



The effectiveness of economic development interventions in humanitarian settings in low- and middle-income countries: A mixed-methods systematic review

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CEDIL systematic review: The effectiveness of economic development interventions in humanitarian settings in low- and middle-income countries: A mixed-methods systematic review

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List of abbreviations

DD	Double differences
EPAG	Economic Empowerment of Adolescent Girls and Young Women
FE	Fixed effects
IDPs	Internally displaced persons
ILO	International Labour Organization
INVEST	Introducing New Vocational Education and Skills Training
ITT	Intention to treat
MLT	Middle-level theory
PSM	Propensity score matching
RAIN	Revitalizing Agricultural/Pastoral Incomes and New Markets
RCTs	Randomised controlled trials
RE	Random effects
SHGs	Self-help groups
TBSR	Theory-based systematic review
UNHCR	United Nations High Commission for Refugees
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WfWI	Women for Women International
WINGS	Women's Income-Generating Support

1. Background

1.1 The issue

Humanitarian crises affect communities and people across the world, causing high levels of mortality and malnutrition, leading to the spread of diseases epidemics and health emergencies, and arresting economic growth. Several causes may trigger a humanitarian crisis: political events, such as armed conflicts, coups, and ethnic and religious persecution, and environmental catastrophes, such as floods, earthquakes and typhoons.

Environmental causes: Exposure to natural hazards has rapidly increased over the past decades due to ecological degradation and climate change (Guha-Sapir *et al.*, 2012, Benevolenza and Derigne, 2019). The World Meteorological Organization states that weather-related disasters have increased fivefold over the last 50 years.¹ These disasters have severe effects on the populations affected, at both the local and regional level. Natural disasters often cause tremendous socio-economic losses to human communities (van den Berg, 2010; Thurston *et al.*, 2021). Women and children often face a disproportionate burden during and after crises (United Nations Office for Disaster Risk Reduction, 2011). For example, in 2020 alone approximately 100 million people were affected by extreme climate incidents, causing an estimated US\$ 190 billion in global economic losses, and resulting in 15,082 deaths (Jones *et al.*, 2022).

Political unrest and conflict: In 2020 there were 56 active armed conflicts around the world, and there have been more than 50 active conflicts every year since 2015 (Strand and Hegre, 2021). By mid-2022, over 100 million people around the world were displaced by persecution and conflict, most of whom were displaced within their home country (UNHCR, 2022).

Population displacement: According to the United Nations High Commissioner for Refugees, there were 82.4 million forcibly displaced people in the world at the end of 2020, of whom more than a quarter were refugees (UNHCR, 2021). Political refugees and internally displaced people (IDPs) require accommodation, housing and key public services, such as health care and education, and will at some point seek to provide for their own livelihoods. They will look for work in the informal or formal labour market and interact economically with the host economy in multiple ways. The impact of forcibly displaced persons on the livelihoods of residents in host communities is a serious challenge, especially in developing countries with limited financial and administrative capacities. When developing countries host refugees, they sometimes receive short-term financial and technical support from the international

¹ <https://public.wmo.int/en/media/press-release/weather-related-disasters-increase-over-past-50-years-causing-more-damage-fewer>

community, but most refugee populations remain in their new location for years rather than weeks and months. In this context, relying on relief is unsustainable. It also fails to draw on the skills of the refugee population (Harrell-Bond, 1986; Schneiderheinze et al., 2020). Since populations affected by humanitarian crises can remain displaced for a protracted period, they need assistance in acquiring skills, training and economic opportunities that can lead to self-reliance and the development of new livelihoods to rebuild lives in the aftermath of the crisis (Devictor, 2019). Despite this, these populations often face legal restrictions on working in the formal sector.

Refugees face the risk of rising debt levels and asset depletion, and can incur indebtedness in order to cover the cost of shelter and other basic needs. A survey of Syrian refugees staying in Lebanon reported that 90% borrowed money or received credit, and it was found that this led them to risk engaging in debt bondage (Bermudez, 2017).

This review focuses on post-emergency economic interventions that provide economic opportunities to populations affected by humanitarian crises, to achieve the transition from relief to sustainable development. In particular, the focus is on economic development interventions, such as livelihood support programmes, that have the potential to restore economic independence, dignity and self-reliance.

Importantly, the presence of a large number of populations displaced either by conflict or natural disasters in their countries of origin also represents an economic shock to the host economy once refugees begin to interact with residents on a large scale. Managing economic interactions between refugees and residents is necessary to ensure that refugees can live with dignity and integrate economically and socially into the host community. Investing in the economic development of the area in which refugees are settled provides benefits to the host population, who can otherwise be resentful when they see the scale of services passing them by to benefit the influx of refugees (Harrell-Bond, 1986; Fajth et al., 2019).

The review assesses economic development interventions in humanitarian settings. The settings considered include natural disasters (broadly classified as biologic, climate-related, or geophysical) and political unrest and armed conflicts. We include both populations that are forced to move from their homes to escape disaster-driven devastation and political violence, and those remaining in place post-disaster. In these settings, new economic opportunities are a means of restoring livelihoods and of facilitating the creation of new integrated communities.

1.2 The interventions

The review covers economic development interventions, such as livelihoods programmes, market support programmes, and local area development projects. Economic development

interventions support economic development in the area in which humanitarian emergencies occur. We focus on interventions and programmes that aim to bridge the transition from emergency response to the development of local economic systems post-conflict and post-disaster in low- and middle-income countries (Leaning and Guha-Sapir, 2013).

The review does not include the impact of humanitarian interventions in general and does not cover all economic interventions. We exclude cash transfers because these are mainly used to support consumption, not production.² However, we include cash transfers in conjunction with an economic development intervention. Other eligible evaluations include economic development interventions and livelihoods programmes serving refugees and IDPs who are displaced due to natural disasters that are intended to lead to sustainable employment and income-generating activities. Similarly, we consider interventions that sustain the recovery and development of refugees and IDPs that account for local market demands and build on the existing skills and experience of the target population (Jacobsen and Fratzke, 2016). We also include empowerment programmes that have an economic component (e.g. savings clubs and microcredit).

Populations affected by humanitarian crises require special assistance in developing skills, training and economic opportunities that can progress them to self-reliance and new livelihoods to rebuild lives in the aftermath of a crisis (Devictor, 2019). To provide this assistance effectively, programmes must be designed to meet the specific needs of the target community. For example, where refugee camps for post-conflict displaced people are built in areas with limited economic opportunities and underdeveloped infrastructure, it is essential to establish effective foundations by creating important infrastructure and services in the areas of education; water, sanitation and hygiene (WASH), nutrition; and shelter (Als et al., 2020). Likewise, natural disasters disrupt both built and natural environments. In post-disaster settings, interventions to promote livelihoods development need to include investments in infrastructure, such as new roads, refurbished markets, processing facilities and micro credit schemes, that are necessary to initiate and sustain income-generating activities (Sina et al., 2019).

The novelty of this review is the inclusion of economic development interventions in humanitarian crises settings – both crises caused by conflict and by natural disasters. Although these settings involve different political contexts, and different development possibilities, the populations affected share several features in terms of vulnerable groups, needs, and skillsets to be developed in the aftermath of the crisis, and in how they respond to

² In principle, cash transfers, rather than in-kind support, mean that refugees will use local shops (unlike the case where in-kind transfers are imported from elsewhere), and so stimulate the local economy rather than bypass it (or even flood it with resales of in-kind donations), but this aspect is not considered in most cash transfer impact evaluations.

different inputs and activities from the interventions targeting sustainable economic development.

1.3 How interventions might work

To improve the effectiveness of economic development interventions, attention needs to be given to the design of programmes that promote livelihoods beyond the aftermath of a crisis, and that put project-affected populations on a sustainable growth path. Several such approaches have been developed, such as market support programmes, savings schemes, job training programmes, and women's collective action groups that seek to economically empower smallholders that face additional gender bias constraints in the aftermath of a crisis (Buvinic et al., 2013). It is not always clear which of these approaches is the most effective in relation to a specific humanitarian setting.

Because this review cuts across different humanitarian settings and different populations, it is useful to understand how interventions generate sustainable impacts. To do this, we build a causal process theory of change, also referred to as middle-level theory (MLT). MLT is a conceptual framework (Cartwright et al., 2020) that is used to identify causal pathways to impact which are transferable across different humanitarian settings, and which draws from the existing evidence and clear understanding of which interventions result in long-term, sustainable livelihoods outcomes.

The MLT approach is particularly appropriate for systematic reviews that look at different settings and populations to identify and test the assumptions under which different specific interventions generate the intended outcomes. Rather than looking at whether specific interventions work in different categories of humanitarian settings, the MLT approach identifies and tests common, transferable causal pathways to impact by exploring and testing which assumptions hold (White, 2018).

Figure 1 presents a high-level representation of the causal pathways of different economic development interventions that may be implemented in humanitarian settings. This high-level approach helps to identify common causal pathways for different post-crisis situations. Evidence regarding common causal pathways can generate transferable knowledge about what works to promote sustainable development in humanitarian settings, which may get overlooked by researchers and policymakers who specialise in just one type of humanitarian crisis. The visual presentation below shows the causal process through which inputs (interventions) are turned into activities (implemented by post-crisis and post-disaster populations), outputs (precursors of economic activities), final outcomes (potential income-generating opportunities) and impact (sustainable economic development).

The left side of the figure lists the economic development interventions that may be relevant across different humanitarian settings:

- agricultural training programmes.
- microcredit schemes and asset (e.g., livestock) transfers.
- employment promotion and skills development schemes.
- support to cooperatives and collective action groups; and
- the construction and rebuilding of physical and environmental infrastructure.

These interventions are followed by the activities they intend to promote. Each causal pathway in Figure 1 can be traced from left to right. To illustrate this, we take the example of interventions focusing on skills development and employment promotion (Habiyakare et al., 2015). These interventions support the acquisition of market-relevant skills, which should lead to new employment activities that increase the sources of income. The activities may be associated with increased integration into local markets. These outcomes may lead to sustained economic development.

Our approach is based on the livelihoods framework developed by Scoones (1998), which has been applied in humanitarian settings by both researchers – see an early literature review by Longley and Maxwell (2003) and a recent study of Syrian refugees in Lebanon (Al Zoubi et al., 2019) – and practitioners (e.g. Catholic Relief Service’s Guidance on Livelihoods Programming in Emergency Response and Recover Contexts (Inamoro, 2018)). Central to the livelihoods framework is the asset framework, which includes all assets contemplated in our framework: financial capital is provided through microfinance interventions, human capital is increased through training, and physical capital is provided through infrastructure. Natural, political, and social capital appear in the assumptions as those things that are required for interventions to work.

Assumptions

Here we list the assumptions underpinning the theory of change. These are not features that we assume hold, but conditions that need to be in place for the intervention to work as intended along the causal pathways.

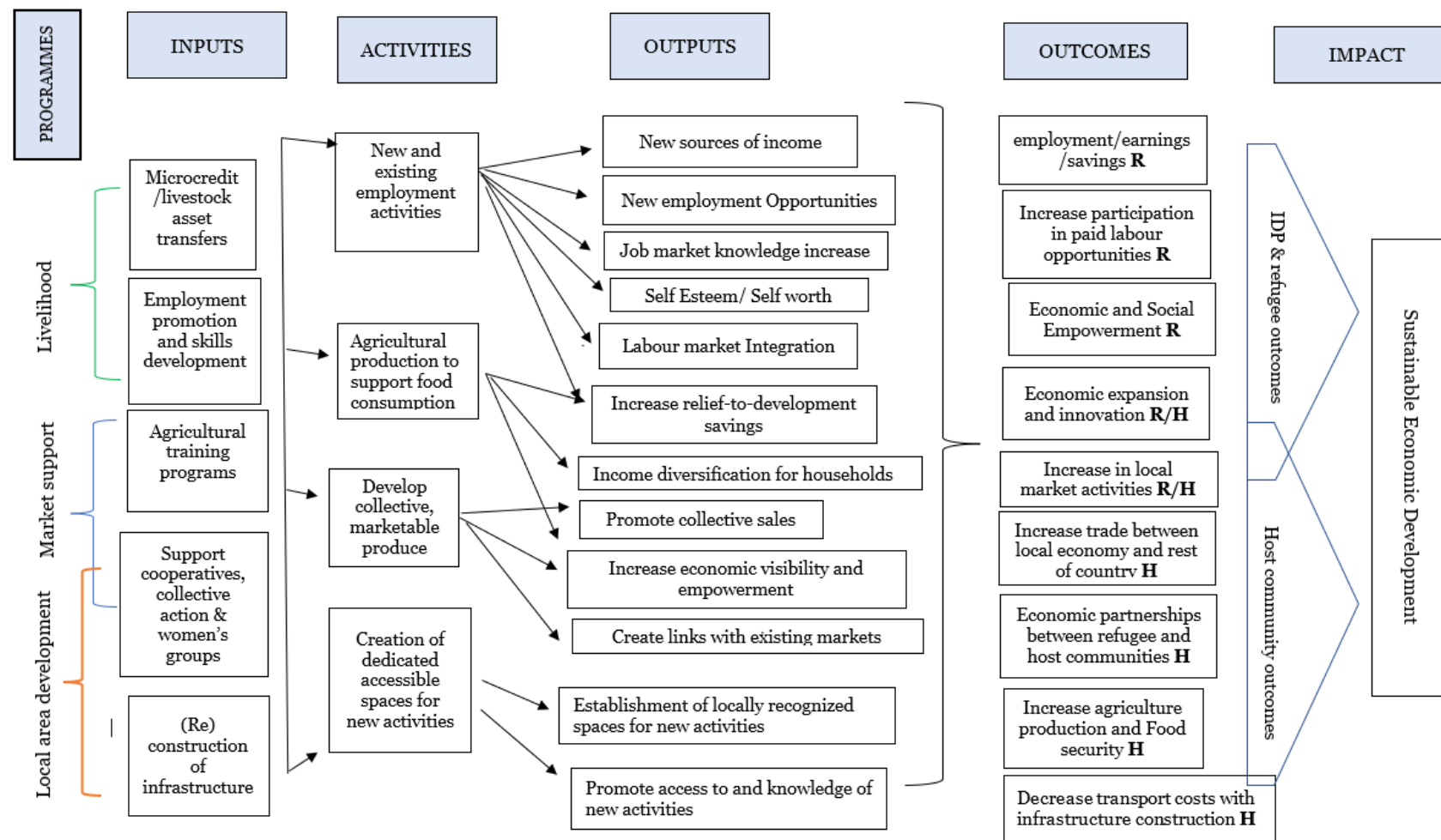
Several conditions (assumptions) need to be in place for the intervention to operate through the pathway to impact. For example, refugees and IDPs often struggle to integrate in the host labour market due to their *loss of assets and their separation from family members* (Schuettler and Caron., 2020). The *lack of skills* required in the local labour market and the *absence of social networks* may act as discriminating factor that inhibits access to the labour market in the destination (Steimel, 2017). Therefore, the success of employment promotion and

development skills programmes depends on the assumption that an assessment of the demand and supply side of the labour market, including the legal situation of those forcibly displaced and their perceptions and aspirations, has taken place before designing interventions (Verrinder and Kamash, 2019).

Micro-finance or other form of loans are a means of supporting agricultural production or other small business. However, populations affected by humanitarian crises face additional difficulties in accessing credit, due to the perceived temporality of their stay, their lack of collateral and the associated perceived higher risk of non-repayment. The success of these schemes may depend on the ability to obtain agricultural land for farming, or on the purchase of productive assets to build business skills, both necessary conditions for microcredit schemes to be effective. Graduation-type programmes, for example, are a clear example of how these schemes may work to help extreme poor and vulnerable populations to progress into sustainable livelihoods: combining cash grants to build up assets with entrepreneurship training, and intensive coaching and financial inclusion initiatives (Schuettler and Caron, 2020).

To take one more example: in forced displacement contexts, vocational, business, and other skills programmes aim to overcome the mismatch between the skills of those who are forcibly displaced and the need for the host labour market to be appropriately organised (World Bank, 2017). If, for example, refugees report struggling to find time to attend training programmes, even if they believe they would benefit from them, or if social or cultural norms (such as norms that discourage women from appearing in public) are a barrier to attendance, the programme needs to be designed with greater flexibility in the organisation of the trainings. Thinking through the assumptions thus provides ideas for programme design.

Figure 1: General theory of change for economic interventions in humanitarian setting: a livelihoods framework



Legenda: **R** indicates intended outcomes for refugees (both post-conflict and natural disaster-affected populations). **H** indicates outcomes that are likely to affect the host populations

Assumptions

<p>Availability of facilities for training</p> <p>Accessible and context-appropriate content of training</p> <p>Knowledge of local needs and trading practices for (re)construction of infrastructure</p>	<p>Market knowledge for the timely sale of produce</p> <p>Access to natural capital or other assets required for productive activities</p> <p>Promotion of job opportunities through adequate communication</p> <p>Advertisement of new skilled workforce to facilitate integration in the labour market</p> <p>Social capital for procurement and marketing channels</p> <p>No political obstacles to new businesses, e.g., licensing requirements and harassment by authorities</p>	<p>Mobility of refugees and IDPs</p> <p>Attitudes towards investment in new job opportunities</p> <p>Improved physical and mental health post-disaster</p>
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We note that Figure 1 represents a visual illustration of causal pathways of impact from possible intervention types to outcomes and impact. While there will be intermediary outcomes to consider on a case-by-case basis, leading to different avenues of impact, we maintain a visual representation of the theory of change at a higher level, and we return to the discussion of the detailed pathways to impact in the findings section.

We acknowledge here the possibility that economic interventions might work differently for refugee/IDP populations affected by climatic shocks and for those affected by violent conflict. The adverse consequences associated with climate change – water scarcity, crop failure, food insecurity, economic shocks, migration, and displacement – can act as a threat both in the immediate term and the long term by intensifying contestation over scarce resources, reducing economic opportunities and social cohesion, as well as straining public institutions and trust in the state. When people are forced to move away from their homes, they lose their land, jobs, homes, and access to food, which sets the stage for more fragility and instability. The range of possible economic interventions that can promote recovery may include the creation of migration corridors, shared water points, surveillance for major diseases, as well as strengthened early warning systems and enhanced crises response. Other interventions may focus on helping communities stay in place where local adaptation options are viable, while also helping people move away from unavoidable climate risks.

In conflict-affected populations, displacement can exacerbate inequalities and the potential for further conflict, especially in areas that have limited access to services and few economic opportunities. In these instances, inclusive policies and development investments for both those who have been forcibly displaced and host communities can effectively mitigate the negative effects of displacement, and foster social cohesion. Economic interventions that promote sustainable development may include progressive policies that grant refugees and IDPs the right to work, freedom of movement, access to social services, as well as access to property. These interventions serve the important purpose of promoting social and economic IDPs, which is a pre-condition for economic recovery and sustainable growth.

1.4 Why it is important to undertake this review?

This review addresses several evidence gaps in the literature on specific aspects of economic development interventions. We identified four gaps this review could help fill. First, an existing review by Juillard et al. (2017), titled ‘The Influence of Market Support Interventions on Household Food Security: An evidence synthesis’, has a more limited outcome focus than the present review, which encompasses the household economy more broadly. Second, Carter's (2016) ‘Economic and market resilience before and aftershocks’, which is a rapid review of humanitarian and disaster risk reduction market support interventions aimed at reinforcing economic resilience following natural disasters and conflict, is limited to market support

programmes. Third, Brody and co-authors systematic review (2015) examine the impact of women's economic self-help groups (SHGs) on women's individual-level empowerment in low- and middle-income countries, and the opportunities of empowerment that result from participation in economic SHGs. However, it does not focus on studies in humanitarian settings. Fourth, the systematic review by *Lipsey and Wilson (2021)* summarises the evidence on the effect of gender-specific and gender-transformative interventions on women's empowerment and gender equality in fragile and conflict-affected states. The review assesses whether the interventions contribute to inclusive and sustainable peace but does not focus on the long-term economic growth caused by, and livelihoods opportunities of, the different types of interventions considered.

2. Objectives

The review addresses the following research questions:

1. What are the effects of economic development interventions on the economic wellbeing of people living in post-disaster and conflict-affected humanitarian settings, including the host population? What factors (such as setting, programme design features, and duration) explain any observed variations in these effects?
2. What are the effects of economic development interventions on the food security, nutrition and psycho-social (attitudes), and physical health outcomes of refugees, IDPs and the host population?
3. What are the success factors and barriers that affect the implementation and effectiveness of economic development interventions for people living in humanitarian and conflict-affected settings?

3. Methods

3.1 Study inclusion criteria

The studies included in the review meet the selection criteria outlined below. In addition, we only include studies evaluating programmes of economic development in humanitarian and refugee settings, studies that are published in English language. There is no exclusion based on the publication year.

Types of participants

People in low- and middle-income countries living in humanitarian and conflict-affected settings, and displaced persons from such settings and their host populations.

Types of interventions

Interventions that foster economic development in humanitarian and refugee settings. These include livelihoods programmes, market support programmes, and local area development projects. Also included are interventions that focus on women's economic empowerment such as savings clubs and microcredit schemes.

