changes at endline. The authors do not offer insights regarding how effects were achieved other than comments on generally good implementation.

4.7 Less educated populations

Barriers to participating in the food system

Many interventions prioritise nutrition and agricultural education for food security and nutrition. However, a lack of general basic education and literacy can lead to inefficient participation in the food system. This prevents less educated populations from realising their right to food. For example, less educated farmers are less likely to adopt sustainable agricultural practices (Mnukwa et al., 2025; Ofosu-Ampong et al., 2025; Ogisi and Begho, 2023). In east and southern Africa, the number of years of education of the head of household was positively associated with the adoption of drought tolerant maize (Fisher et al., 2015). This suggests that less educated farmers may have lower production and food availability.

In the future, basic education will be necessary for most agri-food systems jobs across Africa (Kabasa et al., 2015). The adoption of information and communication technology and other advanced tools for agriculture will likely require basic education, particularly literacy (Jellason et al., 2021). Agri-food businesses in Africa already view basic education and entrepreneurial skills as more important than technical training in expanding their businesses (Vos and Cattaneo, 2021). Investment in rural education, livelihoods training and informational programmes can improve agricultural practices and entrepreneurship (Onyeaka et al., 2024).

Education may **compound the negative effects of other vulnerabilities**. Across sub-Saharan Africa, **children** of less educated parents were shorter and had worse dietary diversity (Headey et al., 2018). Among **elderly** populations, those with lower education were more likely to be malnourished (Obeng et al., 2022). The relationship between education and nutrition in these cases could be related to food access, with less educated people being poorer, or to food agency, with less educated people not having the information to make healthy choices.

For girls, education can reduce the likelihood of child marriage by offering alternative pathways for their future beyond marriage (Nchanji et al., 2023). This same alternative future can make educated women less “marriagable”, resulting in negative outcomes for women and girls who, due to structural constraints, remain dependent on marriage for economic security and social protection. In contexts where women face legal restrictions on property ownership, inheritance rights and access to formal employment, marriage often remains the primary pathway to economic stability and social legitimacy (Doss et al., 2015; Nchanji et al., 2023). While these constraints reflect deeply entrenched structural inequalities that require systemic reform, women and girls must nevertheless navigate these realities in their daily lives. This tension between educational advancement and marriageability can affect their food security outcomes.

Effectiveness of ICSBC interventions

Only one study was identified that disaggregated information by educational status – one that evaluated an agriculture cooperative and value chain capacity building intervention in Ethiopia. It found that household food security increased more for younger and less educated farmers, but there were no changes in household dietary diversity (Biggeri et al., 2022).²⁰

How to realise the right to food for less educated populations

Investment in basic education and literacy is likely to improve food security for less educated people. Basic education may increase participation in ICSBC interventions and lead to improved agricultural practices, better dietary choices and increased off-farm livelihood opportunities, all of which should improve food security and nutrition.

²⁰ This finding is based on subgroup analysis and not a formal statistical test for differences in impact. The authors do not provide a compelling explanation as to why these differences occurred.

5. CONCLUSIONS

The way people exercise agency and claim their rights within food systems is constrained by structural inequalities rooted in gender norms and discrimination due to age, disability, displacement and indigeneity. Theoretically grounded ICSBC interventions that directly address these constraints can improve equity in food security and nutrition outcomes (see Table 1). However, to truly realise the right to food, development practitioners must address other fundamentally related human rights, including land rights, access to resources and (legal and social) equality for all. Only when these rights are fulfilled can vulnerable populations act on the information and capacities shared by ICSBC interventions. This shows the interdependency and indivisibility of human rights as reflected in the principles of the human rights system, the HRBA, the 2030 Agenda and LNOB. This also means that duty-bearers must take responsibility for realising all human rights everywhere, making international cooperation necessary.

In addition to addressing inequalities, effective ICSBC interventions will also likely deliver practical knowledge tailored to vulnerable groups. This knowledge must be aligned with their capacities and cultural contexts. Interventions could facilitate access to market information and adoption of value-added food processing, packaging and storage techniques.

Overall, this analysis points to the following conclusions:

- Vulnerable groups often lack access to governmental services and basic rights, such as land rights, freedom of movement and the right to work. ICSBC interventions need to either change these constraints or support behaviours that function within them. There is no point promoting behaviours that vulnerable groups are legally, culturally or practically prohibited from engaging in. Consequently, addressing **structural constraints** should be integrated into programme design.
- ICSBC within the food system can often be approached narrowly, conceptualised as primarily related to agriculture and nutrition information and sometimes extending into value chain considerations. Increasingly, ICSBC interventions address gender and climate topics. However, governance issues, discrimination and education can also be addressed through such interventions and have direct implications for food security and nutrition. It may be necessary to work outside the food system to meaningfully improve food security for vulnerable groups. Therefore, these could be included within an expanded **definition of “nutrition-sensitive” interventions**.
- Interventions for populations with overlapping vulnerabilities may need to adopt complementary approaches. For example, interventions for indigenous women may need to support governance and address intra-household dynamics.
- Many ICSBC interventions support behaviours that require certain inputs. It is impractical to expect the most vulnerable to adopt behaviours that they do not have the resources to implement; therefore, interventions may need to **provide these resources** in addition to ICSBC promotion.

Further conclusions can be drawn for specific vulnerable populations:

- **Women** often face multiple overlapping constraints, including limited control over resources, restricted decision-making at the household level and heavy household responsibilities. Interventions must move beyond nominal inclusion and tackle intra-household power dynamics so that women can meaningfully engage with value chains. This may empower them to convert improved agricultural practices into improved food security outcomes. Beyond traditional agricultural, there are signs of promise in ICSBC interventions that intentionally engage both men and women, integrate strong gender strategies and invest in women’s leadership and confidence.
- People experience food insecurity differently across life stages. For **children**, food access is tightly linked to maternal wellbeing and care practices, while **youth** face expanding food agency without corresponding resources to access food. School-based interventions, particularly peer-led approaches, may be promising but automatically exclude out-of-school children and youth. **Education** remains a critical determinant of both agency and food system participation across generations. Basic education and literacy will be a key determinant of livelihoods and food security across sub-Saharan Africa in the future. Therefore, primary education and literacy programmes should not be overlooked as food security interventions.

- **People with disabilities** and **older adults** often become systematically excluded from the food system. Their unique physical, social and care needs require targeted programming. Current evidence is extremely limited for both groups, which makes evidence generation an imperative to support development practitioners in designing tailored approaches in line with the HRBA. The identified constraints on food security for these groups suggest that supporting social inclusion and accessible livelihoods may be promising.
- **Indigenous** and **displacement-affected populations** often experience acute exclusion from formal institutions, land rights and governmental decision-making. Supporting these groups may require restoring agency through participation in governance, recognising traditional knowledge and ensuring equal rights. Anti-discrimination and governance ICSBC interventions that take place *outside* the food system, supporting and requiring duty-bearers to realise other human rights, may be necessary for meaningful improvements *within* the food system to be practical. In addition, interventions must be co-designed with communities and rooted in trust and legitimacy to be effective.

Table 3 summarises promising interventions and design elements for each group.

Table 3 Promising interventions and design elements to support food security and nutrition for vulnerable groups

Vulnerable population	Promising interventions	Design elements
Women	<ul style="list-style-type: none"> • No specific ICSBC interventions identified 	<ul style="list-style-type: none"> • Including men and decision-makers • Investing in women's leadership
Children and youth	<ul style="list-style-type: none"> • School-based interventions, including peer learning • Traditional nutrition and breastfeeding education may be appropriate as a stand-alone activity in contexts that are more food secure. They may need to be supplemented by in-kind food provision in food insecure contexts. 	<ul style="list-style-type: none"> • Ensuring that schools provide a supportive food environment, not just nutrition education • Developing innovative, fun, memorable and engaging communication strategies
People with disabilities and older adults	<ul style="list-style-type: none"> • Support for social inclusion and accessible livelihoods 	<ul style="list-style-type: none"> • Accommodating the physical constraints of these populations and their elevated risk aversion
Indigenous people	<ul style="list-style-type: none"> • Strengthening indigenous governance systems and indigenous inclusion in local governance • Support for land rights and transparent collaboration with conservation groups 	<ul style="list-style-type: none"> • Respecting and incorporating traditional knowledge
Displacement-affected populations	<ul style="list-style-type: none"> • Support for displaced populations, establishing similar rights to those of host community members and ensuring equal access to services • Use of cash transfers rather than in-kind food aid 	<ul style="list-style-type: none"> • Including host communities in intervention design and targeting

Source: DEval, own visualisation,

Notes: For people with disabilities and older adults, the evidence base is extremely limited. Therefore, conclusions are largely based on identified constraints as opposed to evidence of promising approaches.