Examples of eligible interventions are those assessed in the following studies:

1. Čelebić (2014) evaluated the effects of the Revitalizing Agricultural/Pastoral Incomes and New Markets (RAIN) programme. The programme's goal is to increase the resilience of households, communities, and market systems to prepare for, cope with, and recover from external shocks.
2. Hussam et al. (2021) evaluated the benefits of employment opportunities provided to the Rohingya refugees of Myanmar.
3. Blattman and Annan (2016) evaluated the effect of Action on Armed Violence's intensive agricultural training programme on employment activities, income, and socio-political integration in Liberia.
4. Adoho et al. (2014) evaluated the first round of the Economic Empowerment of Adolescent Girls and Young Women (EPAG) skills training programme implemented in post-conflict Liberia. EPAG was designed to alleviate the barriers to entering the labour market faced by young women.
5. Glass et al. (2017) evaluated the effectiveness of a hybrid microcredit/livestock asset transfer programme – Pigs for Peace – on economic, health and intimate partner violence outcomes in post-conflict settings.
6. Katungi and Vajja-Musukwe (2017) conducted an impact evaluation of multisectoral livelihoods and environment interventions for refugees in Kyangwali.
7. Verrinder and Kamash (2019) conducted an evaluation of job creation for Syrian refugees and Jordanian host communities through green works in agriculture and forestry.

Types of outcome measures

The primary outcomes considered in this review are economic outcomes (income, employment, livelihoods, poverty, farms, and business net income). Secondary (intermediate) outcomes include food security and nutrition, social skills (including attitudes to refugees) and language skills, and psychosocial, mental, and physical health. Table 1 gives examples of the primary and secondary outcomes considered in this review.

Table 1: Outcome categories, with examples of each outcome

Outcome category	Examples
Economic outcomes	Income, poverty, employment, earnings, and savings, economic empowerment, economic stability (e.g. livestock/animal assets, reduced credit), economic recovery, market system
Food security and nutrition	Food security (e.g., dietary diversity, macronutrient and micronutrient intake), child nutritional status
Mental health and psychosocial health	Mental health (anxiety, depression and stress) Psychosocial health (self-esteem and self-worth; psychosocial wellbeing; self-confidence; Investment behaviour; attitudes to refugee populations; social cohesion)
Physical health	Physical health (morbidity, mortality)
Others	Language skills

Types of studies

This review adopted a mixed-methods approach by including different study designs to address the main research questions. To evaluate the effectiveness of the economic interventions (research questions 1 and 2), we included:

- Experimental designs: RCTs.
- Non-experimental designs with a non-randomly assigned comparison group, or regression designs which control for selection bias (instrumental variables, regression discontinuity, and Heckman model). Difference-in-difference analysis is included if either (1) the parallel trends assumption is satisfied, or (2) a statistical matching procedure is used to create the comparison group.

We did not include before-and-after studies with no comparison group, economic evaluations or cost-effectiveness studies. Studies with both active and passive controls were included in the review.

To understand the success factors and possible barriers to participation in the economic interventions (RQ 3) we also included:

- Process evaluations and qualitative studies of interventions, including any evaluation or study of an eligible intervention discussing design and implementation issues.
- Information on barriers and facilitators extracted from effectiveness studies, if reported.

3.2 Search strategy

Electronic searches

We identified completed and ongoing studies using the search strings listed in Appendix A. The search included the following databases:

- Scopus;
- Web of Science core collection;
- CABI platform – World Agricultural Economics and Rural Sociology Abstracts, CAB Abstracts;
- Ebscohost platform – Econlit;
- CINAHL;
- Proquest Platform – PAIS;
- Worldwide Political Science Abstracts, ERIC, PsycINFO, ASSIA, Social Services Abstracts; and
- Web of Science platform – Medline.

Appendix A presents an example of the search strings used for publication databases and search engines, with terms for interventions, regions, and methodologies.

Grey literature

We also conducted a grey literature search from organisations/websites such as the World Bank, the International Labour Organization (ILO), the United States Agency for International Development (USAID), the African Development Bank, the Abdul Latif Jameel Poverty Action Lab (JPAL), Innovations for Poverty Action (IPA), the United Nations Food and Agriculture Organization, Save the Children, the United Nations Children's Fund, 3ie, UN Women, the United Nations Office for the Coordination of Humanitarian Affairs, Reliefweb, Humanitarian Aid International, and Inter-American Development Bank.

3.3 Screening and study selection

The screening for inclusion/exclusion was undertaken in two stages by two independent researchers in EPPI reviewer (SKM and MV), using the screening tool given in Appendix B.

The first stage of title and abstract screening was assisted by priority screening, which is the machine learning function in EPPI. Priority screening ranks by relevance, which accelerates screening and allows a portion of the results to be dropped without screening. The remaining records were then screened independently by two researchers (SKM and MV). The second stage was full-text screening. The screening was done using the same screening tool by two people per study from a team of three (SKM, MV and NdC), with a third-party arbitrating in case of disagreement (SKM or HW).

3.4 Data extraction and management

Process evaluations and qualitative studies

For impact and process evaluations/qualitative studies, we used a standardised data extraction form (Appendix C) to extract descriptive data from all the studies that met our inclusion criteria. All outcome data were coded, with different measures of the same outcome in the same study being combined by averaging across effect sizes. Data extracted from each study included context/geographical information, population type, study design, intervention and outcomes types. Two researchers conducted the data extraction for each study. Both coders were trained on the tool before starting. Disagreements were resolved through discussion with a third reviewer who was consulted as needed (SKM).

Effectiveness evaluations

For effectiveness studies, extraction of raw data from evaluations was conducted by two authors (MV and SKM) independently of one another, and any disputes were discussed and resolved. All relevant information was extracted for all outcomes reported by the primary evaluations.

3.5 Assessment of risk of bias in included reviews

We used the risk of bias tool for effectiveness study and to assess the confidence in the study findings. All process evaluation studies included in the review were assessed using a critical appraisal tool developed by the Campbell Collaboration Secretariat. The tool also covers the qualitative studies (see Appendix D: Critical appraisal tools). The tool contains critical dimensions of the evaluation. Each of these is marked as high, medium, or low. The overall score uses the 'weakest link in the chain' principle. Hence, the confidence in the study findings can only be as high as the lowest rating given to the nine critical items in a qualitative/process

evaluation. The critical appraisal assessment was completed by two reviewers from a team of three (SKM and NdC).

3.6 Data analysis

Unit of analysis issues

In this review, the unit of analysis for the included studies is the individual woman or man participating in the programme and their household. The studies report data as averages at the programme level, both for all humanitarian affected people/families in the programme and possibly for sub-groups by age, sex, location or other characteristics. Multiple papers or reports based on the same study or data were treated as a single case, with the unit of analysis being the case, not the paper. The report or the paper was treated as a separate case when the study sample did not include study participants in any other coded study and also in where different outcomes were reported.

Criteria for the determination of independent findings

In multiple papers or reports, we selected the revised or updated version, if all the relevant information was available in a single source. If multiple reports provided different information (e.g. different outcomes or different sub-groups) then the data from all these reports was coded as a single case, taking different information from each study.

Only a single effect from each study was included in each meta-analysis pooled effect. Where studies reported multiple effects for different outcome types, this was synthesised separately. In studies which reported multiple dependents effects for a particular outcome type, such as different measure of empowerment, different follow-ups or different participant subgroups, we derived the weighted average effect to conduct the meta-analysis.

Study authors were contacted if we required additional data that were missing or incomplete. In the case of non-availability/no response from the authors, we reported the characteristics of the study but did not include the study in the meta-analysis.

3.7 Data synthesis

Statistical procedures and conventions

Outcomes reported as dichotomous variables (e.g. employment status, physical health) were converted to odds ratios (e.g. percentages were converted to absolute numbers by multiplying them by the sample size). For continuous outcome variables, we calculated Hedge's *g* for continuous variables (as Hedge's *g* is preferred over Cohen's *d* for small samples

(Cohen, 1988)). Each study was checked to ensure that outcomes were coded in a consistent direction, so that higher values correspond to greater levels of empowerment.

Meta-analysis for each outcome category was conducted using Stata by estimating the Hedges g as the effect size under a random effects model.

Sub-group analysis and investigation of heterogeneity

Heterogeneity between effect sizes was assessed by reporting the I^2 , the proportion of the variance in observed effect due to variance in true effects rather than sampling error (Deeks et al, 2022). Forest plots were generated for a visual representation of pooled effect size. The causes of heterogeneity, if any, were identified by visual inspection and moderator analysis. Separate forest plots were presented for important moderators.

Cochrane Collaboration provides a rough guide to the interpretation of I^2 -squared. 0–40% presents minimal heterogeneity; 30–60% presents moderate heterogeneity; 50–90% presents substantial heterogeneity; and 90–100% presents considerable heterogeneity.

In pooling the effects through a meta-analysis, we considered a small effect to be an effect size of 0.2 and below, a moderate or medium effect to be an effect size of 0.5, and a large effect size to be 0.8 and above. (Cochrane's Handbook). Meta-analysis for each outcome category was conducted using Stata through estimating the Hedges g as the effect size under a random effects model.

Moderator analyses of the effect size of a single categorical variable were conducted using a sub-group analysis, analogous to an ANOVA, also using a random effects model. Meta-regressions (conducted using the "*metareg*" command in Stata) were used to account for moderating factors, such as study design, intervention characteristics, length of programme, and country income.

Sensitivity analysis

The sensitivity analysis was conducted by removing studies from the meta-analysis one by one to see if the results of the meta-analysis were sensitive to any single study.

Treatment of qualitative research

This review adopts the theory-based systematic review (TBSR) approach of combining qualitative data with a quantitative meta-analysis, within the framework of a TBSR (White, 2018). The TBSR approach, which has similarities with the framework synthesis approach (Booth and Carroll, 2015; Carroll, 2013), takes the intervention as the unit of analysis, not the individual study. Different studies may contribute findings at different stages of the causal

chain. For example, process evaluations and qualitative studies better explain implementation issues than most effectiveness studies.

The TBSR framework is shown in Table 2. Quantitative data are indicated as Qt and qualitative as Ql. Quantitative data refers to both effect sizes and factual quantitative data, such as participation rates.

Table 2: Table title Stages of the causal chain, with data to be examined at each stage

Stage in causal chain	Data
Awareness of the programme among relevant service providers and target group	Know of programme, aware of eligibility criteria, purpose and how to access (Qt/Ql)
Activities undertaken Connection to services	Descriptive materials (Ql) Channels for service connection (Ql)
Design of the programme	Descriptive materials relating to finance schemes, training etc. (Qt/Ql)
Economic outcomes	Measurement of effects on employment, income etc.(Qt), understanding causal pathways (Ql).
Social (includes attitudes)	Self-esteem and self-worth; psychosocial wellbeing, self- confidence, investment behaviour; host attitudes to refugee populations; social cohesion (Qt supported by Ql)

Table 2 shows the TBSR framework which is used for both horizontal and vertical synthesis (White, 2018). Table 3 provides an abbreviated version of the row headings from Table 1, which are pivoted to become column headings.

Table 3: Theory-Based Systematic Review (TBSR)

Participation	Activities	Programme design	Services	Economic	Social
Case 1					Horizontal synthesis
Case 2					
Case n					
	Vertical synthesis				Overall synthesis

The data in Table 3 are subject to vertical, horizontal, and total synthesis. Vertical synthesis involves summarising the evidence across all cases, which is the way systematic reviews are usually performed, especially for quantitative analysis of effects. In the case of qualitative data, vertical synthesis is a thematic analysis, in which common themes are identified across studies.

Horizontal synthesis summarises across a case – which may be done in narrative reviews, but with the difference here that data for an intervention may come from more than one study.

The overall synthesis combines both horizontal and vertical syntheses, although it may also include a separate overall synthesis by sub-group (e.g. for natural disaster- and conflict-affected groups). The overall synthesis approach, drawing on both horizontal and vertical synthesis, ‘tells the story’: if the intervention works, for whom, under what circumstances and why.

4. Results

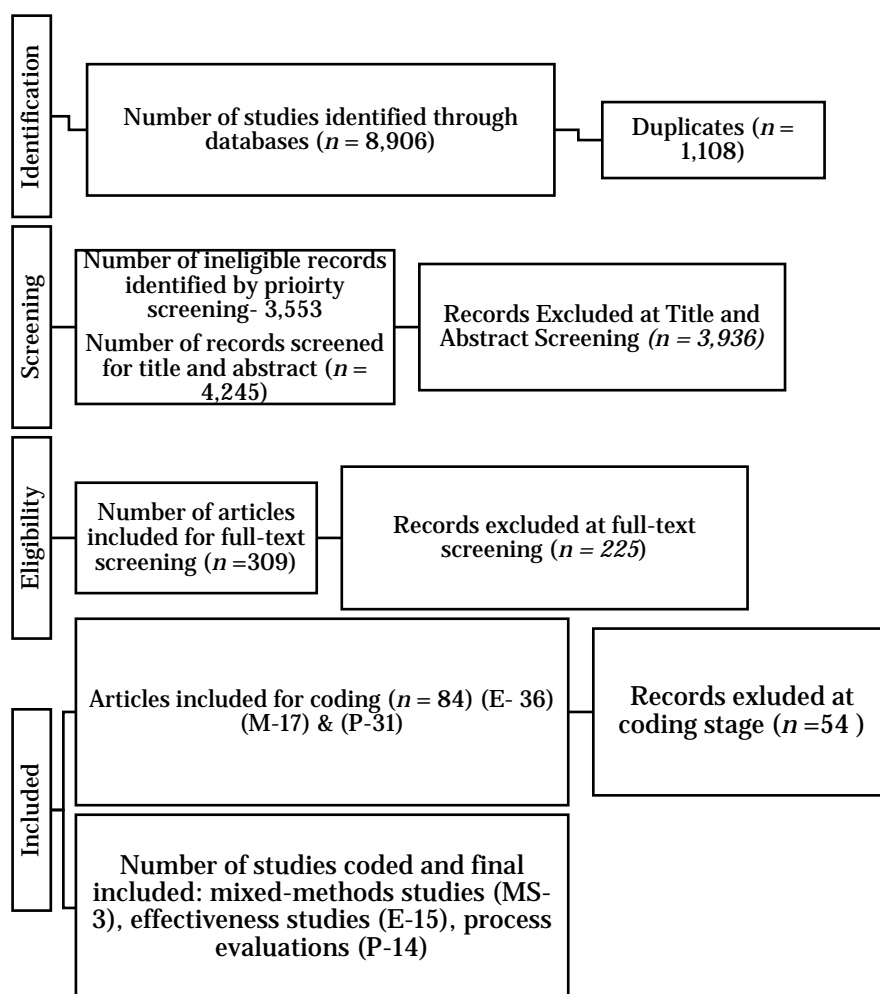
4.1 Description of studies

The database search identified 8,906 studies, out of which 1,108 were duplicates, leaving 7,798 studies for title and abstract screening. Through the priority screening, we identified and removed 3,553 ineligible studies. The remaining 4,245 were screened independently. We screened 309 studies by reading the full text, out of these 225 studies were excluded and 84 studies retained. When unable to obtain the full text of the identified studies, we excluded the relevant manuscript.

We also screened 1,509 records for title and abstract screening and full-text screening from the grey literature. Among them, 31 records were identified for full-text screening. Grey literature screening was carried out by searching in the following organisations/databases: World Bank, ILO, USAID, African Development Bank, Abdul Latif Jameel Poverty Action Lab (JPAL), Innovation for Poverty Action (IPA), United Nations Food and Agriculture Organization (FAO), Save the Children, United Nations Children's Fund, 3ie, UN Women, United Nations Office for the Coordination of Humanitarian Affairs, Reliefweb, Humanitarian Aid International, and Inter-American Development Bank.

In total, 84 studies were retained for coding. These included 36 effectiveness studies, 17 mixed-methods studies, and 31 process evaluations. At the coding stage, all studies which did not meet the methodological inclusion criteria (i.e. a valid control group), or did not evaluate a humanitarian intervention, were excluded. The final number of included studies was 32 (14 effectiveness studies, 3 mixed method studies, and 15 qualitative and process evaluations) (Figure 2: PRISMA diagram).

Figure 2: PRISMA diagram



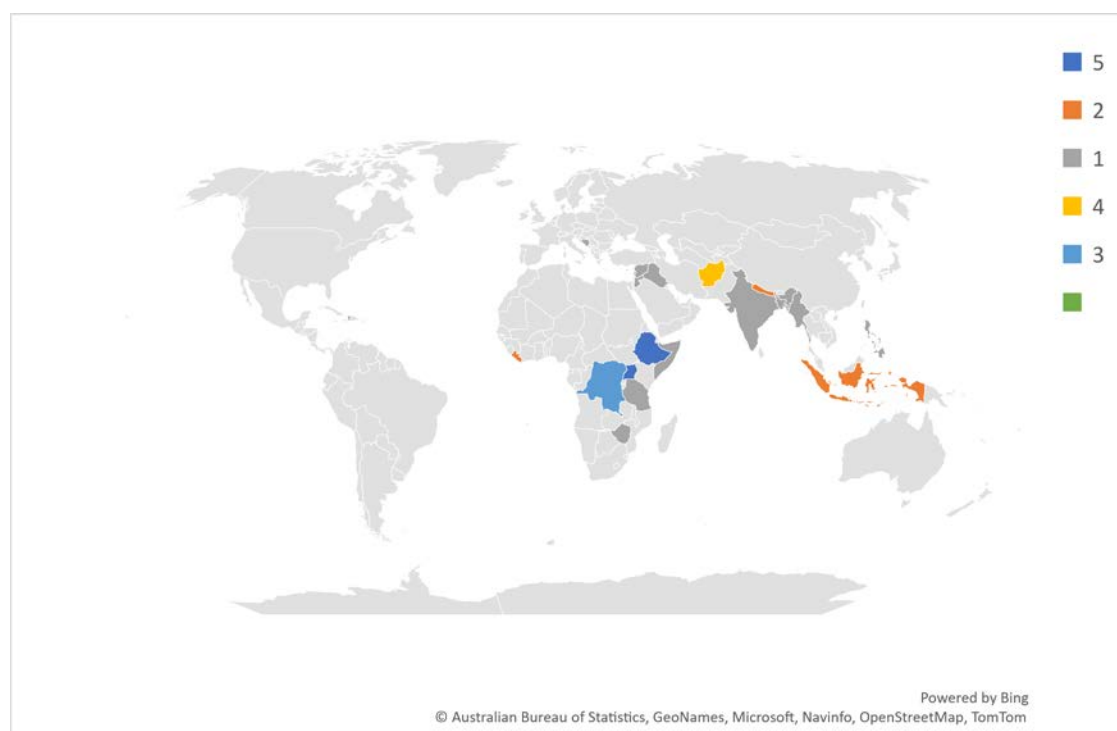
Note. n = number of studies; E = number of effectiveness studies; P = number of process evaluations; MS = number of mixed-methods studies.

4.2 Characteristics of the studies included in the review

Geographical representation

Most of the studies included in the review are from sub-Saharan Africa (16 studies) and South Asia (nine studies). Other regions represented include the Middle East and North Africa (four studies) and East Asia and the Pacific (three studies). There are very few studies from Latin America and the Caribbean (one study) and Europe and Central Asia (one study). The geographic distribution of the included studies is presented in Figure 3. In relation to the distribution of the studies by country, there are five studies from Ethiopia and Uganda, four from Afghanistan, three studies from the Democratic Republic of Congo, and two studies each from Nepal, Indonesia and Liberia. Other included countries have just one study each.

Figure 3: Country-wise representation of the studies



Source: Study database for this review.

The studies included targeted different populations, most of them looked at both genders affected by conflict or natural disasters. Three studies looked at interventions targeting women and adolescent girls: the Women for Women International (WfWI) economic and social empowerment programme in Afghanistan (Adoho *et al.*, 2014), the Kirkuk Project in Iraq (Gibbs *et al.*, 2020), and the EPAG project in Liberia (Pretari and Artuso, 2020). In six studies, the majority of the population were adult women, and the interventions provided training, a start-up grant for small businesses, microfinance programmes and other livelihoods programmes, such as running small-scale trading and small shops (Green *et al.*, 2015; Easton-Calabria and Hakiza, 2021; Čelebić, 2014; Lain, 2017 and Docoy, 2018). Two projects focused on ultra-poor populations: the Targeting the Ultra Poor project Bedoya *et al.*, 2019); and the Saemaul Zero Hunger Communities Project (Kim *et al.*, 2019) on skills training and employment opportunities to improve livelihoods. Three studies focused on youth populations and interventions focused on providing training (rice and vegetable farming, animal husbandry, rubber and palm cultivation), vocational education, technical training, life skills training and employment (Blattman and Annan, 2016; Kurtz *et al.*, 2018; and Lyall, 2020).