6. REFERENCES

- 3ie (2022)**, “Effects of women’s empowerment interventions in food systems”, *Rapid Evidence Assessment Brief*, International Initiative for Impact Evaluation (3ie), London.
- Abdullahi, A. M., R. B. Kalengyo and A. A. Warsame (2024)**, “The unmet demand of food security in East Africa: Review of the triple challenges of climate change, economic crises, and conflicts”, *Discover Sustainability*, Vol. 5, No. 1, <https://doi.org/10.1007/s43621-024-00381-5>.
- Alwang, J., P. B. Siegel and S. L. Jorgensen (2001)**, “Vulnerability: A view from different disciplines”, No. 0115, *Social Protection Discussion Paper*, World Bank, Washington D.C, <https://documents1.worldbank.org/curated/en/636921468765021121/pdf/multiopage.pdf>
- Armaş, I. and A.-C. Albulescu (2025)**, “From static to dynamic: Conceptual and operational developments of vulnerability”, *iScience*, Vol. 28, No. 3, <https://doi.org/10.1016/j.isci.2025.112070>.
- Audain, K., M. Carr, D. Dikmen, F. Zotor and B. Ellahi (2017)**, “Exploring the health status of older persons in sub-Saharan Africa”, *The Proceedings of the Nutrition Society*, Vol. 76, No. 4, pp. 574–579, <https://doi.org/10.1017/S0029665117000398>.
- Awoke, M. D., K. Löhr, A. A. Kimaro, M. Lana, B. D. S. Wenda, K. Buabeng, J. M. Hafner and S. Sieber (2025)**, “Exploring gender dynamics in climate-smart agriculture adoption: A study in semi-arid Dodoma, Tanzania”, *Frontiers in Sustainable Food Systems*, Vol. 8, <https://doi.org/10.3389/fsufs.2024.1507540>.
- Awuviry-Newton, K., D. Amoah, M. Tavener, A. A. Afram, P. V. Dintrans, J. Byles and P. Kowal (2022)**, “Food insecurity and functional disability among older adults in Ghana: The role of sex and physical activity”, *Journal of the American Medical Directors Association*, Vol. 23, No. 8, pp. 1432.e1–1432.e7, <https://doi.org/10.1016/j.jamda.2022.01.065>.
- Berg, E.J. (1993)**, *Rethinking Technical Cooperation: Reforms for Capacity Building in Africa*, Regional Bureau for Africa and United Nations Development Programme and Development Alternatives, New York.
- Biggeri, M., A. Carraro, F. Ciani and D. Romano (2022)**, “Disentangling the impact of a multiple-component project on SDG dimensions: The case of durum wheat value chain development in Oromia (Ethiopia)”, *World Development*, Vol. 153, <https://doi.org/10.1016/j.worlddev.2021.105810>.
- BMZ (2024)**, Human Rights Strategy for German Development Policy, Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ), Bonn/Berlin, <https://www.bmz.de/resource/blob/209208/bmz-menschenrechtskonzept-a4-en.pdf> (accessed 14.04.26).
- Braimah, J. A. and M. W. Rosenberg (2022)**, “An ecological systems analysis of food access barriers and coping strategies adopted by older adults in Ghana”, *The Canadian Geographer*, Vol. 66, No. 1, pp. 107–118, <https://doi.org/10.1111/cag.12735>.
- Briaux, J., Y. Martin-Prevel, S. Carles, S. Fortin, Y. Kameli, L. Adubra, A. Renk, Y. Agboka, M. Romedenne, F. Mukantambara, J. Van Dyck, J. Boko, R. Becquet and M. Savy (2020)**, “Evaluation of an unconditional cash transfer program targeting children’s first-1,000–days linear growth in rural Togo: A cluster-randomized controlled trial”, *PLOS Medicine*, Vol. 17, No. 11, <https://doi.org/10.1371/journal.pmed.1003388>.
- Carneiro, P., L. Kraftman, I. Rasul and M. Scott (2021)**, “Do cash transfers promoting early childhood development have unintended consequences on fertility?” *Unpublished Working Paper*, <https://fass.nus.edu.sg/ecs/wp-content/uploads/sites/4/2021/10/CDGPnonpreg.pdf> (accessed 14.04.26).
- CFS (2009)**, Reform of the Committee on World Food Security: Final Version, Committee on World Food Security (CFS), Rome.
- Clapp, J. and W. Moseley (2021)**, “Food security and nutrition: Arguments for a six-dimensional food security framework”, Presentation for UNDESA Dialogues for Sustainability.
- Clapp, J., W. G. Moseley, B. Burlingame and P. Termine (2022)**, “Viewpoint: The Case for a six-dimensional food security framework”, *Food Policy*, Vol. 106, p. 102164, <https://doi.org/10.1016/j.foodpol.2021.102164>.