We found three effectiveness studies, in which the host communities were also part of the interventions (Kurtz *et al.*, 2018; Baseler *et al.*, 2021; and De Brauw *et al.*, 2023). Kurtz *et al.* (2018) focused on a youth vocational programme (Introducing New Vocational Education and Skills Training (INVEST), Baseler *et al.* (2021) focused on a cash grant delivered along with the mentorship programme for refugees and Ugandan business mentors, and De Brauw *et al.* (2023) focused on the promotion of digital financial services and aiding refugee business

licensing. Three qualitative studies looked at interventions that considered host communities: the Livelihood and Environment Multi-Sectoral Assistance programme (Katungi and Wajja-Musukwe, 2017), the Job Creation Refugees and Jordanian Host Communities Project (Verrinder and Kamash, 2019), and an intervention focusing on women from host communities (Pretari and Artuso, 2020). However, the findings from these studies do not separate out the effects of the intervention on the displaced population and host communities.

Among the included studies (N= 32), at 46% targeted rural populations, 13% targeted rural and urban populations, and only 6% targeted just urban populations. In 34% of the studies, the populations targeted were not very clear or were not explicitly mentioned.

Table 4: Number of studies based on the targeted population

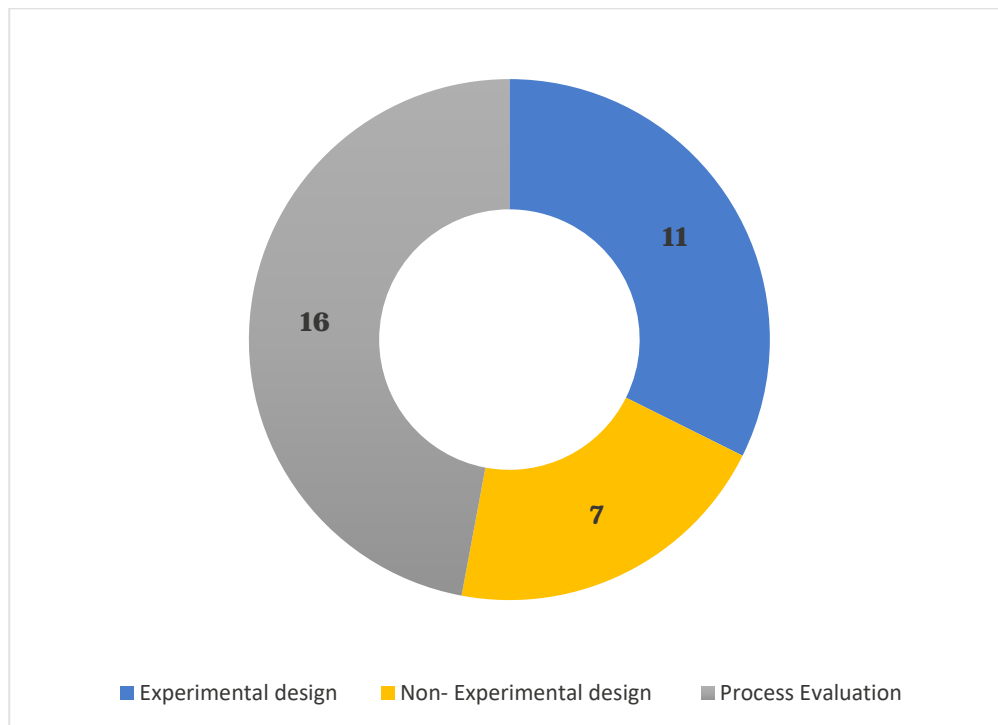
Targeted population	Number of studies	Study (author, year)
Women and adolescent girls	3	Adoho et al., 2014; Gibbs et al, 2020; Pretari and Artuso, 2020.
The majority are adult women	6	Green et al, 2015; Easton-Calabria and Hakiza, 2021; Čelebić, 2014; Lain, 2017; Docoy, 2018
Ultra-poor population	2	Bedoya et al., 2019; Kim et al., 2019
Youth population	3	Blattman and Anna, 2016; Kurtz et al., 2018; Lyall, 2020
Host communities	6	Kurtz et al., 2018; Katungi and Wajja-Musukwe, 2017; Verrinder and Kamash, 2019; Pretari and Artuso, 2020; Baseler et al., 2021; Brauw et al, 2023
Mixed population (both genders), conflict-affected populations, refugees/IDPs	21	Boleman, 2020; Glass et al., 2017; Hussam et al., 2021; Lain, 2017; Lyall, 2020; ; Kim et al., 2019; Čelebić, 2014; Daly et al., 2020; Drost et al., 2014; Easton-Calabria and Hakiza, 2021; Jennings., et al, 2013; John, 2015; Katungi and Wajja-Musukwe, 2017; Matul and Tsilikounas, 2004; Nelson, 2021; Shitarek, 2020; Singh et al., 2021; Verrinder and Kamash, 2019; Bruck, 2023
Emergency-affected populations	1	Régnier et al., 2008

Study method

In terms of the inclusion of the quantitative studies, 61% of the effectiveness studies included in the review are experimental, with the population randomly allocated either into treatment

or control groups. The remaining 39% are quasi-experimental studies using difference-difference, and propensity score matching (PSM) methods (Figure 4).

Figure 4: Study representation based on study methodology



Intervention sub-categories

The majority of included studies implemented livelihoods programmes (28 studies), followed by local area development interventions which support economic development (six studies), women's empowerment programmes (eight studies on microcredit and savings clubs) and market support interventions (two studies). Even though most of the studies (quantitative and qualitative) assessed the effectiveness of the livelihoods programme, the programmes varied based on nature, population, scale, and level of targeting. The programmes targeted humanitarian-affected populations, and most targeted vulnerable sub-groups, such as women, the poor and high-risk youths. The livelihood programmes had multiple components, including the promotion of women's cooperatives, skills training, micro-credit, enterprise development, and employment opportunities. Approximately nine livelihoods' projects focused on agriculture and fisheries support.

The studies targeted skills' development activities such as agricultural training programmes, business skills training, classroom training on numeracy, training on business skills and social empowerment topics, and hands-on training in a chosen vocational skill areas (Adoho *et al.*, 2014; Bedoya *et al.*, 2019; Pretari and Artuso, 2020; Blattman and Annan, 2016; Green *et al.*, 2015; Gibbs *et al.*, 2020; Kurtz *et al.*, 2018).

Three studies looked at projects providing support to restore pre-disaster livelihoods through the acquisition of skills to allow beneficiaries to resume their work (Singh *et al.*, 2021; Shitarek, 2020; Daly *et al.*, 2020). We also found nine studies looking at projects focusing on agriculture and livestock as a source of income to improve the economic status of the population. The

participants in these studies were trained in technology, access to markets, and livelihoods opportunities in agriculture, aquaculture, fisheries, and livestock. (Boleman, 2020; Glass *et al.*, 2017; Drost *et al.*, 2014; Daly *et al.*, 2020; Shitarek, 2020).

Below are details of the interventions included in the review. As most of the projects covered by the reviewed studies had multiple components – including skills training, and agricultural and market support – we coded studies based on the focus of the intervention.

Table 5: Details of the interventions of the included studies

Livelihoods programmes and skills development programmes	Agricultural livelihoods programmes (agriculture/livestock/fisheries)	Local area development programmes and market support programmes
<p>EPAG is a skills training programme that also facilitates the successful transition of young women into employment. This programme is part of the larger Adolescent Girls Initiative administered by the World Bank. The programme includes six months of classroom-based technical and skills-based training. The focus is on skills and market demand, and the programme is followed by six-month support to help the beneficiaries enter wage employment/placement or to start a business. The job skills training is in six areas: 1) hospitality, 2) professional cleaning/waste management, 3) office/computer skills, 4) professional house/office painting, 5) security guard services, and 6) professional driving. It also includes entrepreneurship skills. The curriculum includes entrepreneurship principles, market analysis, business management, customer service, money management, and record-keeping. The programme also provides a performance bonus to the trainers, after they successfully place their graduates in job or a micro-enterprise (Adoho <i>et al.</i>, 2014).</p>	<p>Action on Armed Violence, a non-profit organisation, implements an employment programme to rehabilitate high-risk men who are ex-fighters or are engaged in illegal mining or occupying rubber plantations. The programme provides agricultural training and capital inputs to high-risk men in post-war Liberia. It includes several months of residential agricultural training (rice and vegetable farming, animal husbandry, and rubber and palm cultivation), counselling and life skills classes (dealing with symptoms of traumatic stress, managing anger, and resolving disputes peacefully), coordinating with the community for access to farmland and farm inputs (tools/supplies) worth US\$ 124 (Blattman, 2016).</p>	<p>The Joint Programme on Disaster Risk Management and Humanitarian Preparedness worked on different levels to reduce households' vulnerabilities and to support district- and national-level institutions to create disaster management plans. The project established over 2,000 women's empowerment groups and provided them with training and direct inputs on new flood- and drought-resistant techniques for growing crops, as well as non-farm livelihoods strategies. The activities included providing seeds for kitchen gardening, packaging machines, and training and exchange visits on the use of organic fertilisers, livestock management, and women's leadership. The project also provided training on record-keeping and programme revolving funds, and provided access to credit for new income-generating activities. The project trained Community Disaster Management Committee members on first aid, search and rescue, and creating local disaster management plans. It helped to stockpile resources for early warning systems and emergency response (megaphones,</p>

Livelihoods programmes and skills development programmes	Agricultural livelihoods programmes (agriculture/livestock/fisheries)	Local area development programmes and market support programmes
		shovels, and buckets). It also programme WASH training in project communities and supported the construction of facilities and small-scale structures (construction of wells, deep boreholes, and toilets). The programme improved building embankments, constructed culverts, and planted trees for disaster risk reduction. Some of the project activities also aimed to build the capacity of village development committee (VDC) and district and national-level governments (Lain, 2017).
WINGS – The programme provides business skills training (four days), a start-up grant (approximately US\$ 150), and follow-up support in Uganda. The training includes training on how to create a business plan, market goods and services, and write business plans. The programme also includes participants in Women Plus, where participants participate with household partners in a one-day training programme to discuss the cultural, gender, and financial barriers to female entrepreneurship, communication couples therapy, and joint-problem solving (Green et al, 2015).	Peanut Programme and Maize Programme, Republic of Haiti – The programmes mainly aim to extend access to improved technologies and markets. The programmes provide credit for maize and peanut seeds and tractor service for ploughing. The framers receive the programme tillage on credit. The farmers sell their harvest to the organisation, at the price specified prior to the season (Boleman, 2020).	Reconstruction Project – The project targeted households affected by drought and conflict over resources that occur in the dry season in Ethiopia and Somaliland. The project targeted youth, providing them with vocational training. The project targeted women’s saving and credit groups. And provide supports to women’s groups with direct grants and input (such as seeds and tools), provided training on livelihoods strategies, exchange visits, and creating formal business plans and the dissemination of early warning information (Lain, 2017).

Livelihoods programmes and skills development programmes	Agricultural livelihoods programmes (agriculture/livestock/fisheries)	Local area development programmes and market support programmes
<p>WfWI – WfWI is a 12-month economic and social empowerment programme. The participants receive classroom training on numeracy, business skills, and social empowerment topics, and hands-on training in a chosen vocational skill. The programme is conducted for 90–180 minutes per week for women. The participants also receive a monthly cash stipend of US\$ 10, an introduction to formal and informal mechanisms for saving money (e.g. SHGs, microfinance institutions), referrals to health, legal and financial services, and connections to other women (Gibbs et al, 2020).</p>	<p>Pigs for Peace – Pigs for Peace is a hybrid microcredit/livestock asset transfer programme in eastern Democratic Republic of Congo. The participants receive the productive asset (female piglet), and they agree to transfer two piglets: one to repay the original asset transfer and one to pay interest to other members of the village associations. The original pig and the remaining piglets are the household asset. The programme provides practical skills training on managing nutrition and care of the livestock asset, biweekly home visits by trained staff, support for association meetings, and basic health services by a local veterinarian technician. The programme also provides consumption support over the initial period to ensure healthy growth and the ability to ‘repay’ and transfer pig assets to additional households in the village association (Glass <i>et al.</i>, 2017).</p>	<p>RAIN and RAIN+ is a three-year intervention in Ethiopia. The programme aims to increase the resilience of households, communities, and market systems to prepare for and cope with external shocks. The programme protects existing productive assets, diversifies livelihoods, and promotes market-based business models, local economic development, and economic integration and trade (Čelebić, 2014).</p>
	<p>The post-disaster livelihoods programme (sector- agriculture, aquaculture, fisheries, livestock, micro- enterprise – home production and service), livelihood stabilisation that provides cash and consumables to households to manage their</p>	<p>SHARPE – This is a market systems intervention in refugee-hosting areas, in Ethiopia. The main activity of the project is the promotion of digital financial services and aiding with refugee business licensing. The project contracts with the local organisation</p>

Livelihoods programmes and skills development programmes	Agricultural livelihoods programmes (agriculture/livestock/fisheries)	Local area development programmes and market support programmes
	<p>subsistence needs. This includes cash transfers, the provision of day-to-day necessities and basic commodities, and a cash for work programme. The livelihoods restoration programme aims to restore pre-disaster livelihoods, and it includes the replacement of physical capital, productive assets, and stock/ inventory. And Livelihood development programme improve the overall economic situation by increasing the revenue generation of pre-disaster livelihoods, diversifying the range of livelihoods available, and helping people to adopt new livelihoods. The project ensures the provision of productive assets, supplies, stock, and capital through grants and micro-credit programmes, training, and capacity enhancement (vocational, and financial literacy) (Daly <i>et al.</i>, 2020).</p>	<p>to build up the market system. Regarding the financial service market system, the project has partnered with two banks. The project identifies viable refugee businesses and helps them to obtain a resident permit and business licences. (Brau et al 2023)</p>
<p>Employment programme – In this programme, the participants were assigned to a work group and it provides employment opportunities for Rohingya refugees of Myanmar. The participants were assigned two, three or four days of work per week and received 150 takas (US\$ 1.77) per day of work. Other groups in the intervention</p>	<p>‘Targeting the Ultra Poor’ programme – This is a multi-component intervention in Afghanistan, involving transfer of a productive asset (in the form of livestock, e.g. cows, goats) with structured training (basic training on livestock rearing and entrepreneurship), mentoring, a basic cash stipend, and other complementary services (health subsidy, helping to apply for national</p>	

Livelihoods programmes and skills development programmes	Agricultural livelihoods programmes (agriculture/livestock/fisheries)	Local area development programmes and market support programmes
received cash (450 taka/US\$ 5.30) for eight weeks (Hussam <i>et al.</i> , 2021).	ID (Tazkira) cards, encouraging behaviour change on health education, women's empowerment, financial inclusion and social cohesion/ community support). The participants receive support for their livelihoods selection, including intensive and repeated consultation so that they make an informed choice among different enterprise options. They also receive follow-up visits to provide guidance on both business and social issues when they begin work on their enterprise. The programme is funded under the World Bank-supported Access to Finance programme. The programme is implemented by Microfinance Investment Support Facility for Afghanistan (Bedoya <i>et al.</i> , 2019).	
INVEST Programme – Two studies in the review evaluated the effects of the INVEST programme, which is a youth vocational training programme in Afghanistan. The programme includes the host population, returnees, and IDPs. The programme is implemented by Mercy Corps under a US government-funded project. The main component of the programme is technical and vocational education and training (TVET), in the form of a six-month technical training course on 14 career choices, such as	Youth in agri-food chain –Youth engaged into Bee-keeping and honey business in Uganda (Drost <i>et al.</i> , 2019).	

Livelihoods programmes and skills development programmes	Agricultural livelihoods programmes (agriculture/livestock/fisheries)	Local area development programmes and market support programmes
<p>tailoring, embroidery, mobile phone repair, English tutoring, motorcycle repair, and other employment or self-employment ventures. The TVET programme also gives the opportunity to participate in Ready to Earn Clubs, which aim to provide business skills, basic financial management skills and other transferable skills. The second intervention that the studies evaluated, which is independent of the INVEST programme, is a one-time unconditional cash transfer (Kurtz <i>et al.</i>, 2018; Lyall, 2020).</p>		
<p>Refugee-led microfinance group – Refugee-led saving groups, Kampala, the group members are mainly women. The group provides loans to the members. Members at the group meeting discuss business challenges and provide advice, social support, and business mentoring (Easton-Calabria and Hakiza, 2020).</p>	<p>Micro entrepreneurship in Aceh and India</p> <p>– The project supported tsunami-affected populations. Terre des Hommes- Italia, together with the United Nations Development Programme (UNDP), worked on a cash for work programme in Aceh. It worked in a livelihoods recovery programme. The project trained groups in relaunching fishing and post-fishing activities, and provided access to fishing equipment and low-interest microcredit. It established women’s cooperative groups, which produced nutcrackers.</p> <p>In India, People Action for Development aided fishing, post-fishing and complementary activities, reinforcement of</p>	

Livelihoods programmes and skills development programmes	Agricultural livelihoods programmes (agriculture/livestock/fisheries)	Local area development programmes and market support programmes
	existing SHGs and the creation of new SHGs. The project started an microentrepreneurial initiative, post- fishing marketing and transportation to end markets, the bulk purchase of rice for resale in small quantities, and the production of fish pickles, soap and other small items, and goat rearing (Régnier <i>et al.</i> , 2008).	
Integrated Livelihood Recovery for Typhoon Haiyan-Affected Communities – The project supported the typhoon-affected populations in the Philippines. The project was implemented by ILO, with funding from the Government of Japan. The project aimed to provide employment support. It repaired, constructed, and rehabilitated productive infrastructure and community assets and promoted the use of local resources. It assessed alternative livelihoods opportunities and technical vocational training and skills development, and the re-establishment and strengthening of micro and small/medium-sized enterprises, enterprise development, and a social protection package (John, 2015)	Integrated Emergency response and Early Recovery Project , Ethiopia – The project includes agriculture and food security (livestock vaccination, livestock treatment), economic recovery and market systems (livelihood restoration efforts and creating temporary employment opportunities – Goat fattening, petty trading and running small restaurants). Other components of the project were WASH and Gender protection (Shitarek, 2020).	
Livelihood and Environment Multi-Sectoral Assistance Programme – The programme targets refugees, asylum-seekers and host communities in Kyangwali	Livelihood Programme – The intervention supports Syrian refugees and host communities (in Jordin) to access ‘green work’	

Livelihoods programmes and skills development programmes	Agricultural livelihoods programmes (agriculture/livestock/fisheries)	Local area development programmes and market support programmes
Settlement (Hoima District). The programme aims to improve the quality of life for refugees and nationals through supporting self-reliance and livelihoods, and systematic integration of social services delivery with local government systems. The programme provides opportunities for self-employment and owning a business. The programme forms and strengthens commercial farmer groups. The project provides life- skills training, exposure visits, entrepreneurship training and mentoring, supports poultry production, and provides support for informal vocational skills (hairdressing, catering, mechanics and ICT) (Katungi and Wajja-Musukwe, 2017).	which means the employment-intensive method in the agriculture sector. It is an initiative by ILO, with the collaboration of the Ministry of Agriculture. The intervention also includes support for agriculture, increased vegetation cover, improving environment protection and building the capacity of the Ministry and local contractors. The activities include soil terracing, cistern construction, installation of irrigation systems, forestry works, building greenhouses and producing seedlings. The project creates short-term employment in the agriculture, forestry and nurseries sector (Verrinder and Kamash, 2019).	
Protracted Relief Programme II – The programme’s goal was to reduce poverty in Zimbabwe. The project was coordinated and managed by an internationally recruited private-sector development contractor (GRM International). The programme interventions included direct food distribution, supermarket vouchers, direct cash support, agricultural and livelihoods, community and household gardens, training in vocational skills, education, WASH, participatory health and hygiene education, asset support, a	Imp-Act project – A micro-enterprise credit programme in Bosnia and Herzegovina for conflict-affected populations (Matul and Tsilikounas, 2014).	

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Livelihoods programmes and skills development programmes	Agricultural livelihoods programmes (agriculture/livestock/fisheries)	Local area development programmes and market support programmes
livestock scheme, an Income generating activities IGA starter kit and advocacy work (Jennings., et al, 2013)		
Livelihoods and inclusive finance expansion (LIFE) – USAID’s LIFE is implemented by the Palladium Group, and is a five-year programme. The programme aims to help micro-enterprises by advancing small entrepreneurs’ business skills and access to financial services. The project works with micro, small and medium-sized enterprises and provides training (on business development and financial literacy), access to finance, grants, and in-kind equipment, and other support services (Nelson, 2021).	Kirkuk Project, Iraq – The project created casual daily work opportunities for women, tasks for community development (such as school rehabilitation) and, secondly, it supported women’s income-generating activities or businesses (through grants and vocational training). The project was implemented by Oxfam in Iraq with the collaboration of Iraqi Ai Amal Association (Pretari and Artuso, 2020).	Livelihood recovery interventions – The interventions include vocational training, cash for work, food for work, the distribution of temporary rehabilitation packages, and small input packages. Support is also provided to repair damaged community infrastructure and to promote livelihoods creation (Singh <i>et al.</i> , 2021).