- Dawson, N. M., B. Coolsaet, E. J. Sterling, R. Loveridge, N. D. Gross-Camp, S. Wongbusarakum, K. K. Sangha, L. M. Scherl, H. Phuong Phan, N. Zafra-Calvo, W. G. Lavey, P. Byakagaba, C. J. Idrobo, A. Chenet, N. J. Bennett, S. Mansourian, and F. J. Rosado-May (2021)**, “The role of indigenous peoples and local communities in effective and equitable conservation”, *Ecology and Society*, Vol. 26, No. 3, doi:10.5751/ES-12625-260319.
- Doss, C., C. Kovarik, A. Peterman, A. Quisumbing and M. van den Bold (2015)**, “Gender inequalities in ownership and control of land in Africa: Myth and reality”, *Agricultural Economics*, Vol. 46, No. 3, pp. 403–434, <https://doi.org/10.1111/agec.12171>.
- Durao, S., M. E. Visser, V. Ramokolo, J. M. Oliveira, B.-M. Schmidt, Y. Balakrishna, A. Brand, E. Kristjansson and A. Schoonees (2020)**, “Community-level interventions for improving access to food in low- and middle-income countries”, *Cochrane Database of Systematic Reviews*, Vol. 2020, No. 8, doi:10.1002/14651858.CD011504.pub3.
- Ekubagewargies, D. T., F. Ahmed and P. Lee (2025)**, “Effectiveness of peer-led interventions in improving the dietary behavior of adolescents in low- and middle-income countries: A systematic review”, *Nutrition Reviews*, Vol. 83, No. 7, <https://doi.org/10.1093/nutrit/nuaf037>.
- Endawkie, A., Y. Tsega, D. B. Asmamaw, N. Kebede, M. Arefaynie and T. W. Mawugatie (2025)**, “Multidimensional disparity in inadequate minimum dietary diversity between poor and non-poor children aged 6–23 months in sub-Saharan Africa: A multivariate decomposition analysis”, *Frontiers in Public Health*, Vol. 13, No. 1516129, doi:10.3389/fpubh.2025.1516129.
- Errico, S. (2021)**, “Women’s right to land between collective and individual dimensions: Some insights from sub-Saharan Africa”, *Frontiers in Sustainable Food Systems*, Vol. 5, doi:10.3389/fsufs.2021.690321.
- Escher, N. A., G. C. Andrade, S. Ghosh-Jerath, C. Millett and P. Seferidi (2024)**, “The effect of nutrition-specific and nutrition-sensitive interventions on the double burden of malnutrition in low-income and middle-income countries: A systematic review”, *The Lancet Global Health*, Vol. 12, No. 3, pp. e419–e432, doi:10.1016/S2214-109X(23)00562-4.
- Fakhi, A. and A. Sikira (2018)**, “The contribution of agricultural service support programme to socio-economic empowerment of rural women in Zanzibar, Tanzania”, *Developing Country Studies*, Vol. 8, No. 3, pp. 32–41.
- FAO (1996)**, *Rome Declaration on World Food Security and World Food Summit Plan of Action*, Food and Agriculture Organization of the United Nations (FAO), Rome.
- FAO (2009)**, *Guide on Legislating for the Right to Food*, Food and Agriculture Organization (FAO), Rome.
- FAO (2012)**, “Human rights: A strategy for the fight against hunger”, *Fact Sheet 2*, Food and Agriculture Organization (FAO), Rome, <https://openknowledge.fao.org/handle/20.500.14283/ap560e>, (accessed 14.04.26).
- FAO (2022)**, *Behaviour Change Communication Strategy for Food Security and Agriculture Productivity Project: “You Are What You Eat!”*, Food and Agriculture Organization (FAO), Rome, doi:10.4060/cc1050en.
- FAO (2024)**, “Right to Food: Background”, Food and Agriculture Organization (FAO), Rome, <https://www.fao.org/right-to-food/background/en> (accessed 14.14.2026).
- FAO, IFAD, UNICEF, WFP and WHO (2025)**, *The State of Food Security and Nutrition in the World 2025: Addressing High Food Price Inflation for Food Security and Nutrition*, Food and Agriculture Organization of the United Nations (FAO), Rome, doi:10.4060/cd6008en.
- Fisher, M., T. Abate, R. W. Lunduka, W. Asnake, Y. Alemayehu and R. B. Madulu (2015)**, “Drought tolerant maize for farmer adaptation to drought in sub-Saharan Africa: Determinants of adoption in Eastern and Southern Africa”, *Climatic Change*, Vol. 133, No. 2, pp. 283–299, <https://link.springer.com/article/10.1007/s10584-015-1459-2>.
- FSIN and GNAFC (2023)**, *Global Report on Food Crises 2023*, Food Security Information Network (FSIN) and Global Network Against Food Crises (GNAFC), Rome.
- FSIN and GNAFC (2025)**, *Global Report on Food Crises 2025*, Food Security Information Network (FSIN) and Global Network Against Food Crises (GNAFC), Rome.

- Fukuda-Parr, S. and C. Lopes (eds.) (2013)**, *Capacity for Development: New Solutions to Old Problems*, Routledge, London, doi:10.4324/9781849770651.
- Fuller, R. (2012)**, *Livestock Commercialisation for Pastoralist Communities in North Dakoro Project Effectiveness Review: Adaptation and Risk Reduction*, Oxfam GB for Oxfam International, UK.
- Gabel, F., M. Krüger, C. Morsut and C. Kuran (2022)**, “Bridging the Gap between Vulnerable Groups and Vulnerable Situations: Towards an integrative perspective on vulnerability for disaster risk reduction”, *Working Paper*, United Nations Office for Disaster Risk Reduction (UNDRR), Geneva, <https://www.undrr.org/publication/bridging-gap-between-vulnerable-groups-and-vulnerable-situations-towards-integrative> (accessed 14.04.2026).
- Galasso, E., A. M. Weber, C. P. Stewart, L. Ratsifandrihamanana L and L. C. H. Fernald (2019)**, “Effects of nutritional supplementation and home visiting on growth and development in young children in Madagascar: A cluster-randomised controlled trial”, *The Lancet Global Health*, Vol. 7, No. 9, doi:10.1016/S2214-109X(19)30317-1.
- Garbero, A. and B. B. Chichaibelu (2018)**, “Agricultural sector development programme-livestock (ASDP-L) and the agriculture service support programme (ASSP): United Republic of Tanzania”, *IFAD Impact Assessment Report*, International Fund for Agricultural Development (IFAD), Rome.
- Gilligan, D.O., A. Arrieta, S. Devereux, J. Hoddinott, D. Kebede, N. Ledlie, K. Roelen and A. S. Taffesse (2020)**, *Impact Evaluation of Improved Nutrition through Integrated Basic Social Services and Social Cash Transfer Pilot Program (IN-SCT) in Oromia and SNNP Regions, Ethiopia: Endline Impact Evaluation Report*, United Nations Children’s Fund (UNICEF), Ministry of Labor and Social Affairs (MOLSA) and International Food Policy Research Institute (IFPRI), Ethiopia.
- Glover, D. and J. Sumberg (2020)**, “Youth and food systems transformation”, *Frontiers in Sustainable Food Systems*, Vol. 4, doi:10.3389/fsufs.2020.00101.
- GNDR (2022)**, “Forced displacement. How do we address forced displacement from the perspective of those most at risk?”, *Forced Displacement Global Paper*, Global Network of Civil Society Organisations for Disaster Reduction (GNDR), London, <https://www.gndr.org/wp-content/uploads/2022/05/V2-Forced-Displacement-Global-Paper-EN.pdf> (accessed 14.04.2026).
- Grant, M. J. and A. Booth (2009)**, “A typology of reviews: An analysis of 14 review types and associated methodologies”, *Health Information and Libraries Journal*, Vol. 26, No. 2, pp. 91–108.
- Grijalva-Eternod, C. S., M. Jelle, H. Mohamed, K. Waller, B. O. Hussein, E. Barasa, A. Solomon, S. Mehjabeen, A. Copas, E. Fottrell and A. J. Seal (2023)**, “Evaluation of conditional cash transfers and mHealth audio messaging in reduction of risk factors for childhood malnutrition in internally displaced persons camps in Somalia: A 2 × 2 factorial cluster-randomised controlled trial”, *PLOS Medicine*, Vol. 20, No. 2, doi:10.1371/journal.pmed.1004180.
- Hadfield-Spoor, M., M. Avendano and R. Loopstra (2022)**, “Food insecurity among disabled adults”, *European Journal of Public Health*, Vol. 32, No. 4, pp. 593–599, <https://doi.org/10.1093/eurpub/ckac034>.
- Headey, D., L. You and Z. Guo (2018)**, “Remoteness, urbanization, and child nutrition in sub-Saharan Africa”, *Agricultural Economics*, Vol. 49, No. 6, doi:10.1111/agec.12458.
- HLPE (2020)**, “Food security and nutrition: Building a global narrative towards 2030”, *HLPE Report*, No. 15, The High Level Panel of Experts on Food Security and Nutrition (HLPE), Rome.
- HLPE (2023)**, “Reducing inequalities for food security and nutrition”, *HLPE Report*, No. 18, The High Level Panel of Experts on Food Security and Nutrition (HLPE), Rome.
- ICESCR (1966)**, “International Covenant on Economic, Social and Cultural Rights. Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966”.
- IOB (2017)**, “Food for thought: Review of Dutch food security policy 2012-2016”, *IOB Evaluation*, No. 419, Policy and Operations Evaluation Department (IOB), Ministry of Foreign Affairs of the Netherlands, The Hague, Netherlands.
- IOB (2024)**, “Synergy in development: Coherence of Dutch policy and the effects on food security, water and climate in developing countries, 2016-2023”, *IOB Periodic Policy Review*, Policy and Operations Evaluation Department (IOB), Ministry of Foreign Affairs of the Netherlands, The Hague, Netherlands.