Critical appraisal of effectiveness studies

Risk of bias assessment

Overall, the included studies had a medium risk of bias. Out of 18 studies, 14 studies had a moderate risk of bias and four studies had a low risk of bias (see Figure 5 and Table 6). Most of the studies had a medium risk of selection bias, bias in the baseline, bias due to measurement error, and analysis reporting bias. Most of the studies had a low risk of bias especially relation to attrition, selection, performance and measurement error.

Figure 5: Proportion of risk of bias across risk domain

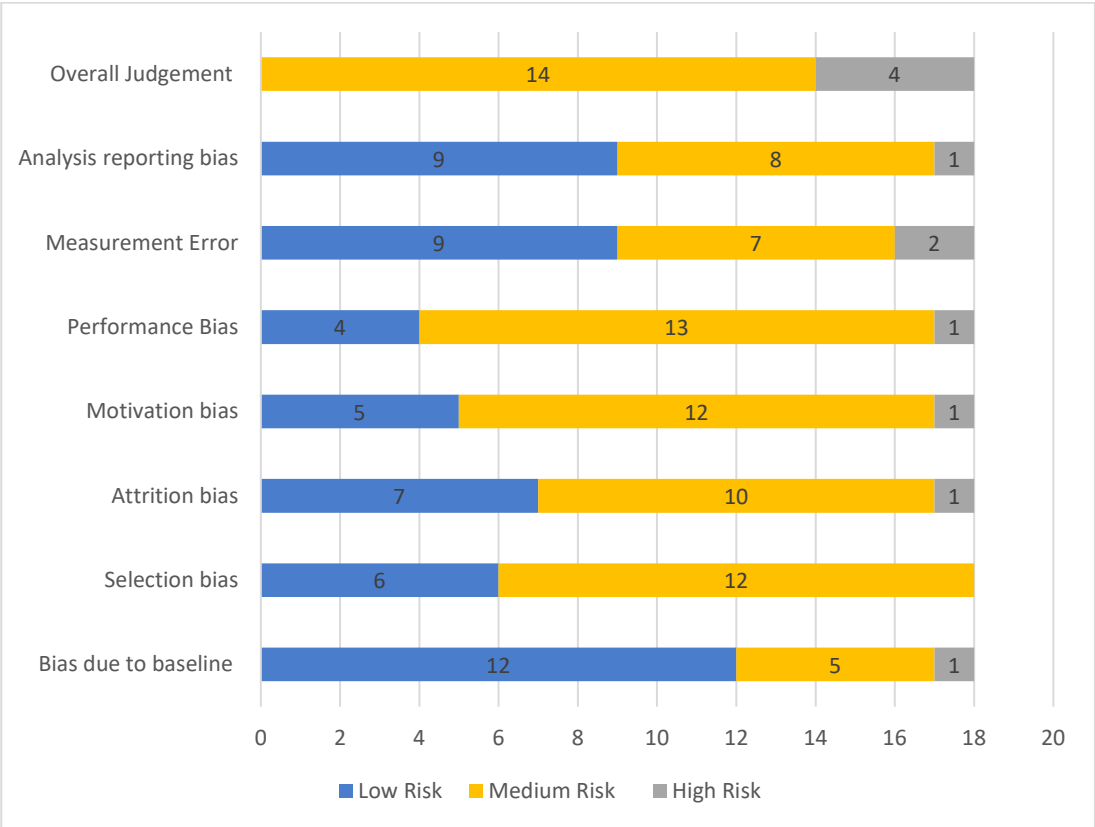


Table 6: Risk of bias by study and overall

Study	Bias due to baseline	Selection bias	Attrition bias	Motivation bias	Performance bias	Measurement error	Analysis reporting bias	Overall
Adoho <i>et al.</i> (2014)	Medium risk	Medium risk	Low risk	Low risk	Low risk	Low risk	Medium risk	Medium Risk
Baseler et al. (2021)	Low risk	low risk	Medium risk	Medium risk	low risk	low risk	low risk	Medium Risk
Bedoya et al (2019)	Low risk	Medium risk	Low risk	Medium risk	Medium risk	Low risk	Low risk	Medium Risk
Blattman and Annan (2016)	Low risk	Medium risk	Medium risk	High risk	Low risk	High risk	Low risk	High Risk
Boleman (2020)	Medium risk	Medium risk	Medium risk	Medium risk	High risk	Medium risk	Low risk	High risk
Baliki <i>et al.</i> (2023)	Low risk	Low risk	Medium risk	Medium risk	Medium risk	Low risk	Low risk	Medium Risk
Doocy (2018)	Low risk	Medium risk	Low risk	Medium risk	Medium risk	Low risk	Low risk	Medium Risk
Doocy (2018)	Low risk	Medium risk	Low risk	Medium risk	Medium risk	Low risk	Low risk	Medium Risk
Glass <i>et al.</i> (2017)	Low risk	Medium risk	Medium risk	Medium risk	Medium risk	Low risk	Medium risk	Medium Risk
Green et al (2015)	Low risk	Low risk	Low risk	Low risk	Medium risk	Medium risk	Medium risk	Medium Risk

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Study	Bias due to baseline	Selection bias	Attrition bias	Motivation bias	Performance bias	Measurement error	Analysis reporting bias	Overall
Hussam <i>et al.</i> (2021)	Low risk	Low risk	Low risk	Medium risk	Medium risk	Low risk	Low risk	Medium Risk
Kurtz <i>et al.</i> (2018)	Low risk	Low risk	Medium risk	Low risk	Low risk	Medium risk	Medium risk	Medium Risk
Lain (2017)	Medium risk	Medium risk	Medium risk	Medium risk	Medium risk	Medium risk	Medium risk	Medium Risk
Lain (2017)	Medium risk	Medium risk	Medium risk	Medium risk	Medium risk	Medium risk	Medium risk	Medium Risk
Lyall (2020)	Low risk	Medium risk	Medium risk	Low risk	Medium risk	Medium risk	Medium risk	Medium Risk
Brauwer <i>et al.</i> (2023)	High risk	Medium risk	Medium risk	low risk	Medium risk	High risk	Low risk	High risk
Gibbs <i>et al.</i> (2020)	Low risk	Low risk	High risk	Medium risk	Medium risk	Low risk	High risk	High risk
Kim <i>et al.</i> (2019)	Medium Risk	Medium risk	Low Risk	Medium risk	Medium risk	Medium risk	Medium risk	Medium risk

Critical appraisal for process evaluation/qualitative studies

We included 14 qualitative studies and process evaluations and a single mixed-methods study in the critical appraisal. For 81% of the studies overall, there is low confidence in the findings; for 18% of the studies, there is medium confidence in the findings (Figure 6). The studies scored highly in terms of framing the evaluation questions, detailing the intervention and the outcomes, and mentioning the qualitative methodology and recruitment or sampling strategies. The low confidence rating comes from ethical considerations and researchers' assumptions and possible biases.

Figure 6: Critical appraisal rating (qualitative studies and process evaluations)

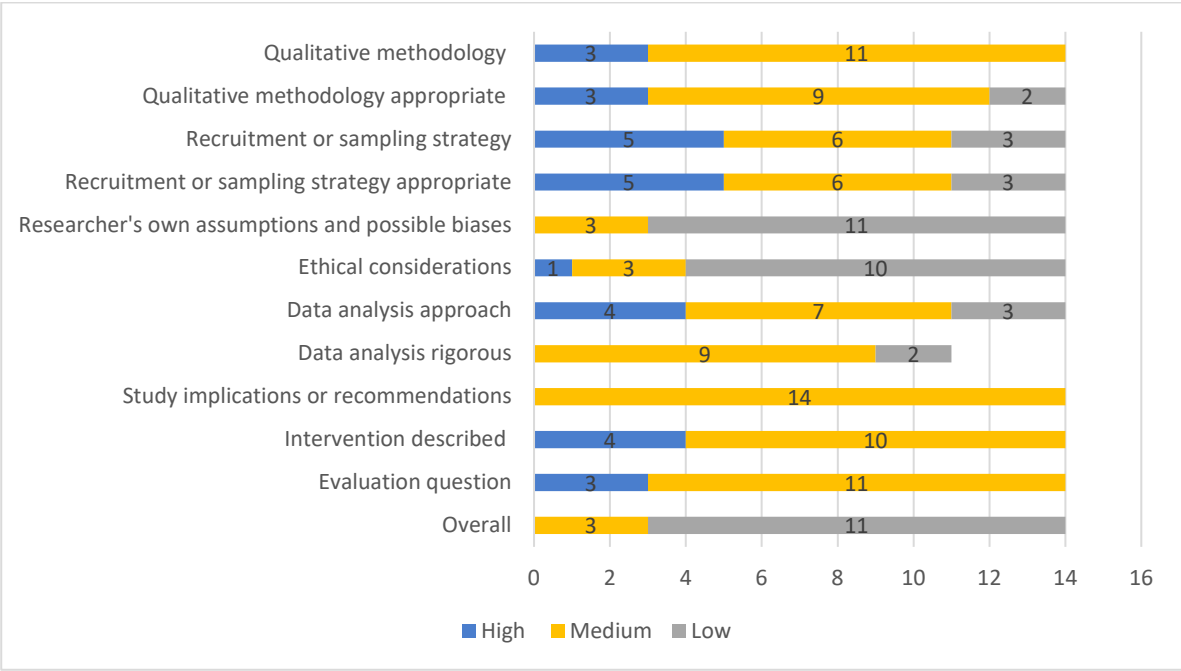


Table 7: Summary of quantitative studies (impact evaluations)

Study name	Region	Country	Population	Study design	Outcome	Name of project	Intervention
Adoho et al. (2014)	Sub-Saharan Africa	Liberia	Conflict-affected populations – young women (adolescent girls) (rural/urban)	Experimental design	Income-generating activities (wage-employment, self-employment, hours and earnings)	Economic Empowerment of Adolescent Girls and Young Women (EPAG project)	The project was launched to increase the employment and income of young Liberian women by providing livelihoods and life skills training and facilitating their transition to productive work.
Baliki et al. (2023)	Middle East and North Africa	Syria	Conflict-affected populations	Non-experimental design	Food security and nutrition	SEEDS	<p>The programme targeted vulnerable rural farmers, mainly focusing on households headed by women, unemployed young men susceptible to the appeal of armed groups, and small-scale farmers and herders who lost their productive assets and/or lacked access to inputs.</p> <p>The overall programme targeted both small-holder farmers and the agricultural sector in Syria at large, with a view to</p>

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Study name	Region	Country	Population	Study design	Outcome	Name of project	Intervention
							increasing access to agricultural assets and promoting recovery of the rural agricultural sector.
Baseler et al (2021)	Sub-Saharan Africa	Uganda	Refugees/IDPs and host population	Experimental design	Economic outcomes and knowledge and attitudes about refugees	Microentrepreneurs	Cash grant along with the mentoring programme with refugees and Ugandan business mentors.
Bedoya et al (2019)	Central Asia	Afghanistan	Conflict-affected populations (Ultra poor households and women) (rural)	Experimental design	Consumption, assets, psychological wellbeing, total time spent working, financial inclusion, and women's empowerment	Targeting the Ultra Poor	The project provided a large investment in a productive asset, access to savings accounts, temporary cash support, and skills training, coaching to lift ultra-poor households out of poverty. Women received a one-off package, including a transfer of livestock, a consumption stipend, skills training, access to savings accounts and facilitation of access to health care services.
Blattman (2016)	Sub-Saharan Africa	Liberia	Conflict-affected populations (youth at high risk/ex-	Mixed methods: experimental	Economic outcomes (engagement in	The Landmine Action intensive, agricultural training	The programme provided ex-combatants and other war-affected youth with

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Study name	Region	Country	Population	Study design	Outcome	Name of project	Intervention
			combatants mainly male) (rural)	design and interviews with participants before, during and after the intervention	agriculture, increase in hours engaged in agriculture, increase in acres under cultivation, increase in employment hours, agricultural income, asset wealth), social outcomes (decline in engagement in illicit activities, citizenship and social integration)	programme, targeting ex-combatants and other high-risk youth in rural hot spots	sustainable legal alternatives to their current illegal activities, facilitating their reintegration into society.
Boleman (2020)	Latin America and Caribbean	Haiti	Humanitarian/natural disaster- affected (both genders) (rural)	Non-experimental design	Economic outcomes (crop yields, production costs, income, and net revenue).	A multiple crop programme	The project aimed to increase the incomes of smallholder farmers by extending access to technologies and markets for selected produce.

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Study name	Region	Country	Population	Study design	Outcome	Name of project	Intervention
Docoy (2018)	Sub-Saharan Africa	Democratic Republic of Congo	Conflict-affected populations	Non-experimental	Food security and nutrition – child nutritional status	Prevention of malnutrition in children under-two approach (PM2A).	Women's empowerment and agricultural interventions. Women's empowerment groups, farmer field schools, and farmer-to-farmer training.
Green et al(2015)	Sub-Saharan Africa	Uganda	Conflict-affected populations (mixed/women) (rural)	Experimental design (C-RCT)	Cash earnings, non-durable consumption, and durable assets; women's employment hours by activity, and their financial assets	WINGS	This programme aimed to help ultra-poor women with little formal education to develop small businesses to increase their incomes and autonomy through business skills training.
Glass et al. (2017)	Sub-Saharan Africa	Democratic Republic of Congo	Conflict-affected populations – men and women (rural)	Experimental design	Economic stability (household livestock/animal assets, cash or in-kind loans), improved subjective health and mental health and reduced	Pigs for Peace	This programme aimed to improve economic, health and intimate partner violence outcomes using pigs as productive assets and as a source of economic stability and social status.

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Study name	Region	Country	Population	Study design	Outcome	Name of project	Intervention
					violence against women		
Hussam et al. (2021)	South Asia	Bangladesh	Refugees/IDPs: Rohingya refugees (both genders)	Experimental design	Economic outcomes (employment, savings, borrowing), social outcomes (sociability), and physical and mental health outcomes	Field experiment in Rohingya refugee camp	This field experiment offers work to individuals to the assess psychosocial value of employment in the Rohingya refugee camps of Bangladesh.
Kurtz et al. (2018)	Central Asia	Afghanistan	Youth, conflict-affected populations (not clear)	Experimental design	Economic outcomes (days worked and cash earned in past month), psychosocial outcomes (including attitudes)	INVEST	The programme's primary goal was to help vulnerable Afghan youth develop skills that are responsive to local labour market needs, and to help them secure economic opportunities.
Lain (2017)	South Asia	Nepal	Humanitarian/natural disaster- affected (rural, mixed population)	Non-experimental design (PSM)	Wealth, crop production, livestock, and non-farm livelihoods	Joint Programme on Disaster Risk Management and Humanitarian Preparedness	The project was designed to build the resilience of project participants to a number of different natural shocks through training, local disaster management committees,

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Study name	Region	Country	Population	Study design	Outcome	Name of project	Intervention
							women's empowerment groups, and improved WASH facilities.
Lain (2017b)	Sub-Saharan Africa	Ethiopia and Somaliland	Humanitarian/natural disaster-affected (rural/ mixed)	Non-experimental design (PSM)	Different livelihoods opportunities, access to credit and markets, growing new crop varieties.	Development of Enabling Conditions for Pastoralist and Agro-Pastoralist Communities	The project was designed to build resilience to drought, conflict, and other shocks and stresses, through rehabilitating sources of water and grazing land and by managing livestock disease. The project also aimed to support alternative income-generating activities among women and youth through training and supporting savings/credit groups.
Lyall (2020)	Central Asia	Afghanistan	Conflict-affected populations: at-risk men and women, vulnerable due to their age, high unemployment, shared Pashtun ethnicity with the Taliban, and	Experimental design (factorial RCT with block randomisation)	Economic outcomes (employment, individual and household assets) and social outcomes (attitudes toward violence	Mercy Corps' Introducing New Vocational Education and Skills Training (INVEST)	The project sought to improve the economic livelihoods of marginalised youth in a context marked by high unemployment, weak government presence, and ongoing insurgency through vocational

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Study name	Region	Country	Population	Study design	Outcome	Name of project	Intervention
			experience with forced displacement (not clear)		and reported behavioural outcomes of violence)		training and unconditional cash transfers.

Mixed-methods studies

Study name	Region	Country	Population	Study design	Outcome	Name of project	Intervention
Brauw et al. (2023)	Sub-Saharan Africa	Ethiopia	Refugees/IDPs/host population	Mixed: experimental and process Evaluation	Food security and nutrition	SHARPE Programme	Promotion of digital financial services and supporting refugees' business licensing.
Kim et al. (2019)	Sub-Saharan Africa and South Asia	Tanzania and Bangladesh	Humanitarian/natural disaster-affected (rural and mixed)	Mixed methods: non-experimental design: qualitative analysis, difference-in-difference estimation, and linear regression	Economic outcomes (time to fetch water, dropout rate from primary school, monthly income), food security and nutrition (meals per day)	Saemaul Zero Hunger Communities Project (SZHCP) of the World Food Program (WFP)	The project targeted the most vulnerable communities in Tanzania and Bangladesh to improve their livelihoods, and rural development programmes.

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Study name	Region	Country	Population	Study design	Outcome	Name of project	Intervention
Gibbs et al (2020)	Central Asia	Afghanistan	Conflict-affected populations, vulnerable women (urban)	Experimental design	Economic outcomes, food security and nutrition, livelihoods, violence and gender attitudes and practices, physical and mental health	Women for Women International (WfWI) economic and social empowerment programme	A programme to improve women's economic stability, health and well-being, family and community participation and decision-making, and social networks. The intervention includes classroom training on numeracy, business skills and social empowerment topics, hands-on training in a chosen vocational skill, monthly stipends, introduction to formal and informal mechanisms to save money (e.g., SHGs, microfinance institutions).

Table 8: Summary of qualitative studies and process evaluations

	Region	Country	Types of population	Name of the Project	Description of the Project
Čelebić (2014)	Sub-Saharan Africa	Ethiopia	Humanitarian/natural-disaster affected (mixed and rural populations)	Revitalizing agricultural/pastoral incomes and new markets (RAIN programme)	Livelihoods programmes: Temporary employment opportunities. Income-generating Groups formed and financed. Savings and credit groups. Market support programmes. Women's empowerment programmes (including microcredit and savings clubs). Women groups are engaged in animal fattening (small-scale trading) and running small retail shops in villages or towns.
Daly <i>et al.</i> (2020)	East Asia and Pacific	Ethiopia Indonesia	Humanitarian/natural disaster-affected Tsunami (mixed and rural populations)	Post-disaster livelihood interventions	Livelihoods programmes: 1) Livelihoods stabilisation: stabilise household livelihoods And economic productivity. 2) Livelihoods restoration: livelihoods protection packages able to help beneficiaries resume their pre-tsunami livelihoods.

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	Region	Country	Types of population	Name of the Project	Description of the Project
					3) Livelihoods development: Livelihoods promotion programmes – the intervention develops new forms of livelihood, such as agriculture, aquaculture, livestock and micro-enterprises.
Drost <i>et al.</i> (2014)	Sub-Saharan Africa	Uganda	Conflict-affected populations (mixed and rural population)	Agribusiness	Livelihoods programmes: The programme involves youth in agribusiness, and promotes agricultural value chains (bee-keeping and honey business).
Easton-Calabria and Hakiza (2021)	Sub-Saharan Africa	Uganda	Refugees/IDPs (mixed and not clear)	Micro-Finance Group	Microfinance programmes: The intervention focuses on refugee-led microfinance groups that provide loans to refugees to help them to start their business and livelihoods activities. The group comprises mainly women (20–60 years old).
Jennings, et al, 2013 (2013)	Sub-Saharan Africa	Zimbabwe	Humanitarian/natural disaster-affected (both rural and urban) (mixed)	Protracted Relief Programme II	The programme activities included agricultural interventions, social transfers, internal savings and lending and income-generating activities, and market-oriented innovation projects. The programme integrated the needs and demands of the participants and offered a package of support. The

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	Region	Country	Types of population	Name of the Project	Description of the Project
					programme partners shifted the approach and targeted only very poor households
John (2015)	East Asia and Pacific	Philippine	Humanitarian/natural disaster-affected – Typhoon Haiyan (mixed /not clear)	Integrated Livelihood Recovery for Typhoon Haiyan-Affected Communities	The programme includes employment creation, skills development and sustainable enterprise. It provides employment support to approximately 6,740 poor and vulnerable workers affected by Typhoon Haiyan.
Katungi and Wajja-Musukwe (2017)	Sub-Saharan Africa – Uganda	Uganda	Refugees/IDPs (mixed / not clear)	Multisectoral Livelihood and Environment Interventions for the Refugees in Kyangwali	The programme aims to improve the quality of life of refugees and nationals, by supporting them with livelihoods activities, skills training, and access to markets. This livelihoods and environment multi-sectoral assistance programme targets refugees, asylum-seekers and host settlements (Hoima communities in Kyangwali District).
Matul and Tsilikounas (2004)	Europe and Central Asia – Bosnia and Herzegovina	Bosnia and Herzegovina	Conflict-affected populations (both rural and urban) (not reported)	Enterprise Development	The programme aims to help the population start businesses by providing credit, supporting market linkages, and starting innovative businesses. It also helps self-employment.