- Jellason, N. P., E. Robinson and C. Ogbaga (2021)**, “Agriculture 4.0: Is sub-Saharan Africa ready?”, *Applied Sciences*, Vol. 11, No. 12, <https://doi.org/10.3390/app11125750>.
- Kabasa, J. D., J. F. Kirsten and I. Minde (2015)**, “Implications of changing agri-food system structure for agricultural education and training in sub-Saharan Africa”, *Journal of Agribusiness in Developing and Emerging Economies*, Vol. 5, No. 2, pp. 190–199, [doi:10.1108/JADEE-03-2015-0016](https://doi.org/10.1108/JADEE-03-2015-0016).
- Keats, E. C., J. K. Das, R. A. Salam, Z. S. Lassi, A. Imdad, R. E. Black, Z. A. Bhutta (2021)**, “Effective interventions to address maternal and child malnutrition: An update of the evidence”, *The Lancet Child & Adolescent Health*, Vol. 5, No. 5, pp. 367–384, [doi:10.1016/S2352-4642\(20\)30274-1](https://doi.org/10.1016/S2352-4642(20)30274-1).
- Khonje, M. G., J. Manda, P. Mkandawire, A. H. Tufa, A. D. Alene (2018)**, “Adoption and welfare impacts of multiple agricultural technologies: Evidence from Eastern Zambia”, *Agricultural Economics*, Vol. 49, No. 5, pp. 599–609, <https://doi.org/10.1111/agec.12445>.
- Khonje, M. G., J. Ricker-Gilbert, M. Muyanga, and M. Qaim (2022)**, “Farm-level production diversity and child and adolescent nutrition in rural sub-Saharan Africa: A multicountry, longitudinal study”, *Lancet Planet Health*, Vol. 6, No. 5, pp. e391–e399, [https://doi.org/10.1016/S2542-5196\(22\)00071-7](https://doi.org/10.1016/S2542-5196(22)00071-7).
- Kuhnlein, H. V. (2015)**, “Food system sustainability for health and well-being of Indigenous Peoples”, *Public Health Nutrition*, Vol. 18, No. 13, [doi:10.1017/S1368980014002961](https://doi.org/10.1017/S1368980014002961).
- Kyere, P., J. L. Veerman, P. Lee and D. E. Stewart (2020)**, “Effectiveness of school-based nutrition interventions in sub-Saharan Africa: A systematic review”, *Public Health Nutrition*, Vol. 23, No. 14, pp. 2626–2636, [doi:10.1017/S1368980020000506](https://doi.org/10.1017/S1368980020000506).
- Leblang, D., M. Smith and D. Wesselbaum (2025)**, “Food insecurity across age: Evidence from a global study”, *Global Food Security*, Vol. 47, <https://doi.org/10.1016/j.gfs.2025.100891>.
- Lwamba, E., I. Storhaug, S. Pande, P. Marion, D. Cordova-Aruaz, S. Shisler, E. Quiñones, C. Römling and A. Sting (2026)**, “Development cooperation for food security and nutrition: Rapid evidence assessment on the effects of information, capacity strengthening, and behaviour change interventions on food security, nutrition, and environmental food system resilience in sub-Saharan Africa”, *Working Paper 68*, International Initiative for Impact Evaluation (3ie), London, <https://www.3ieimpact.org/evidence-hub/publications/working-papers/development-cooperation-food-security-and-nutrition-rapid> (accessed 14.04.2026).
- Mabhaudhi, T., T. P. Chibarabada, V. G. P. Chimonyo, V. G. Murugani, L. M. Pereira, N. Sobratee, L. Govender, R. Slotow and A. T. Modi (2018)**, “Mainstreaming underutilized indigenous and traditional crops into food systems: A South African perspective”, *Sustainability*, Vol. 11, No. 1, [doi:10.3390/su11010172](https://doi.org/10.3390/su11010172).
- MacPherson, C. and O. Sterck (2021)**, “Empowering refugees through cash and agriculture: A regression discontinuity design”, *Journal of Development Economics*, Vol. 149, [doi:10.1016/j.jdeveco.2020.102614](https://doi.org/10.1016/j.jdeveco.2020.102614).
- Mamo, D. (ed.) (2025)**, *The Indigenous World 2025*, The International Work Group for Indigenous Affairs (IWGIA), Copenhagen.
- Mbow, C. and C. Rosenzweig (2019)**, “Chapter 5: Food Security”, in *Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems*, Intergovernmental Panel on Climate Change (IPCC), Geneva, <https://www.ipcc.ch/srccl/chapter/chapter-5/>.
- Millennium Promise (2010)**, *Millennium Promise 2010 Annual Report*, Millennium Promise, New York.
- Miller, F., H. Osbahr, E. Boyd, F. Thomalla, S. Bharwani, G. Ziervogel, B. Walker, J. Birkmann, S. Van der Leeuw, J. Rockström, J. Hinkel, T. Downing, C. Folke, and D. Nelson (2010)**, “Resilience and vulnerability: Complementary or conflicting concepts?”, *Ecology and Society*, Vol. 15, No. 3, <https://www.ecologyandsociety.org/vol15/iss3/art11/>.
- Mnukwa, M. L., L. Mdoda and M. Mudhara (2025)**, “Assessing the adoption and impact of climate-smart agricultural practices on smallholder maize farmers’ livelihoods in sub-Saharan Africa: A systematic review”, *Frontiers in Sustainable Food Systems*, Vol. 9, <https://doi.org/10.3389/fsufs.2025.1543805>.
- Montalbano, P. and D. Romano (2023)**, “Vulnerability and resilience to food and nutrition insecurity: A review of the literature towards a unified framework”, *Bio-Based and Applied Economics*, Vol. 11, No. 4, [doi:10.36253/bae-14125](https://doi.org/10.36253/bae-14125).