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	Region	Country	Types of population	Name of the Project	Description of the Project
Nelson (2021)	Middle East and North Africa	Lebanon	Humanitarian/natural disaster-affected (not clear) (mixed)	Livelihoods and Inclusive Finance Expansion (LIFE)	<p>LIFE is a five-year project (2016– 2021). The project aims to improve livelihoods, support microfinance, and expand inclusive finance in Lebanon.</p> <p>The activities include providing business management training, technical know-how, mentoring, and basic business development skills to micro – mostly family-owned – enterprises</p>
Pretari and Artuso (2020)	Middle East and North Africa	Iraq	Conflict-affected populations (women's) (not clear)	Safe access to resilient livelihoods opportunities for vulnerable conflict-affected women	<p>This Kirkuk project (May 2016– March 2018) provides livelihood opportunities to conflict-affected women. The project activities include creating casual daily work opportunities for women, for tasks that serve the community ('cash for work' activities such as school rehabilitation and painting) and supporting income-generating activities. The project supports women who have been displaced and women from host communities.</p>

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	Region	Country	Types of population	Name of the Project	Description of the Project
Régnier <i>et al.</i> (2008)	East Asia and Pacific – South Asia	Indonesia and India	Humanitarian/natural disaster-affected (not reported/ not clear)	Livelihood Recovery Programme	<p>There are two programmes: one by Terre des Hommes-Italy and one by Terre des Hommes Switzerland/Geneva. The Terre des Hommes-Italy programme is first being implemented in East Aceh, together with the UNDP Cash for Work Programme. The project focuses on housing, health care, school reconstruction and economic livelihood.</p> <p>Terre des Hommes Switzerland/Geneva supports the displaced population and provides assistance for fishing, post-fishing and other activities through the existing community SHGs, and also creates new SHGs.</p>
Shitarek (2020)	Sub-Saharan Africa	Ethiopia	Refugees/IDPs and host communities (not clear / mixed)	Integrated Emergency Response and Early Recovery	<p>The project includes the following:</p> <p>(a) Agriculture and food security – focusing on livestock vaccination and livestock treatment.</p> <p>(b) Economic recovery and market systems – the aim of which is to</p>

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	Region	Country	Types of population	Name of the Project	Description of the Project
					<p>increase income and livelihoods opportunities for 5,280 pastoral and agro-pastoral individuals through livelihoods interventions in target woredas.</p> <p>The main interventions include supporting livelihoods restoration, and creating temporary employment opportunities.</p>
Singh <i>et al.</i> (2021)	South Asia	Nepal	Humanitarian/natural disaster-affected (mixed/not clear)	livelihood recovery interventions	The project activities focused on vocational training, cash for work, food for work, and distribution of temporary rehabilitation packages and small input packages.
Verrinder and Kamash (2019)	Middle East and North Africa – Jordan	Jordan	Conflict-affected populations (refuges and host communities) not clear	Job creation	The project created jobs for Syrian refugees and Jordanian host communities through green works in agriculture and forestry. The project focused on developing infrastructure to support agriculture, increasing vegetation cover, improving environmental protection and building the capacity of the Ministry of Agriculture and local contractors. The project created additional short-term

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	Region	Country	Types of population	Name of the Project	Description of the Project
					employment in the agriculture, forestry and nurseries sector.

5. Synthesis of the findings (quantitative and qualitative)

5.1 Quantitative synthesis – meta- analysis findings

This section presents the results from the meta-analysis by outcome categories. These categories include i) economic outcomes; ii) food security and nutrition outcomes; iii) mental and psychosocial health; and iv) physical health outcomes. Forest plots show the findings for each outcome, by study design - Randomized Controlled Trials (RCT) and Quasi-Experimental (QE) – as sub-group analysis – and for the overall group of studies. We also present a summary of a sensitivity analysis conducted to understand the stability of the results when excluding one study at a time.

The summary results of the meta-analysis are given in Table 9, and include the number of studies, the number of effect sizes, Hedges' g, confidence intervals, p-values, and I-squared estimates. Most of the studies reported economic outcomes, and it is among these studies that we found the highest effect size (0.36).

Table 9: Summary of findings

Outcome domain	n	Hedge's g	95% CI	p-value	I- squared
Economic	13	0.36	0.18, 0.53	0.000	96.14%
Food security and nutrition	9	0.31	0.13, 0.48	0.000	90.68%
Psychosocial and mental health	8	0.28	0.06, 0.51	0.015	97.10%

Note: N=number of studies; Hedge's g=effect size; CI=95% confidence interval; I – Squared=measure for heterogeneity.

The reported outcomes explain the impact of different interventions on populations directly affected by humanitarian crises. Although two studies included also discussed issues around host populations (; DeBraw, 2023; Baseler *et al.*, 2020), we only report outcomes for refugees.

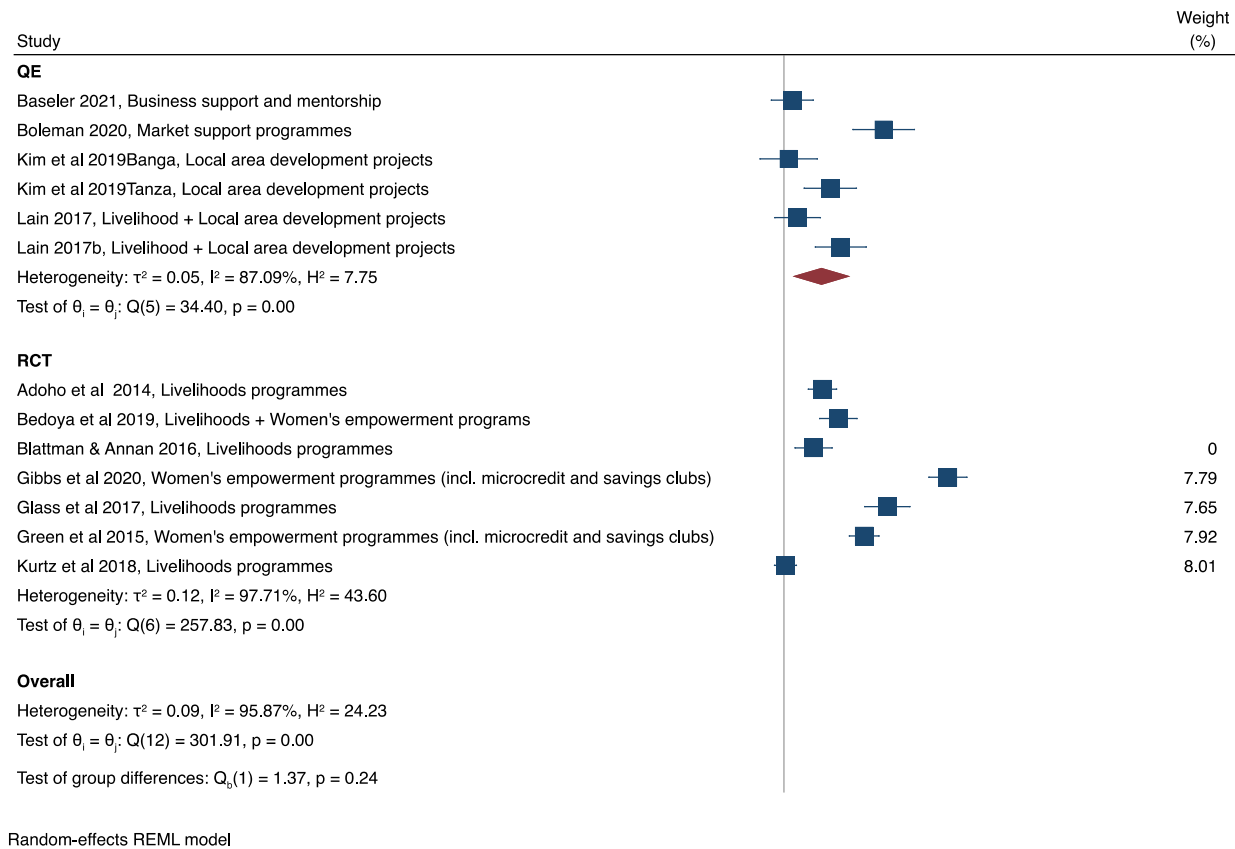
Economic outcomes

Under economic outcomes we included the following indicators: employment, income, savings, poverty, market system, wealth, economic stability, and economic empowerment. Some specific measures or indicators of the included studies are total earnings, a dummy variable on any income-generating activity resulting from the intervention, labour participation, the total number of assets, and an index of household expenditure decision.

As noted, the overall effect size of economic interventions on economic outcomes is 0.36. The summary diamond in the forest plot shows this result to be positive and significant as both ends lie at the right side of the line of no effect (Figure 7). Most of the studies reported statistically significant impacts, as represented by the tails at the right side of zero, that

suggest a statistically significant positive effect on the treatment groups. Most of the studies looking at economic outcomes included livelihood programmes. These studies also reported positive and significant effects. We also note that livelihoods programmes were usually bundled with women empowerment programmes, where positive empowerment outcomes were largely dependent on the study context (location and population). This could explain the high heterogeneity of the associated results. Of the studies included, we note that Baseler et al. (2021) and Kim et al. (2019) on Bangladesh, and Kurtz *et al.* (2018), cross the no effect vertical line, therefore implying a non-statistically significant effect size. These three studies also show the lowest values of size effects among those included.

Figure 7: Summary of effects on economic outcomes, by study design



Of the 13 studies included with economic outcomes, seven (58%) are RCTs, and have an overall effect size of 0.24. The non-RCT studies have an overall effect size of 0.43. It is thus possible that the non-experimental designs suffer from residual selection bias and so over-estimate the effect.

However, studies under each evaluation design were very heterogenous, with an I-squared above 85%, particularly among the RCT studies ($I^2=97.71\%$). The RCT studies have an overall effect size which favours treatment groups, and include multi-component interventions, such as livelihoods programmes, local area development programmes, and women empowerment programmes focusing on microcredit schemes and saving clubs. Among these, Gibbs et al. (2015) is the one with the highest size effect. The study looks at a women's economic

empowerment programme in Afghanistan that was successful in improving livelihoods, promoting more gender-equitable relationships and promoting women's mobility.

Among the non-RCT studies, Boleman (2020) and Lain (2017b) show a positive and significant higher effect size. Boleman looked at market support programmes to improve the livelihoods of Haitian farmers in the aftermath of a drought through risk reduction strategies in disaster-prone areas. Lain (2017b) estimated the impact of a community-level programme offering training and support to enhance the activities of local disaster management committees, and the construction of improved WASH facilities. The overall effect size of non-RCT studies is again positive and significant, with only Kurtz *et al.* (2018) crossing the no effect line.

Food security and nutrition

Food security and nutrition outcomes refer to outcome measures such as meals consumed per day, household food insecurity, food consumption per capita, and dietary diversity.

We found nine studies that specifically looked at these outcomes, and the results from the meta-analysis show a combined effect size of 0.31, which is statistically significant, though again with a significantly high degree of heterogeneity ($I^2=89.29\%$).

Figure 8: Summary of effects on food security and nutrition outcomes

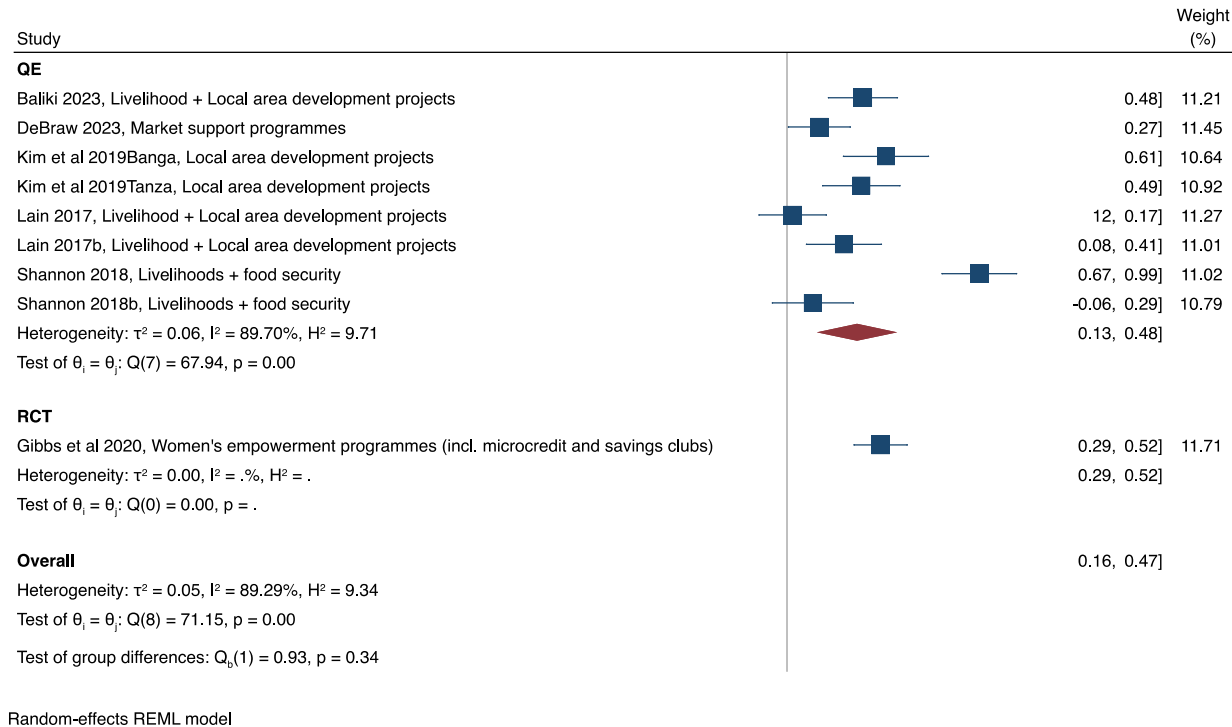


Figure 8 above is the forest plot of the meta-analysis for this outcome. All the studies included under this outcome, with one exception, used a non-RCT design.

We focus our discussion on the sub-analysis of non-RCTs. The combined effect size of these studies is 0.30, and the diamond representing their combined effect is entirely on the right side of the no effect line. Looking at the contribution of specific studies, the largest impact

comes from Baliki et al. (2023), Kim et al. (2019), and Doocy (2018). These studies share the common feature of looking at interventions that aim to increase food security through livelihoods programmes. Baliki et al. – which is a peer reviewed but not yet published study funded by the CEDIL programme – evaluates a complex large-scale multi-arm agricultural intervention around productivity, food security, and resilience in the context of the ongoing humanitarian crisis in Syria. Lain (2017b) looked at food security through accounting for the food supplies in a disaster-prone area, while Kim et al. (2019) analysed the effects on food security as assessed through meals consumed per day by households in Bangladesh.

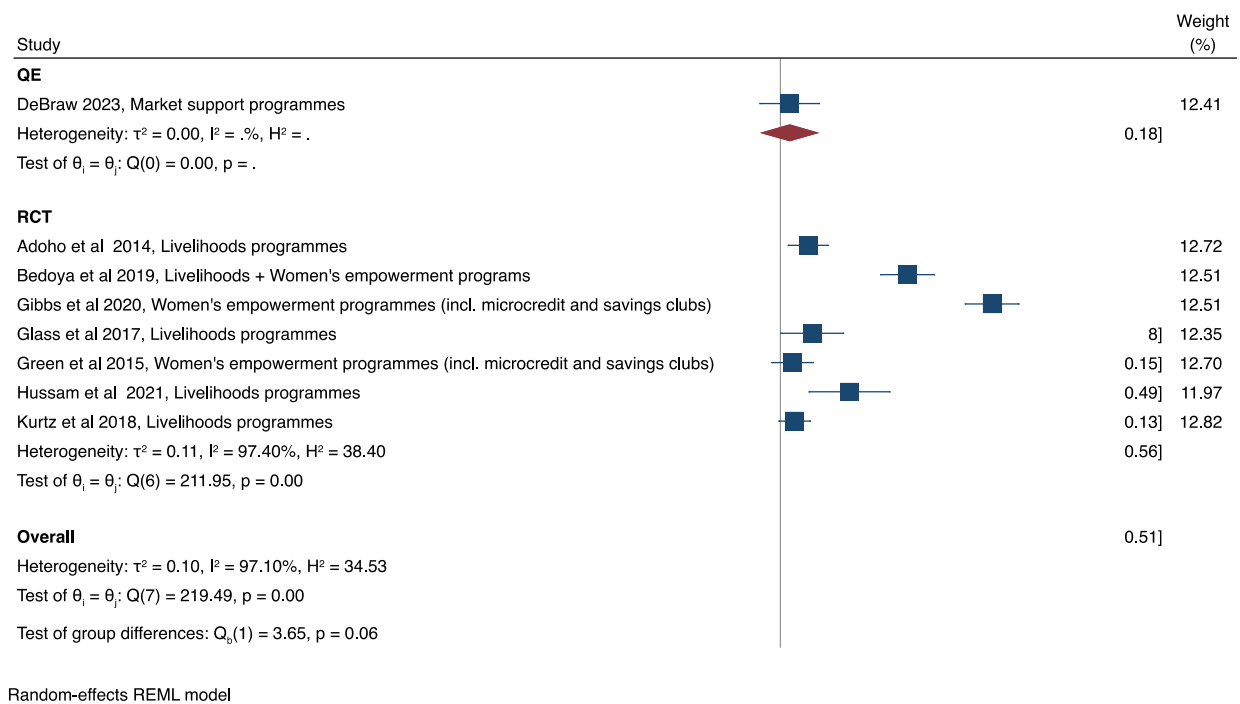
The two papers crossing the no effect line are De Braw (2023) and Doocy (2018b). The first study looks at the SHARPE programme in Ethiopia, which used a market system approach to provide technical assistance, capacity building and financing to promote increased self-reliance and economic opportunities for refugees and host communities. The intervention in the De Braw et al. study, also a CEDIL-funded project that is still under review, faced several setbacks, including the inability to collect baseline data, and disruption to the evaluation due to Covid-19 and the internal conflict between the government and the Tigray region. The other study for which we found limited impact was Doocy (2018b); this evaluated an intervention primarily focusing on improving child nutrition outcomes. We argue that the non-significant effect size of the study could be the result of the indirect effect on food security for the population.

Psychosocial and mental outcomes

This review combines psychosocial and mental outcomes to include measures of psychosocial well-being, self-esteem/self-worth, and social cohesion. Examples of indicators of psychosocial and mental outcomes looked at are satisfaction scores, psychological wellbeing index, women's agency (embedded in the women empowerment index), self-reported symptoms of depression, and life satisfaction indicators, as well as social cohesion.

We included eight studies for this outcome. Figure 9 below illustrates the findings from the meta-analysis. All but one of the studies in this group featured an experimental evaluation design. The combined effect size is 0.28, with both ends of the diamond lying to the right of the no effect line. As with previous analysis, these studies also display an overall high degree of heterogeneity, with an I-squared of 97.10%. While we recognise that some of the heterogeneity may result from the De Braw et al. study, which currently has some limitations, even the seven RCTs studies are very variable. Part of this high heterogeneity can be explained by the difference in interventions included, which ranged from youth employment programmes that seek to deter support for armed conflict (Kurtz et al., 2018), to a mentoring programme aimed at creating socio-economic inclusion among host and refugee populations, and women empowerment programmes, which comprise both activities to boost employment-related agency, and specific activities to mitigate symptoms of depression (Bedoya et al., 2019).

Figure 9: Summary of effects on psychosocial and mental health outcomes



The three RCT studies with the highest effect size (*Gibbs et al., 2020*; *Bedoya et al., 2019*; and *Hussam et al., 2021*) evaluated programmes targeting employment creation to boost psychosocial wellbeing, and not just paid work. While the results from the meta-analysis display high heterogeneity for the reasons suggested above, they also point to an important mechanism of impact of economic programmes that is not often explicitly accounted for: ensuring the mental wellbeing of the targeted population as a necessary condition for economic development effects.

Physical health outcomes

This review also considers physical health outcomes. We included only one study by Hussam et al. (2021) on the impact of employment among a population of forcibly displaced people, the Rohingya refugees of Myanmar, on the number of sick days persisting for more than one week over the past month. The findings show a significant decline in the days the respondents reported being physically ill.

Sensitivity analysis and moderator analysis

As noted, the substantial variation in effect sizes appears to be largely the result of heterogeneity across studies (indicated statistically by high values of I-squared and Tau-squared). We therefore also conducted additional sensitivity and moderator analyses to explore possible sources of heterogeneity.

To test the sensitivity of the meta-analysis results, we grouped studies by outcome category, and re-ran the meta-analysis excluding – for each outcome – one study at a time. The results

of this sensitivity analysis are summarised in three tables, which report, respectively, how effect sizes change under each group of outcome categories. Each table reports in the top row the combined effect of all studies included in a specific outcome category. This is followed by the findings of the meta-analysis conducted by excluding one study at a time to assess the contribution of each study in the overall effect size.