- Nchanji, E. B., K. Kamunye and C. Ageyo (2023)**, “Thematic evidencing of youth-empowering interventions in livestock production systems in Sub-Sahara Africa: A systematic review”, *Frontiers in Sustainable Food Systems*, Vol. 7, <https://doi.org/10.3389/fsufs.2023.1176652>.
- Nisbet, C., K. E. Lestrat and H. Vatanparast (2022)**, “Food security interventions among refugees around the globe: A scoping review”, *Nutrients*, Vol. 14, No. 3, <https://doi.org/10.3390/nu14030522>.
- Obeng, P., H. K. Kyereh, J. O. Sarfo, E. W. Ansah and P. Y. A. Attafuah (2022)**, “Nutritional status and associated factors of older persons in sub-Saharan Africa: A scoping review”, *BMC Geriatrics*, Vol. 22, No. 1, doi: 10.1186/s12877-022-03062-y.
- Ofosu-Ampong, K., A. Wuletawu, A. Müller, S. Adjei-Nsiah, R. Boateng and B. Acheampong. (2025)**, “Framing behaviour change for sustainable agriculture: Themes, approaches, and future directions”, *Farming System*, Vol. 3, No. 1, doi:10.1016/j.farsys.2024.100123.
- Ogisi, O. D. and T. Begho (2023)**, “Adoption of climate-smart agricultural practices in sub-Saharan Africa: A review of the progress, barriers, gender differences and recommendations”, *Farming System*, Vol. 1, No. 2, doi:10.1016/j.farsys.2023.100019.
- OHCHR (1996)**, “What are human rights?”, The Office of the United Nations High Commissioner for Human Rights (OHCHR), Geneva, <https://www.ohchr.org/en/what-are-human-rights> (accessed 14.04.2026).
- OHCHR (2018)**, *A Human Rights Based Approach to Data: Leaving No One Behind in the 2030 Agenda for Sustainable Development – Guidance Note to Data Collection and Disaggregation*, The Office of the United Nations High Commissioner for Human Rights (OHCHR), Geneva.
- Onyeaka, H., A. S. Adeboye, O. P. Bamidele, I. Onyeoziri, O. A. Adebo, M. M. Adeyemi and S. N. Thera-Sekweng (2024)**, “Beyond hunger: Unveiling the rights to food in sub-Saharan Africa”, *Food and Energy Security*, Vol. 13, No. 1, doi:10.1002/fes3.530.
- Osei, R. D., F. M. Dzanku, I. Osei-Akoto, F. Asante, L. S. Hodey, P. N. Adu, K. Adu-Ababio and M. Coulibaly (2018)**, “Impact of voice reminders to reinforce harvest aggregation services training for farmers in Mali”, *Impact Evaluation Report*, No. 90, International Initiative for Impact Evaluation (3ie), https://www.3ieimpact.org/sites/default/files/2018-12/IE90_TW4_1016_Mali_aggregation_centres.pdf.
- Paloviita, A., T. Kortetmäki, A. Puupponen and T. Silvasti (2016)**, “Vulnerability matrix of the food system: Operationalizing vulnerability and addressing food security”, *Journal of Cleaner Production*, Vol. 135, pp. 1242–1255, <https://doi.org/10.1016/j.jclepro.2016.07.018>.
- Pretari, A. (2019)**, *Resilience in North East Ghana: Impact Evaluation of the Climate Resilient Agricultural and Food Systems (CRAFS) Project*, Oxfam GB, doi:10.21201/2019.5235.
- Raab, M., I. Kent, K.-A. Lindgren and A. Wilson (2025)**, “Strategic evaluation of Austrian Development Cooperation’s engagement on food security”, *Evaluation Report*, Austrian Development Agency, Vienna, https://www.entwicklung.at/fileadmin/user_upload/Dokumente/Evaluierung/Evaluierungsberichte/2024/Food_Security/Evaluation_Report_Food_Security.pdf (accessed 14.04.2026).
- Römling, C., A. Sting, L. Kunert and C. Wicke (2025)**, *The Effects of Capacity Strengthening Interventions on Food Security and Nutrition: Evidence Synthesis of Development Cooperation in Sub-Saharan Africa*, German Institute for Development Evaluation (DEval), Bonn, <https://www.deval.org/en/publications/capacity-strengthening-interventions-on-food-security-and-nutrition> (accessed 14.04.2026).
- Santoso, M. V., R. N. Bezner Kerr, N. Kassim, H. Martin, E. Mtinda, P. Njau, K. Mtei, J. Hodinott, S. L. Young (2021)**, “A nutrition-sensitive agroecology intervention in rural Tanzania increases children’s dietary diversity and household food security but does not change child anthropometry: Results from a cluster-randomized trial”, *The Journal of Nutrition*, Vol. 151, No. 7, doi:10.1093/jn/nxab052.
- Santoso, M. V., H. C. Patrie, R. B. Kerr, C. Lane, N. Kassim, H. Martin, E. Mtinda, E. Lupafya and S. Young (2023)**, “A mixed methods exploration of the role of participation in a nutrition-sensitive agroecology intervention in rural Tanzania”, *Current Developments in Nutrition*, Vol. 7, No. 6, <https://doi.org/10.1016/j.cdnut.2023.100098>.

- UN/ISDR (2004)**, *Living with Risk: A Global Review of Disaster Reduction Initiatives*, United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR), Geneva.
- UNSD (2025)**, *The Sustainable Development Goals Extended Report 2025: SDG 2 Zero Hunger*, The Statistics Division of the United Nations Department of Economic and Social Affairs (UNSD), New York.
- UNSDG (2003)**, *The Human Rights Based Approach to Development Cooperation Towards a Common Understanding Among UN Agencies*, UN Sustainable Development Group (UNSDG), New York.
- Vos, R., J. Jackson, S. James and M. V. Sánchez (2020)**, “Refugees and conflict-affected people: Integrating displaced communities into food systems”, in *2020 Global Food Policy Report: Building Inclusive Food Systems*, International Food Policy Research Institute, Washington, DC, <https://doi.org/10.2499/9780896293670>.
- Vos, R. and A. Cattaneo (2021)**, “Poverty reduction through the development of inclusive food value chains”, *Journal of Integrative Agriculture*, Vol. 20, No. 4, pp. 964–978, [doi:10.1016/S2095-3119\(20\)63398-6](https://doi.org/10.1016/S2095-3119(20)63398-6).
- Wairimu, E. W. (2023)**, *Analysis of Technical, Organizational and Institutional Dairy Practices and Their Effect on the Poverty Status of Farm Household in the Highlands of Kenya*, PhD thesis, University of Nairobi.
- Wang, D., L. K. Katalambula, A. R. Modest, A. Ismail, A. Malero, D. Bray, H. Cinq-Mars, A. Tinkasimile, M. M. Sando, S. Vuai and W. W. Fawzi (2024)**, “Meals, education, and gardens for in-school adolescents: A cluster randomized trial of an adolescent nutrition intervention package in Tanzania”, *Journal of Adolescent Health*, Vol. 75, No. 1, [doi:10.1016/j.jadohealth.2024.02.032](https://doi.org/10.1016/j.jadohealth.2024.02.032).
- Watson, D., P. Mushamiri, P. Beeri, T. Rouamba, S. Jenner, S. Proebstl, S. H. Kehoe, K. A. Ward, M. Barker, W. Lawrence and the INPreP Study Group (2023)**, “Behaviour change interventions improve maternal and child nutrition in sub-Saharan Africa: A systematic review”, *PLOS Global Public Health*, Vol. 3, No. 3, <https://doi.org/10.1371/journal.pgph.0000401>.
- WFP (2004)**, *Policy Issues: Building Country and Regional Capacities*, World Food Programme (WFP), Rome.
- Zamfir, I. (2017)**, “Understanding capacity-building/ capacity development: A core concept of development policy”, *European Parliamentary Research Service Briefing*, European Parliament, Brussels.