We begin by looking at Table 10 for the sensitivity analysis conducted on economic outcome studies. This suggests that the overall effect size is not affected by the exclusion of any study. When excluding Gibbs *et al.* (2020), the overall effect size decreases by 8 percentage points, but remains positive and statistically significant. We find that when excluding the same study from the meta-analysis of studies looking at psychosocial and mental health outcomes, the overall effect size also decreases (by 10 percentage points), but again without affecting either the direction or statistical significance of the overall findings. Table 11 reports the results of the sensitivity analysis on studies looking at food security and nutrition outcomes. We find no change in the overall effect size when excluding studies one at a time, with Doocy (2018b) reducing the overall effect size, but not affecting either the direction or level of statistical significance of the overall analysis.

Table 10: Sensitivity analysis on economic outcomes

	n	Hedge's g	95% CI	p-value	I- squared
All papers	13	0.36	0.18, 0.53	0.000	96.14%
Papers excluded					
Lain 2017b	12	0.34	0.16, 0.52	0.00	96.34%
Lain 2017	12	0.36	0.19, 0.54	0.00	96.05%
Kim <i>et al.</i> , 2019 (Bangladesh)	12	0.37	0.20, 0.54	0.00	96.02%
Kim <i>et al.</i> , 2019 (Tanzania)	12	0.35	0.17, 0.53	0.00	96.34%
Boleman, 2020	12	0.32	0.15, 0.49	0.00	96.09%
Kurtz <i>et al.</i> , 2018	12	0.37	0.20, 0.54	0.00	95.05%
Glass <i>et al.</i> , 2017	12	0.32	0.15, 0.49	0.00	95.90%
Green <i>et al.</i> , 2015	12	0.33	0.15, 0.51	0.00	95.90%
Gibbs <i>et al.</i>, 2020	12	0.28	0.16, 0.41	0.00	92.34%
Adoho <i>et al.</i> , 2014	12	0.35	0.17, 0.53	0.00	95.92%
Baseler <i>et al.</i> , 2021	12	0.37	0.20, 0.54	0.00	95.93%
Bedoya <i>et al.</i> , 2019	12	0.34	0.16, 0.52	0.00	95.93%
Blattman and Annan, 2016	12	0.36	0.18, 0.53	0.00	96.11%

Table 11: Sensitivity analysis on food security and nutrition outcomes

	n	Hedge's g	95% CI	p-value	I- squared
All papers	9	0.31	0.13, 0.48	0.000	90.68%
Papers excluded					
Kim <i>et al.</i> , 2019 (Bangladesh)	8	0.30	0.13, 0.47	0.000	96.65%
Kim <i>et al.</i> , 2019 (Tanzania)	8	0.31	0.14, 0.49	0.000	90.81%
Baliki <i>et al.</i> , 2023	8	0.31	0.14, 0.49	0.000	90.60%
Gibbs <i>et al.</i> , 2020	8	0.31	0.16, 0.47	0.000	89.29%
Lain, 2017	8	0.35	0.20, 0.51	0.000	87.90%
Lain, 2017b	8	0.32	0.15, 0.50	0.000	90.65%
DeBraw, 2023	8	0.34	0.17, 0.50	0.000	89.51%
Doocy, 2018	8	0.25	0.15, 0.35	0.000	72.62%
Doocy, 2018b	8	0.34	0.17, 0.50	0.000	89.89%

Table 12: Sensitivity analysis on psychosocial and mental health outcomes

	n	Hedge's g	95% CI	p-value	I- squared
All papers	8	0.28	0.06, 0.51	0.015	97.10%
Papers excluded					
DeBraw, 2023	7	0.32	0.07, 0.56	0.010	97.40%
Glass <i>et al.</i> , 2017	7	0.30	0.05, 0.56	0.020	97.58%
Gibbs <i>et al.</i>, 2020	7	0.18	0.04, 0.33	0.015	91.83%
Bedoya <i>et al.</i> , 2019	7	0.24	0.00, 0.48	0.050	97.20%
Adoho <i>et al.</i> , 2014	7	0.31	0.05, 0.56	0.017	97.22%
Hussam <i>et al.</i> , 2021	7	0.28	0.02, 0.54	0.035	97.72%
Green <i>et al.</i> , 2015	7	0.32	0.07, 0.57	0.012	97.13%
Kurtz <i>et al.</i> , 2018	7	0.31	0.06, 0.57	0.017	96.80%

In sum, we conclude that none of the studies included impact the sensitivity of our general results. We therefore now turn to the moderator analysis.

Meta-regression and decomposition analysis

To understand the importance of the size of the effects on the economic outcome, rather than its statistical significance, we present a decomposition analysis to show which variables 'contribute' to the mean size effect, and what combinations of moderators yield the smallest and largest effects. The following analysis includes 13 studies and is based on the results from the meta-regression analysis.

Table 13 presents the findings of the meta-regression and helps understand the effect of the interventions on economic outcomes in relation to key differences in the included effectiveness studies. The specification of what variables are included in the meta-regression model draws on the list of moderators discussed in the protocol.

Table 13: Meta-regression results

Average effect size	Coeff.	Std. Err.	T	P>t	[95% conf. Interval]	
GDP_pc (constant 2015 prices)	0.00	0.00	-2.50	0.05	-0.0015	0.0000
Risk of bias = 1 if high	0.48	0.13	3.82	0.01	0.1727	0.7886
Program duration (months)	-0.01	0.00	-2.07	0.08	-0.0165	0.0014
Human. Setting = 1 if nat. Disaster	0.05	0.19	0.28	0.79	-0.4124	0.5179
Type of prog. = 1 if local area development	0.42	0.14	2.98	0.03	0.0749	0.7612
Study published = 1	0.26	0.12	2.16	0.07	-0.0341	0.5476
Constant	0.65	0.19	3.36	0.02	0.1763	1.1238

Number of obs		13
Restricted maximum likelihood REML estimate of between-study variance	tau2	.03096
% residual variation due to heterogeneity	I-squared_res	93.46%
Proportion of between-study variance explained	Adj R-squared	65.74%
Joint test for all covariates	Model F(6,6)	4.55
With Knapp-Hartung modification	Prob > F	0.0439

We included the following variables: 1) Continuous variables: the duration of the intervention in months, and the per capita real GDP of countries included in the studies at 2015 constant prices. 2) Dummy variables: humanitarian setting (whether the study population was affected by natural disasters rather than by conflict) and the typology of interventions (with a dichotomous variable for studies that evaluated local area development project and a binary variable to control for the peer review status).

The results show a smaller effect in countries with a higher GDP per capita. This moderator may theoretically be expected to work either way: economic development interventions may have more impact in more developed settings because there are more opportunities there, while, conversely, precisely because such opportunities exist anyway, interventions may have a lesser impact in such contexts. The latter effect appears to dominate.

There is a small negative association between programme duration and effect size. This is counterintuitive and may reflect that longer programmes operate in areas of greater need, where there are less possibilities for affecting economic outcomes.

Comparing different programme types, local development area projects have a larger effect than other types.

There is a larger effect for studies published in peer-reviewed journals. Although this is not statistically significant, it may be a possible indicator of selection bias.

Publication bias

Publication bias among studies with the same outcome indicator was assessed graphically with funnel plots (Figure 10, 11, and 12). All three plots display studies evenly scattered, suggestive of no publication bias. The funnel plots are symmetric, with a balanced distribution on both sides of the funnel mid-point.

Figure 10: Publication bias analysis for studies with economic outcomes

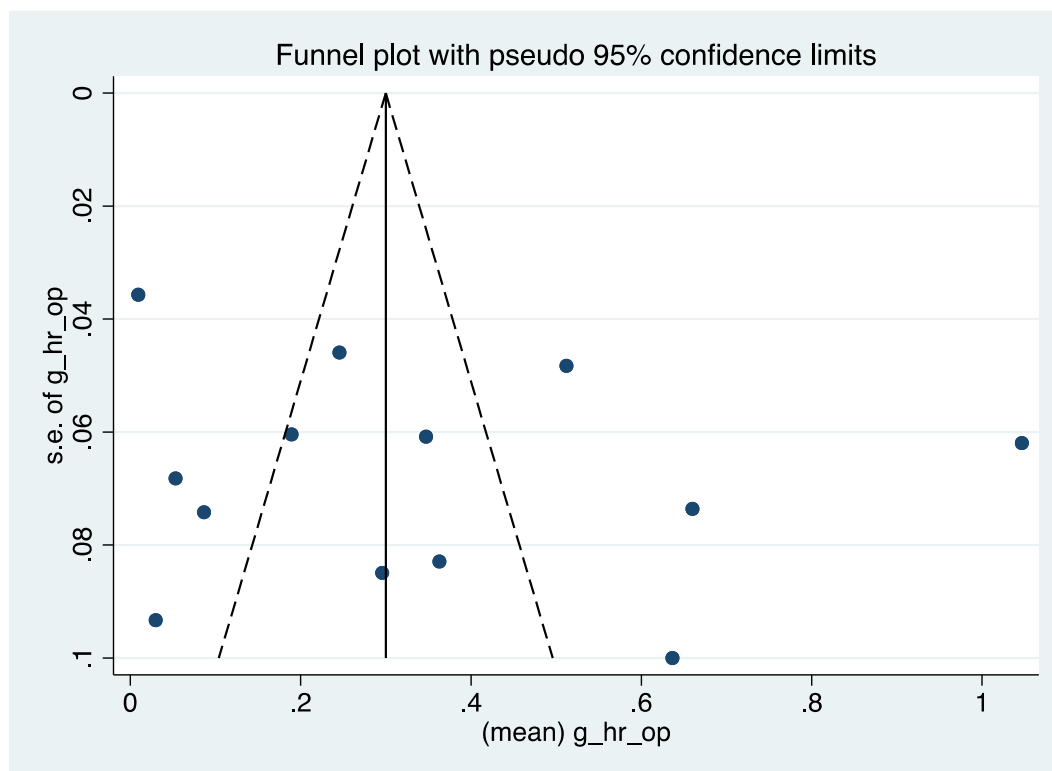


Figure 11: Publication bias analysis for studies with food security and nutrition outcomes

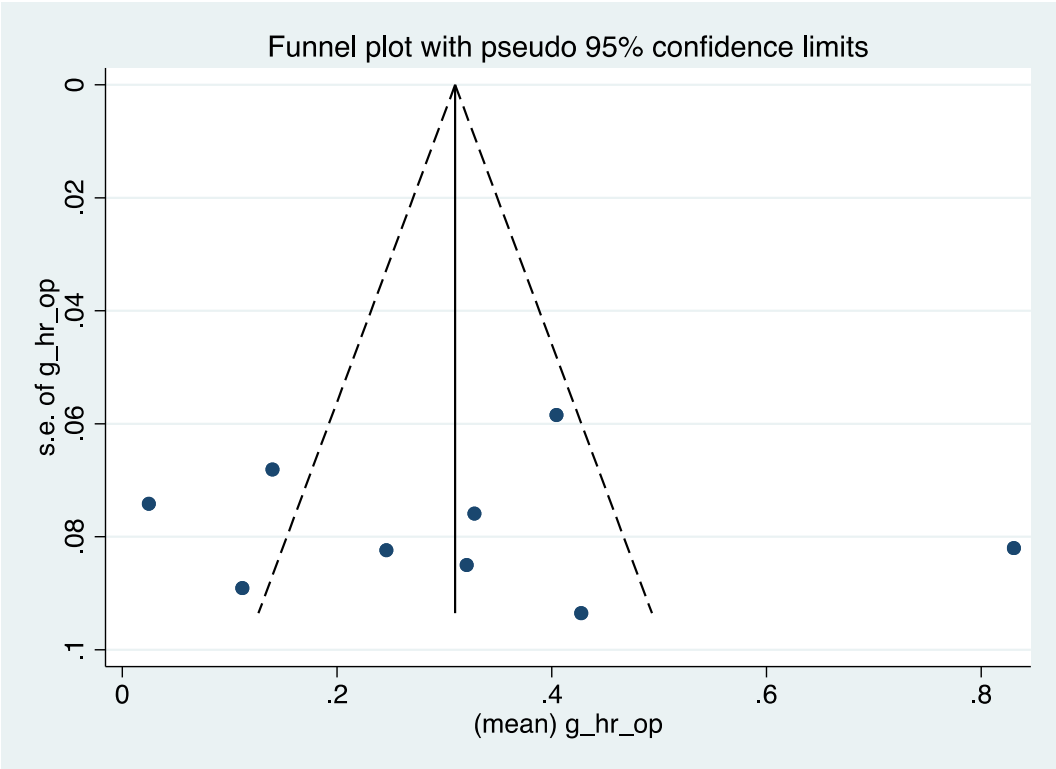
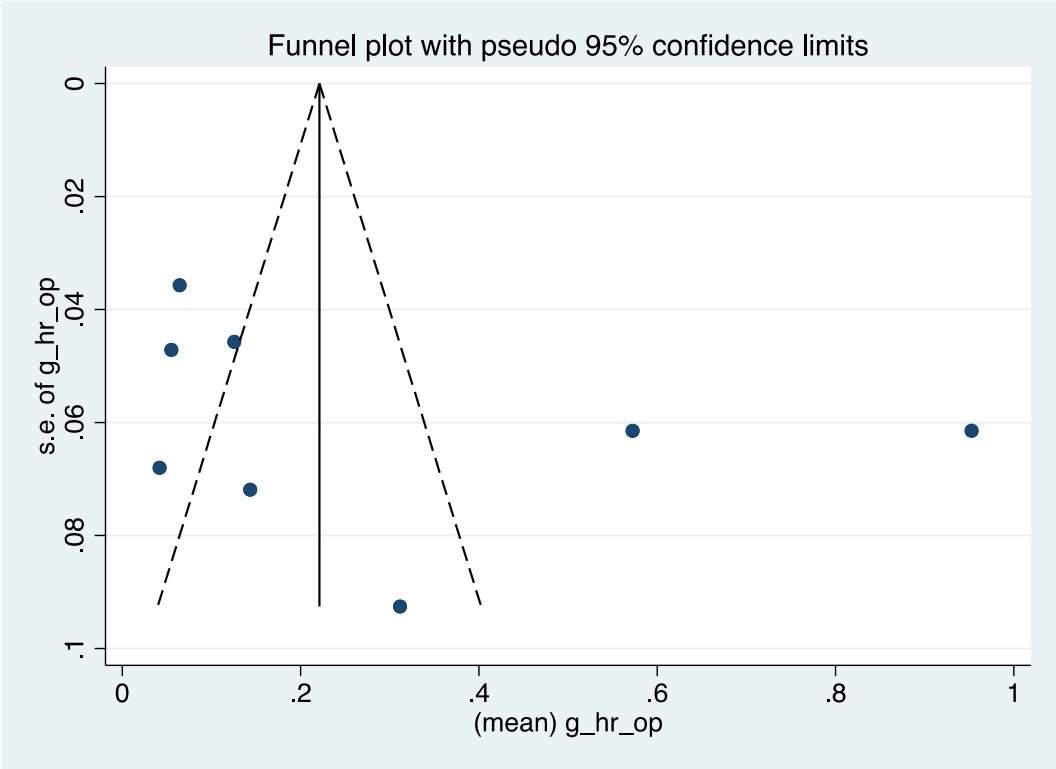


Figure 12: Publication bias analysis for studies with mental and psychosocial health outcomes



We further conducted Egger's regressions to check for small size effect bias, but for each group of study under the same outcome the P value was larger than 0.10, confirming the absence of evidence of publication bias (tables 14, 15, 16).

Table 14: Publication bias – economic outcomes

Economic outcomes	Coeff.	Std. err.	T	P>t
Slope	0.01	0.28	0.05	0.97
Bias	4.98	4.69	1.06	0.31
Test of H0: no small-study effects	P-value		0.311	
Number of studies = 13	Root mean standard error MSE		4.989	

Table 15: Publication bias – Food security and nutrition outcomes

Food security and nutrition outcomes	Coeff.	Std. err.	T	P>t
Slope	0.22	0.57	0.38	0.72
Bias	1.24	7.43	0.17	0.87
Test of H0: no small-study effects	P-value		0.872	
Number of studies = 9	Root MSE		3.182	

Table 16: Publication bias – mental and psychosocial health outcomes

Mental and psychosocial health outcomes	Coeff.	Std. err.	T	P>t
Slope	-0.19	0.38	-0.51	0.63
Bias	8.00	7.03	1.14	0.30
Test of H0: no small-study effects	P-value		0.298	
Number of studies = 8	Root MSE		5.484	

5.2 Qualitative synthesis

This section discusses the qualitative synthesis of 15 process evaluations, and three mixed-methods studies. Most of these studies focus on Sub-Saharan African countries.

A qualitative thematic synthesis of the studies was executed using a coding framework based on the conceptual elements which are the basis for a theory-based approach. The qualitative data extracted from the studies were included using the 'TBSR matrix'. Key themes and common elements under each of these headings were identified and are summarised below, where we report emerging themes relating to barriers to, and facilitators of, outcomes, as weak as the causal processes to the impact.

Barriers to, and facilitators of, achieving outcomes

Many factors can facilitate the achievement of outcomes, and many factors can act as barriers to that achievement. One of the most frequently identified factors was the lack of knowledge and skills. Skills training and knowledge sharing are major facilitator for achieving the intended economic and social outcomes, however they are also reported as barriers, when they are lacking among programme participants.

Interventions targeting women identified gender-based norms and changes as main barriers or facilitators. As noted in the causal chain theory of change section, given that economic interventions differ across contexts and populations, some inputs will facilitate achieving improved economic outcomes across settings: employment promotion and skills development; agricultural training programmes; collective action; and women's groups. Most of these inputs may act as both barriers and facilitators for the intended outcomes.

Table 17 lists issues that can act both as barriers and facilitators.

Table 17: Identified barriers and facilitators

Facilitators identified	Barriers identified
Structured livelihoods support programme	Quality and level of the support
Use of innovations	Lack of access to services and markets
Change in gender norms and support from family members	Gender-based discrimination/ Gender norms
Capacity building	Lack of skills and training
Other facilitators (home-based and in-kind support)	Other barriers – lack of motivation

Facilitators

1. **Structured livelihoods support programme:** This study provided financial and in-kind support to economic development by helping micro and small and medium-sized enterprises to rebuild their business (Nelson, 2021 Pretari and Artuso, 2020). Cash or in-

kind transfers support livelihoods activities (Shitarek, 2020). Examples of this approach are reproduced below:

'...my situation was very bad. I have a pastry shop... My pastry shop, house, and car were destroyed by the port blast. We were waiting for someone to come and help us. ...they really benefited me. They helped me get the machines and products for my pastry shop. This support helped me to work and improve my business.' (Nelson, 2021)

'I have a fish store. There were two people [*from a LIFE grantee organization*] who came and asked me what I wanted, and they gave me what I requested.' (Nelson, 2021)

'She is an IDP living in IDP camps. There are 11 people (5male +6 female) in her family. Her family is a pastoralist family, and she also used to trade livestock to Somaliland before they lost their animals and asset due to and before they lost their animals and asset due to drought during the past successive years. She received Birr 24,640 from Oxfam in two rounds. With the money, she bought about 15 shoats each with an average price of US \$40. After three months, she took seven of her shoats to Somaliland and sold them for US \$75 each. With the income she earned, she again bought shoats locally. During the FGD discussion (at final evaluation), she reported that she has 19 shoats. When asked, when would you sell the other shoat, she replied: "the price of shoat has declined now", and she is waiting for the price of shoat to go up again.' (Case stories from Shitarek, 2020)

These examples suggest that asset transfer programmes will have a positive effect in humanitarian settings.

2. **Use of innovations:** The use of financial technology and innovation, including digital and online platforms and e-learning platforms, promotes business development for small and medium-sized enterprises. Such innovations include the adoption of different approaches (e.g. subsidising low-interest loans, supporting Micro finance Institutions (MFIs)) to reschedule active loans, and provide direct support to Micro Finance Institutions MFIs' operational costs (Nelson, 2021). Economic recovery interventions, such as shoat fattening and petty trading, also enable beneficiaries to become self-reliant, (Shitarek, 2020; Nelson, 2021).
3. **Change in gender norms and support from family members:** Family support is found to be one of the most important enablers of income generation.

'[My husband] severely opposed [me working], especially since there was training before the project, and I had to leave the house to go and come back from the organization. So, he did not agree at first, but after he realised that the staff were all women and there

were women close to my house who would go with me and I would not be alone, he agreed, and the rest of the family were supportive as well'. (Kirkuk Project (Pretari and Artuso, 2020))

4. **Capacity building** (trainings and skills development): Participants received training on digital marketing, social media, and setting up online shops (Nelson, 2021; Easton-Calabria and Hakiza, 2021).
5. **Other facilitators:** Home-based activities are found to be key enablers for projects that support the economic development of displaced women (Pretari and Artuso, 2020). Other key enablers are motivation (Easton-Calabria and Hakiza, 2021) and in-kind support, such as equipment (Nelson, 2021).

'It was a personal idea. I saw a lot of people suffering, moving from place to place [from organisation to organisation] looking for support and not getting help. I was affected...While I was at a HIAS [previously the Hebrew Immigrant Aid Society] counselling group. I heard that FRC [the Finnish Refugee Council] offered savings training. I asked to start a training group and then went back to HIAS to ask if those who had finished the counselling wanted to join the group. We also wanted more members who weren't part of the group. It took six months to get people together. Then FRC trained us, and we asked for a space at HIAS to meet every week. They accepted and we started.' (Boling Savings Group, personal communication, 18 March 2016)

Barriers

1. **Quality and level of support:** Livelihoods support and financial support are found to be instrumental in improving the economic conditions of project beneficiaries. Included studies, however, reported that capital amount is small (Shiterek, 2020), and that support in in-kind equipment was found to be of poor quality and not useful (Nelson, 2021).

'I ordered a cutting machine for vinyl (...) but they gave me something completely different. It wasn't useful for me. The machine is still at home.' In this case, the business owner was not able to make use of the equipment he received.' (Owner of a sewing business, quoted in Nelson, 2021)

'I said I wanted a 190-[cubic]-meter refrigerator valued at \$1,000. They made me get a 90-[cubic]-meter one and valued it at \$1,000. It was supposed to be the kind of support where we needed help, but it ended up being us getting the support they chose for us based on the relations and contracts they had with companies.' (Business owner, quoted in Nelson, 2021).

When asset transfer programmes give poor quality or insufficient help, they will unsurprisingly have little or no effect.

2. **Lack of access to services and markets:** Unavailability of basic services, such as power cuts, result in a loss of sales and in an increase in operating costs. The target populations also report lack of access to raw materials, market information and to market links (Nelson, 2021; Shitarek, 2020).

‘...It has been a while since we started to close our shops... due to the electricity cuts. First, we used to pay 100,000 liras for the local power generator subscription, but now we are paying 600,000 liras.’ (Nelson, 2021)

‘Beneficiary in Gashamo explained, they depend on information obtain from brokers in order to sale their products/shoats. Hence, an element of value chain analysis and mapping is also missing.’ (Shitarek, 2020)

3. **Gender-based discrimination/gender norms:** Restricting women’s mobility hinders their ability to (Pretari and Artuso, 2020).

‘I tried to face (up to) the customs and traditions and change the thinking and outlook of society, but they did not change. It is very difficult for a woman to work and have her own project in my community. Even women who have projects must involve their husbands in the process of purchasing materials, because it is impossible for the female business owner to deal with the merchants or owners of large stores.’ (Pretari and Artuso, 2020)

4. **Lack of skills and trainings:** Populations lacking skills and knowledge, such as record-keeping skills (Shitarak, 2020), and knowledge of agribusiness – especially in bee-keeping (Drost *et al.*, 2014), face high barriers to economic development.
5. **Other barriers** identified were a lack of motivation, a lack of affordable capital and a lack of land (Drost *et al.*, 2014).

‘You cannot suddenly expect a highly active and entrepreneurial attitude from someone who has been sitting back for years, provided with food aid and basic needs. There are many children that grew up in the camps without having worked once; they lack experience in cultivation and beekeeping’. (Young producer in IDP camps, quoted in Drost *et al.* (2014))

5.3 Illustrating causal processes

This section returns to the middle level theory framework introduced earlier to identify and discuss which enablers and barriers were identified in the studies included that need to be

accounted for to ensure that the economic development interventions work as intended on the proposed causal pathways to impact in humanitarian crisis settings.

Building trust, and supporting networks to restart post-disaster sustainable economic rehabilitation

Lack of trust was identified as a barrier to the successful creation of grassroots savings and loan groups (Easton-Calabria and Hakiza, 2021). After war, mistrust dominates all productive relationships, given that at the time of war, even your neighbours reported you to the rebels. In such circumstances, reinforcing the ties between NGOs and refugee-led groups is essential to restore networks of trust that contribute to creating local community networks enables post-disaster economic and social relief to be channelled rapidly and effectively. Similarly, proximity of middlemen to local households facilitates marketing ties in the community that enable local producers to have direct access to suppliers and market channels which would otherwise not be possible. **Access to knowledge, and networks** are additional enablers to market access, especially for rural youth who would face higher barriers to farming because of their inexperience and involvement in war. Social differences can also be exacerbated by ethnicity, language, caste, and education that raise the entry barriers to business networks even more as suggested by the bee keeping sector in post conflict Northern Uganda (Drost et al, 2014). **Belonging to different social and business networks**, are powerful enablers of gender inclusive interventions. Post conflict, women benefit from microfinance programmes to access small loans and establish savings accounts. However, they need these programmes to include specific assistance with school expenses and to access health care to guarantee both financial and socio-economic empowerment.

Support to market systems, beyond livelihood opportunities

The reconstruction of livelihoods requires physical spaces, facilities, and infrastructure as enablers of sustainable economic recovery. As an example, Daly et al (2020) shows that providing assets, financing, and training to help replace what was lost during the tsunami was crucial in the 'Livelihood aid in post-tsunami Aceh' programme which targeted the rehabilitation of pre-tsunami livelihoods. **Markets** are also central mechanisms of economic growth, but they too need to be accessible and functional in the aftermath of conflict. Celebic, (2014) argues that in the 'Livelihood aid in post-tsunami Aceh' programme the number of participants within livelihood programs, especially micro-enterprises, greatly exceeded the capacity of local markets to absorb. In such circumstances, directly engaging communities for planning and for prioritizing investments is essential. Also important is the provision of affordable inputs, and access to improved energy saving technologies to enhance the modernization of agriculture, increase access to market-led skills development, and strengthen non-farm income generating activities (Matul and Tsilikounas (2004); Katungi and Wajja-Musukwe, 2017).

Ensuring the support delivered can be put to use by beneficiaries

Lack of households' surplus income to become eligible to saving-credit schemes, and **insufficient cash support** to meet the food needs of households are important barriers to economic development (Shitarek, 2020). **Supporting refugees' capacities** and enabling them to become self-sufficient is a key enabler for all interventions that intend to incentivise long term economic opportunities. for example, argues education programmes are important enablers to shape the economic opportunities of refugees. Finally, programmes that address women's physical and mental health post humanitarian crisis, are critical to ensure the uptake of project economic opportunities. Pretari and Artuso, 2020for example, suggests that the creation of causal daily to support income generating opportunities also support women to build and sustain their physical and mental health resilience.

6. Authors' conclusions

6.1 Overview of findings

This review finds that economic interventions in post-disaster and post-conflict humanitarian settings are effective in improving economic outcomes. However, these effects are not very large and show considerable heterogeneity.

The evidence is mostly from countries in Sub-Saharan Africa and South Asia. The findings from the meta-analysis provide evidence that economic interventions are effective in improving the economic status of populations affected by humanitarian crisis.

The effects on economic outcomes have relatively larger overall effect sizes than those on food security, nutrition, psychosocial and mental health outcomes.

Livelihoods programmes/interventions dominate the included studies. These programmes are found to have positive and significant effects, especially when bundled with women empowerment projects.

Market support programmes are found to have a positive effect on the livelihoods of both populations in disaster-prone areas and conflict-affected populations.

We identified two effectiveness studies that specifically looked at refugee and host populations; these suggest no evidence of economic interventions having an impact on the economic and food security outcomes of refugee populations.

These overall results from the quantitative analysis have a high level of heterogeneity, and therefore need to be interpreted with caution. This heterogeneity can be explained by reference to the results of the qualitative analysis, which found that the same factors can act as both barriers and facilitators. When a factor is favourable (a facilitator), positive effects may be expected. When it is unfavourable or absent (a barrier) the intervention may have little or no effect, as the causal chain is broken.

Overall, the evidence from the qualitative synthesis largely confirms the findings from the quantitative analysis on the importance of livelihoods support programmes. Interventions focusing on social outcomes, such as empowerment, were found to have no significant impact, whereas economic development interventions were found to improve women's participation in the economy and their income. The review included three qualitative studies, which included the host population within the targeted population. However, the findings of these studies do not report separately the effects of the intervention on the host population.

The review also found that in the studies included, the interventions targeted the most vulnerable populations, such as women, youth who are at risk, and the ultra-poor. Moreover, the qualitative studies show that the use of innovations and technology, access to resources, markets, and livelihoods support programme help in improving the income and economic status of all populations affected by humanitarian crises. The review also highlights that changes in gender norms and family support improve the economic status of displaced

women. The main barriers for achieving the outcomes identified by the review are a lack of resources, insufficient support, a lack of skills and gender discrimination.

We restricted the eligible studies to those published in English. We restricted our inclusion criteria to experimental and non-experimental studies with control and comparison groups to provide higher internal validity to our findings, and we excluded before versus after studies.

We evaluated the robustness of the findings of included studies using the risk of bias and critical appraisal tool. We found that most of the effectiveness studies are of medium risk, with only three studies rated as high risk. Among the qualitative studies included, for 13 there was low confidence in their findings.

Overall, the review suggests the lack of high-quality evidence in this area and suggests there are very few studies looking at the effects of economic interventions alone on populations affected by humanitarian crises. In some of the studies reviewed, economic interventions were one element of a larger assistance package.

6.2 Implications for research

This is the first mixed-methods review evaluating economic interventions in humanitarian/conflict settings. The overall findings suggest an important gap in the evidence on how economic interventions affect the development of populations in humanitarian settings. Of the 32 studies included in this review, a large proportion look at experimental designs, and only three were found to adopt a mixed-methods approach. We found that the results reported were statistically weak and that the absence of consistent reporting of impact, even when answering similar research questions, makes drawing comparative inferences hard. We also found limited evidence from areas outside Sub-Saharan Africa and South Asia.

Overall, this review suggests the existence of a gap in high-quality, consistent evidence in this subject area, and the need for more research that is mindful of the lessons that can be drawn from existing studies to inform the design of future programmes.

6.3 Implications for policy and practice

The effects of economic development interventions on people living in post-disaster and conflict-affected settings are largely found to have a positive and significant effect on the economic wellbeing of humanitarian populations.

Among the factors explaining observed variations in the effects of economic interventions are results which are not corroborated by peer review, and programme design features such as a failure to systematically account for barriers and facilitators in programme implementation.

The larger, positive effects of economic development interventions are found to be associated with complex, large-scale multi-arm programmes, and with programmes using a market system approach. This typology of programmes holds a greater potential to target multiple outcomes, including food security and nutrition outcomes, as well as the psychosocial and mental health wellbeing of all types of humanitarian populations.

Success factors that affect the effectiveness of economic development interventions include, among others, programmes being bundled with women empowerment projects, and programmes targeting employment creation in combination with project activities to boost the psychosocial and mental health wellbeing of populations.

More robust evidence on these findings is needed to validate best practices for the design and implementation of effective policies and programmes to support economic development in humanitarian settings.

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Roles and responsibilities

- Suchi Kapoor Malhotra: Project lead, responsible for project management, report writing, search, and screening and coding.
- Systematic review methods: Suchi Kapoor Malhotra, Marcella Vigneri and Howard White are responsible for ensuring satisfactory systematic review methods are used.
- Marcella Vigneri: Screening and coding, quantitative analysis, writing and reviewing outputs.
- Statistical analysis: Marcella Vigneri, Nina Dela Cruz and Suchi Kapoor Malhotra are responsible for statistical analysis.
- Qualitative data analysis: Suchi Kapoor Malhotra and Marcella Vigneri are responsible for performing qualitative data analysis.
- Howard White: Howard provides technical and strategic support for conducting the review. He provides overall intellectual direction for the review.

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Potential conflicts of interest

Howard White is CEO of Campbell Collaboration. As CEO, he has no role in the editorial process for this review.

Annex A Search terms

SCOPUS	
Search string	Results
TITLE-ABS-KEY(conflict* OR postconflict* OR disaster* OR postdisaster* OR crisis OR crises OR displaced OR displacement OR refugee* OR asylum-seeker* OR war OR armed-intervention OR flood* OR cyclone* OR earthquake* OR tsunami* OR tidal-wave* OR volcan* OR hurricane* OR typhoon* OR avalanche* OR drought* OR famine OR starvation OR landslide* OR rockslide* OR mudslide* OR catastrophe OR genocide OR epidemic OR after-shock* OR aftershock* OR external-shock*)	3,136,777
TITLE-ABS-KEY((humanitar* OR ((job OR agricultur* OR farm* OR vocational) W/1 (training)) OR employment* OR skill-development OR skills-development OR reconstruct* OR rebuild* OR livelihood* OR economic-development OR (develop* W/1 econom*) OR economic-opportunit* OR economic-empower* OR savings-club* OR savings-schem* OR micro-finance OR microfinance OR micro-credit OR microcredit OR micro-enterprise OR microenterprise OR property-right* OR (relief W/1 development) OR "empower* program*" OR self-help-group* OR ((support* OR program* OR group*) W/3 (cooperative* OR collective*)) OR ((women* OR girl*) W/2 (collective* OR empower*)) OR ((market*) W/0 (support* OR system* OR service* OR infrastructure OR labor OR labour)) OR ((livestock OR asset*) W/1 (transfer*))) W/9 (intervention* OR approach* OR framework OR theory-building OR theoretical OR conceptual OR Initiative* OR assistance OR platform* OR project* OR program* OR policy OR policies OR action*))	187,312
TITLE-ABS-KEY((impact W/1 evaluat*) OR ((program*) W/5 (evaluat* OR impact* OR assess*)) OR (project* W/5 evaluat*) OR process-evaluation OR "random* control* trial*" OR "random* trial*" OR rct* OR (random* W/3 allocat*) OR (random* W/1 evaluat*) OR clinical-trial OR equivalence-trial OR double-blind OR single-blind OR "instrumental variable*" OR "synthetic control" OR intervention-stud* OR (experimental W/1 (study OR design OR evaluat*)) OR quasi-experiment* OR dif-dif OR "double difference" OR difference-in-difference OR "difference in difference" OR "multiple regression" OR "multivariate regression" OR "multivariable regression" OR "bivariate regression" OR "statistical regression" OR "regression discontinuity*" OR "regression analysis" OR "statistical matching*" OR "propensity score matching" OR "covariate matching" OR "coarsened-exact matching" OR "propensity-weighted" OR matched-pair OR mixed-method* OR meta-analysis OR cohort-stud* OR cross-sectional OR cohort-analysis OR case-control OR retrospective-stud* OR retrospective-evaluation OR follow-up-stud* OR longitudinal-stud* OR prospective-stud* OR epidemiologic* OR cross-over-stud* OR	21,540,329

<p>quantitative-method* OR interrupted-time-series OR (before W/5 after) OR (pre W/5 post) OR ((pretest OR pre-test) AND (posttest OR post-test)) OR case-stud* OR case-report OR (fixed-effect* W/3 (model OR estimation)) OR (random-effect* W/3 (model OR estimation)) OR (bivariate AND model) OR (multivariate AND model) OR ((quantitative OR comparison-group* OR counterfactual OR counter-factual OR experiment* OR comparative) W/3 (design OR study OR analysis)) OR ((semi-structured OR semistructured OR prestructured OR pre-structured OR unstructured OR informal OR in-depth OR indepth OR face-to-face OR structured OR guide) W/2 (interview* OR discussion* OR questionnaire* OR survey)) OR focus-group* OR qualitative OR ethnograph* OR fieldwork OR field-work OR field-experiment OR key-informant OR participatory OR action-research OR cooperative-inquiry OR co-operative-inquiry OR community-led OR barrier* OR facilitator* OR enabler*)</p>	
<p>TITLE-ABS-KEY(afghanistan OR albania OR algeria OR "american samoa" OR angola OR "antigua and barbuda" OR antigua OR barbuda OR argentina OR armenia OR armenian OR aruba OR azerbaijan OR bahrain OR bangladesh OR barbados OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR "british honduras" OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland OR brazil OR brasil OR bulgaria OR "burkina faso" OR "burkina fasso" OR "upper volta" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR "khmer republic" OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR chile OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR "democratic republic of the congo" OR "democratic republic congo" OR congo OR zaire OR "costa rica" OR "cote d'ivoire" OR "cote d ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR croatia OR cuba OR cyprus OR "czech republic" OR czechoslovakia OR djibouti OR "french somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR "equatorial guinea" OR "spanish guinea" OR eritrea OR estonia OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR gibraltar OR greece OR grenada OR guam OR guatemala OR guinea OR "guinea bissau" OR guyana OR "british guiana" OR haiti OR hispaniola OR honduras OR hungary OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "democratic people's republic of korea" OR "republic of korea" OR "north korea" OR "south korea" OR korea OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic</p>	<p>6,503,928</p>

<p>republic" OR latvia OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab jamahiriya" OR lithuania OR macau OR macao OR "macedonia (republic)" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR malta OR micronesia OR "federated states of micronesia" OR kiribati OR "marshall islands" OR nauru OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR burma OR namibia OR nepal OR "netherlands antilles" OR nicaragua OR niger OR nigeria OR oman OR muscat OR pakistan OR panama OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines OR phillipines OR philippines OR poland OR "polish people's republic" OR portugal OR "portuguese republic" OR "puerto rico" OR romania OR russia OR "russian federation" OR ussr OR "soviet union" OR "union of soviet socialist republics" OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR slovakia OR "slovak republic" OR slovenia OR melanesia OR "solomon island" OR "solomon islands" OR "norfolk island" OR "norfolk islands" OR somali* OR "south africa" OR "south sudan" OR "sri lanka" OR ceylon OR "saint kitts and nevis" OR "st. kitts and nevis" OR "saint lucia" OR "st. lucia" OR "saint vincent and the grenadines" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR "trinidad and tobago" OR trinidad OR tobago OR tunisia OR turkey OR "turkey (republic)" OR turkmenistan OR turkmen OR uganda OR ukraine OR uruguay OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR yugoslavia OR zambia OR zimbabwe OR "northern rhodesia" OR "global south" OR "africa south of the sahara" OR "sub-saharan africa" OR "subsaharan africa" OR "africa, central" OR "central africa" OR "africa, northern" OR "north africa" OR "northern africa" OR magreb OR maghrib OR sahara OR "africa, southern" OR "southern africa" OR "africa, eastern" OR "east africa" OR "eastern africa" OR "africa, western" OR "west africa" OR "western africa" OR "west indies" OR "indian ocean islands" OR caribbean OR "central america" OR "latin america" OR "south and central america" OR "south america" OR "asia,</p>	
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central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under developed nation*" OR "under developed population*" OR "under developed world" OR "underdeveloped countr*" OR "underdeveloped nation*" OR "underdeveloped population*" OR "underdeveloped world" OR "middle income countr*" OR "middle income nation*" OR "middle income population*" OR "low income countr*" OR "low income nation*" OR "low income population*" OR "lower income countr*" OR "lower income nation*" OR "lower income population*" OR "underserved countr*" OR "underserved nation*" OR "underserved population*" OR "underserved world" OR "under served countr*" OR "under served nation*" OR "under served population*" OR "under served world" OR "deprived countr*" OR "deprived nation*" OR "deprived population*" OR "deprived world" OR "poor countr*" OR "poor nation*" OR "poor population*" OR "poor world" OR "poorer countr*" OR "poorer nation*" OR "poorer population*" OR "poorer world" OR "developing econom*" OR "less developed econom*" OR "lesser developed econom*" OR "under developed econom*" OR "underdeveloped econom*" OR "middle income econom*" OR "low income econom*" OR "lower income econom*" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR Imic OR Imics OR "third world" OR "lami countr*" OR "transitional countr*" OR "emerging econom*" OR "emerging nation*")	
1 AND 2 AND 3 AND 4	4,562

Annex B Screening tool

This review evaluates interventions that foster economic development in humanitarian and refugee settings. These include livelihoods programmes, market support programmes, and local area development projects. Also included are interventions that focus on women's empowerment that include an economic component (such as savings clubs and microcredit schemes).

Screening tool			
1.	Is the paper in English?	No	Exclude
		Yes	Continue to q2
2	Are the people living in low- and middle-income countries and living in humanitarian and conflict-affected settings?	No	Exclude
		Yes	Continue to q3a
2.	Is the paper about an intervention that is intended to foster economic development in humanitarian and refugee settings?	No	Exclude
		Yes	Continue to q3a
3a.	Is the paper a quantitative evaluation reporting measures of eligible outcomes compared to the outcomes in a comparison group (either with or without baseline outcome measures)?	No	Continue to q3b
		Yes	Continue to q4
3b.	Is the paper a qualitative process evaluation describing intervention design or implementation?	No	Exclude
		Yes	Include (END)
4.	Do any outcomes measure economic development (income, employment), food security, nutrition, or social, physical and mental health?	No	Exclude
		Yes	Include

Annex C Coding tools

Category	Sub-category
Publication status	Ongoing Completed
Region	East Asia and Pacific Europe and Central Asia Latin America and Caribbean Middle East and North Africa North America South Asia Sub-Saharan Africa South America
Area	Rural Urban Rural and urban (both) Not clear
Ages	Age Not reported
Participant characteristics	Female Male Mixed Young women Women with disabilities
<i>Types of populations</i>	Refugees/IDPs Humanitarian/natural disaster-affected Conflict-affected populations
BAME	Mainly/exclusively (80%) Partly None Not clear
Project/intervention name	
Year	
Scale of the programme	Local Regional National
Level of intervention	Individual Household Community
Type of setting	School, community, other Humanitarian setting – natural disaster Armed conflict

Intervention duration	Duration Not reported
Intervention sub-categories	Livelihoods programmes Market support programmes Local area development projects Women's empowerment programmes that include an economic component (such as savings clubs and microcredit schemes)
Study design	Experimental design Non-experimental design Process evaluation
Study method	RCT Non-experimental effectiveness study Process evaluation or qualitative intervention study
Sample size	Total numbers Total number of participants in intervention group Total number of participants in control group
Attrition	Number
Outcome domain	Outcome sub-domain
Economic outcomes	Income, poverty, employment, earnings, and savings Economic empowerment, economic stability (e.g. livestock/animal assets, reduced credit) Economic recovery Market system
Food security and nutrition	Food security (e.g. dietary diversity, macro and micro nutrient intake), child nutritional status
Social (including attitudes)	Self-esteem and self-worth, psychosocial wellbeing, self-confidence, investment behaviour, host attitudes to refugee populations, social cohesion
Physical and mental health	Physical and mental health
Others	Language skills
Time of effect measurement	Endline Up to six months Seven to 18 months

	19–35 months 36 months or more
Recruitment/ referral mechanisms	Geographical targeting School-based Outreach Others (state)
Barriers to, and facilitators of, participation	
Barriers to, and facilitators of, outcome	
Design issues	
Implementation issues	
What affected populations say	
Moderators and confounders	

Category	Sub-category
Publication status	<ul style="list-style-type: none"> • Ongoing • Completed
Region	<ul style="list-style-type: none"> • East Asia and Pacific • Europe and Central Asia • Latin America and Caribbean • Middle East and North Africa • South Asia • Sub-Saharan Africa
Country name	
Settings	<ul style="list-style-type: none"> • Rural • Urban • Rural and urban (both) • Not clear
Project/intervention name	
Year	
Funding agency	
Implementing agency	
Duration of intervention	
Unit of delivery	<ul style="list-style-type: none"> • Individual – one to one • Group
Gender	<ul style="list-style-type: none"> • Male • Female • Non-binary • All sexes • Not reported
BAME	<ul style="list-style-type: none"> • Mainly/exclusively (80%) • Partly • None • Not clear
Study design	<ul style="list-style-type: none"> • Experimental design • Non-experimental design • Process evaluation • Cost analysis
Study method	<ul style="list-style-type: none"> • RCT • Difference in difference • Instrumental variable estimation • Regression discontinuity design • Statistical matching (PSM) • Interrupted time series • Fixed effects estimation

Mixed methods	<ul style="list-style-type: none"> • Yes • No
Intervention category	Intervention sub-category
Value chain development	<ul style="list-style-type: none"> • Enabling policies and institutional environment • Financial services (including both grants and subsidies, and micro-credit, savings and insurance) • Processing and storage facilities • Horizontal and vertical coordination • Process, product and chain upgrading • Enterprise development and impact investing • Promoting the production of a new profitable product • Improving product market quality (fairtrade, organic farming, and quality standards) • Supporting horizontal integration of producer groups to access better prices • Improving processing techniques • Contract farming
Market engagement	<ul style="list-style-type: none"> • Inclusive market systems development • Gender-friendly markets (including lighting, washroom facilities, provision for childcare) • Access to markets (through farm-to-market roads, transport facilities) • Market structures
Outcome domain	Outcome sub-domain
Economic empowerment	<ul style="list-style-type: none"> • Decision-making on value chain activities • Decision-making on the use of income • Increased bargaining power • Leadership positions in groups
Economic benefits	<ul style="list-style-type: none"> • Farm productivity • Income • Time use • Assets ownership
Participation	<ul style="list-style-type: none"> • Access to information on production/markets • Enhanced social and institutional networks • Increased participation in paid labour opportunities • Access to new markets • Knowledge and skills • Gender roles and norms

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Effect sizes calculation	
Economic empowerment	
Economic benefits	
Participation	
Attrition	
Differential attrition	
Barriers to, and facilitators of, participation	
Barriers to, and facilitators of, outcomes	
Design issues	
Implementation issues	
What target populations say	
Moderators and confounders	

Annex D Appendix D Critical appraisal tools

The critical appraisal tools helped reviewers provide an indication of the quality of the confidence of the findings included in the review. All studies were rated on how clear the intervention and evaluation questions described in the study were, and overall scores were also calculated in the same way.

For a more detailed look at study quality, separate questions were considered for impact and process evaluations because these have different purposes, and therefore they have different elements that can affect their quality.

Risk of bias tool for primary studies: effectiveness

Bias domain	Question	Scoring criteria	Decision rules
1	1a. Confounding: Was the allocation or identification mechanism able to address confounding? <ul style="list-style-type: none"> • RCT 	a) Sequence generation: <ul style="list-style-type: none"> - The authors describe a random component in sequence generation/ randomisation method (e.g. lottery, coin toss, random number table).* - If a special randomisation procedure is used to ensure balance, it is well described (stratification, pairwise matching, unique random draw, multiple random draws etc.) and adjustment is considered in the analysis (e.g. stratum fixed effects, pairwise matching variables). b) Subversion: <ul style="list-style-type: none"> - If the unit of allocation was by beneficiary or group, there was some form of centralised allocation mechanism, such as an on-site computer system, to 	<ul style="list-style-type: none"> - Score 'Low risk' if all criteria are satisfied. - Score 'Some concerns' if there is no balance table reported (or key variables are omitted from the table). - Score 'High risk' if there is any failure in the allocation mechanism which could affect the randomisation process, or there is no balance table reported (c) and there is evidence suggesting a problem in the randomisation, such as covariate means are very different or sample size is too small for the procedure used (using stratification when there are less than two units for each intervention and control group in each strata can lead to imbalance), or if the paper does

Bias domain	Question	Scoring criteria	Decision rules
		<p>ensure adequate allocation concealment.</p> <p>- If a public lottery was used for the sequence generation, details were given on the exact settings and participants attending the lottery.</p> <p>c) Balance:</p> <p>- The unit of allocation is based on a sufficiently large sample size to equate groups on average.</p> <p>- A balance table is reported for all sub-groups receiving differential treatment, comparing means and standard deviations of variables, including cluster-level variables.</p>	<p>not provide details on the randomisation process or uses quasi-randomisation (e.g. alternate households allocated), which it is not clear has generated allocations equivalent to randomisation.</p> <p>* In order to assess the validity of the quasi-randomisation process, the most important aspect is whether the assignment process might generate a correlation between participation status and other factors (for example, gender, socio-economic status, pre-existing health condition) determining outcomes; consider whether assignment is done at cluster level (centralised) and covariate balance is reported.</p>
	<ul style="list-style-type: none"> NRS using statistical matching 	<p>a) Information about the programme targeting criteria are known, presented in the paper, and used to justify the statistical approach.</p> <p>b) Matching is done on pre-test (or time-invariant) characteristics, including the outcome measured at pre-test; matches are geographically local; the variables used to match are relevant (for example, demographic and socio-economic factors) to explain both participation and the outcome (so that there can be no evident differences across groups in variables that might explain outcomes); and, for cluster assignment, authors control for external cluster-level factors that might confound the impact of the</p>	<p>-Score 'Low risk' if all criteria are addressed.</p> <p>-Score 'Some concerns' if the selection into the programme was done according to clear targeting rules, which are used as matching variables, but there are imbalances remaining after matching.</p> <p>-Score 'High risk' if programme assignment was self-selected by participants and no baseline data are available to match the participants or groups, or matching was done based on variables that are likely to be affected by the programme, or relevant variables are not included in the matching equation, including cluster-level variables.</p>

Bias domain	Question	Scoring criteria	Decision rules
		programme.* c) With the exception of Kernel matching, the means of the individual covariates are demonstrated to be equated for treatment and comparison groups after matching.	* Accounting for and matching on all relevant characteristics is usually only feasible when the programme allocation rule is known and there are no errors of targeting. There are different ways in which covariates can be considered. Observable differences across groups can be incorporated in the framework of a regression analysis (e.g. propensity-weighted least squares) or can be assessed by testing equality of means between groups. Differences in unobservable characteristics can be account for using double differences (DD), fixed effects (FE) or random effects (RE), where unobservable characteristics are time-invariant.
	<ul style="list-style-type: none"> NRS using double differences (DD), fixed effects (FE) or random effects (RE) analysis of panel data* 	<p>a) Outcomes are measured at pre-test (before intervention) and post-test (after intervention) using the same approach.</p> <p>b) Examination of secular trends in outcomes shows parallel trends across treatment and comparison groups during periods prior to intervention.</p> <p>c) The method is combined with well-conducted statistical matching done according to clear programme allocation rules (see above), and baseline imbalances, including in the outcome, are shown to be small.</p> <p>d) A comprehensive set of individual time-varying characteristics is controlled, including any cluster-level</p>	<p>-Score 'Low risk' if all criteria are addressed.</p> <p>-Score 'Some concerns' if selection into the programme was done according to clear rules, and equal trends are demonstrated, but baseline imbalances between groups remained.</p> <p>-Score 'High risk' if equal trends are not reported, and programme allocation was due to participant self-selection, programme allocation was self-selected by participants and some relevant time-varying characteristics are not controlled, or insufficient details are provided – for example, on testing the equal trends assumption or about cluster-level variables.</p>

Bias domain	Question	Scoring criteria	Decision rules
		covariates that may affect the impact of the programme (e.g. rainfall).**	<p>* DD, FE and RE regression models are sometimes complemented with matching strategies. This combination approach is superior since it only uses in the estimation the common support region of the sample size, reducing the likelihood of the existence of time-varying unobservable differences across groups affecting the outcome of interest and removing biases arising from time-invariant unobservable characteristics.</p> <p>** Knowing allocation rules for the programme – or even whether the non-participants were individuals that refused to participate in the programme, as opposed to individuals that were not given the opportunity to participate in the programme – can help in the assessment of whether the covariates accounted for in the regression capture all the relevant characteristics that explain differences between treatment and comparison.</p>
	1b. Confounding – justification	Justification for coding decision (include a brief summary of justification for rating, mentioning your response to all sub-questions – cite relevant pages).	
2	2a. Selection bias: Was any differential selection into the study adequately resolved?	a) Follow-up data: If the study design is prospective, follow-ups are recorded for all eligible participant units from recruitment onwards (i.e. prior to treatment). This is best shown using a participant flow diagram or	<p>-Score 'Low risk' if all relevant criteria are satisfied.</p> <p>-Score 'Some concerns' if the study used a prospective design with adequate concealment but no (or an incomplete) study flow diagram is reported, or in a retrospective design where statistical methods</p>

Bias domain	Question	Scoring criteria	Decision rules
		<p>reporting sufficient information to enable constructing one.</p> <p>b) Participant identification: Where the unit of allocation in a prospective study was at group level (geographical/ social/ cluster unit), allocation was performed on all units at the start of the study, or participants and recruiters are blinded to allocation status, or awareness is unlikely to affect recruitment differentially (e.g. participants chosen randomly using a sampling frame based on census , and response rate is high).</p> <p>c) Balance: A table is reported for all sub-groups receiving differential treatment within control or treatment groups, comparing means and standard deviations of variables; any unbalanced covariates at individual level are controlled in adjusted analysis, including cluster-level variables.</p> <p>d) Selection bias analysis: Where evidence suggests there is selection bias into the study due to censoring of data (e.g. immortal time bias), this is accounted for using appropriate statistical methods (e.g. propensity weighted regression, Heckman selection model, proportional hazards model).</p>	<p>are used to correct for selection bias.</p> <p>-Score 'High risk' if there are threats to adequate concealment (e.g. individual participants were chosen after cluster assignment was conducted or known, and there are differences between the characteristics of the two groups beyond those expected by chance alone), or there is evidence of differential recruitment into study arms and differences in the characteristics of groups not compatible with chance, or if no information is presented about participant characteristics or, in a prospective study, no study flow diagram (or data to construct it) is presented.</p>
	2b. Selection bias – justification	Justification for coding decision (include a brief summary of justification for rating, mentioning your response to all sub-questions – cite relevant pages).	

Bias domain	Question	Scoring criteria	Decision rules
3	3a. Attrition bias: Was any differential selection out of the study adequately resolved?	<p>a) Attrition at cluster level Is sufficiently low and there are similar reasons for attrition in treatment and control. Sufficiently low attrition is defined as:</p> <ul style="list-style-type: none"> - total attrition (losses to follow-up) between pre-test and post-test in the study less than 10% of clusters (low risk) or 20% (some concerns) - differential cluster attrition across study arms is less than 10 percentage points, and reasons for attrition are given and are similar across groups. <p>b) Attrition at individual level: is sufficiently low and there are similar reasons for attrition in treatment and control. Sufficiently low attrition is defined as:</p> <ul style="list-style-type: none"> - total attrition (losses to follow-up) between pre-test and post-test in the study less than 10% of observations (low risk) or 20% (some concerns) - differential attrition across study arms is less than 10 percentage points, and reasons for attrition are given and are similar across groups. <p>c) Robustness to attrition: The study assesses losses to follow-up to be random draws from the sample (for example, by examining correlation with key characteristics across groups, or an F-test of attrition on baseline characteristics and interacted with treatment status), and study participants are randomly sampled.</p>	<p>-Score 'Low risk' if overall attrition is less than 10% and differential attrition less than 10 percentage points at cluster (a) and individual (b) levels, and the study demonstrates robustness to attrition.</p> <p>-Score 'Some concerns' if overall attrition is between 10% and 20% and differential attrition less than 10 percentage points.</p> <p>-Score 'High risk' if overall attrition exceeds 20% or differential attrition exceeds 10 percentage points, or there is some indication that the survey respondents were purposively sampled in a way that might have led the sampling to be different between treatment and control groups, or there is insufficient information on sampling methods, or no information on attrition is given.</p>

Bias domain	Question	Scoring criteria	Decision rules
	3b. Attrition bias – justification	Justification for coding decision (include a brief summary of justification for rating, mentioning your response to all sub-questions – cite relevant pages).	
4	4a. Motivation bias: Was the process of observation free from motivation bias?	Are criteria adequately addressed? a) For data collected in the context of a particular intervention trial (randomised or non-randomised assignment), the authors state explicitly that the process of monitoring the intervention and outcome measurement is blinded to participants and outcome assessors, or methods are used that would minimise the risk of Hawthorne effects, John Henry effects or survey effects, such as infrequent observation or outcome questionnaires not referring to the intervention. Authors may also adapt the study design to estimate possible survey and Hawthorne effects (e.g. a 'pure control' with no monitoring except baseline endpoint). b) Informed consent is not associated with a particular intervention, as in the case of a regular household survey or a cluster-RCT, data are collected from administrative records, or in the context of a retrospective (<i>ex post</i>) evaluation.	-Score 'Low risk' if either criteria is satisfied. -Score 'Some concerns' if there was imbalance in the frequency of monitoring in intervention groups, which could have influenced behaviour in treatment and control differentially. - Score 'High risk' if authors do not use an appropriate method to prevent possible motivation biases through blinding or other controls (e.g. infrequent measurement, methods to ensure consistent monitoring across groups, measurement using a 'pure control').
	4b. Motivation bias – justification	Justification for coding decision (include a brief summary of justification for rating, mentioning your response to all sub-questions – cite relevant pages).	
5	5a. Performance bias:	a) There were no implementation issues that might have led the	-Score 'Low risk' if all criteria are satisfied.

Bias domain	Question	Scoring criteria	Decision rules
	Was the study adequately protected against spillovers, no-shows and crossovers?	<p>control participants to receive the treatment, or authors use intention-to-treat (ITT) estimation.</p> <p>b) The intervention is unlikely to spill over to comparisons (e.g. participants and non-participants are geographically and/or socially separated from one another and general equilibrium effects are not likely), or the potential effects of spillovers were measured (e.g. variation in the percentage of units within a cluster receiving the treatment).</p> <p>c) There is no risk of substitution (differential contamination) by external programmes (also called treatment confounding): participants are isolated from other interventions which might be received differentially between treatment and controls, which could explain changes in outcomes.</p> <p>d) Errors in implementation fidelity by the intervening body were not systematic, or were unlikely to affect the outcome.</p> <p>e) For continuous interventions, measurement is taken of adherence to treatment among participants.</p>	<p>-Score 'Some concerns' if there is no obvious problem but no information is reported on potential risks related to spillovers or contamination in the control group, or if there were issues with spillovers but they were controlled for or measured, or if any of the criteria are not satisfied but the scale of the issue is minimal.</p> <p>-Score 'High risk' if any of the criteria are not satisfied and happened at a large scale in the study, or if spillovers, no-shows, crossovers, implementation fidelity, or adherence to continuous interventions are not reported clearly.</p>
	5b. Deviation from interventions – justification	Justification for coding decision (include a brief summary of justification for rating, mentioning your response to all sub-questions – cite relevant pages).	
6	<p>6a. Measurement error:</p> <p>Is the study free from biases in measurement of</p>	<p>a) The study is a prospective design or, in a retrospective design, participation in the intervention is observed, or the intervention clearly and</p>	<p>-Score 'Low risk' if all criteria are satisfied.</p> <p>-Score 'Some concerns' if there is a small risk related to any criteria and potential biases are</p>

Bias domain	Question	Scoring criteria	Decision rules
	intervention and outcomes?	<p>consistently defined, and misreporting by participants or enumerators is unlikely.</p> <p>b) Outcomes are clearly and consistently defined for all participants and outcome assessors in the study.</p> <p>c) Outcomes are measured through observation (rather than self-report), and outcome assessors are blinded to intervention or it is shown that they are unbiased (e.g. spot-checks to validate).</p> <p>d) For self-reported outcomes: respondents in the intervention group are not more likely to report accurately than controls due to recall bias.</p> <p>e) Respondents do not have incentives to over-/under-report something related to their performance or actions, or researchers put in place mechanisms to reduce the risk of reporting bias (irregular or infrequent data collection rounds, outcome assessors not involved in the implementation of the intervention, it is made clear that answers to the survey will not affect what they receive in the future), or authors have measured bias through falsification tests (e.g. 'placebo outcomes' in cases where there was a risk of reporting bias).</p> <p>f) Timing of the data collection did not differ between intervention and comparison group, the baseline data are not likely to be differentially affected by the time</p>	<p>measured, e.g. with placebo outcomes, and found to be null.</p> <p>-Score 'High risk' if there are risks related to any criteria and authors were not able to control for the bias, or no information is provided to justify the absence of bias.</p>

Bias domain	Question	Scoring criteria	Decision rules
		of intervention (e.g. due to seasonality).	
	6b. Measurement error – justification	Justification for coding decision (include a brief summary of justification for rating, mentioning your response to all sub-questions – cite relevant pages).	
7	7a. Analysis reporting bias: RCTs Was the study free from selective analysis reporting?	<p>a) Authors report results corresponding to the outcomes announced in the method section (there is no outcome reporting bias).</p> <p>b) Authors report multiple analyses appropriately (e.g. by age group, sex).</p> <p>c) A pre-analysis plan or trial protocol is published and referred to or the trial was pre-registered, or the outcomes were pre-registered.</p> <p>d) Authors report appropriate analysis methods, including results of unadjusted analysis and ITT estimation, alongside any adjusted and treatment-on-the-treated/complier-average-causal-effects analysis.</p> <p>e) Analysts were blinded to treatment status.</p>	<p>-Score 'Low risk' if all criteria are satisfied.</p> <p>-Score 'Some concerns' if all the conditions are met except a), or if all the conditions are met but there is some element missing that could have helped the reader to understand the results better.</p> <p>-Score 'High risk' if no pre-analysis plan or trial protocol was published or pre-registered.</p>
	7b. Analysis reporting bias: NRS Was the study free from selective analysis reporting?	<p>a) There is no evidence that outcomes were selectively reported (e.g. results for all relevant outcomes in the methods section are reported in the results section).</p> <p>b) Authors use credible methods of analysis to address attribution, given available data.</p> <p>c) A pre-analysis plan is published, especially for prospective NRS (but ideally also for retrospective</p>	<p>-Score 'Low risk' if all criteria are satisfied.</p> <p>-Score 'Some concerns' if authors combined methods and reported relevant tests (d) only for one method, or if all the criteria are met except for c) and it is a retrospective NRS.</p> <p>-Score 'High risk' if authors use uncommon or less rigorous estimation methods, such as failure to conduct multivariate</p>

Bias domain	Question	Scoring criteria	Decision rules
		<p>studies).</p> <p>d) Requirements for specific methods of analysis:</p> <ul style="list-style-type: none"> - For RDD, researchers should analyse the change in slope and/or level using different band-widths around the threshold or functional form. The following should be pre-specified as far as possible and reported in sensitivity analysis: (a) selection of optimal bandwidth using existing data-driven routines; (b) selection of appropriate functional form for the relationship between assignment and outcome variables; and (c) robustness checks of other bandwidths and functional form specifications. - For PSM and covariate matching: (a) Where over 10% of participants fail to be matched, sensitivity analysis is used to re-estimate results using different matching methods (Kernel matching techniques). (b) For matching with replacement, no single observation in the control group is matched with a large number of observations in the treatment group, and authors take into account the use of control observations multiple times against the same treatment in the standard error calculation. (c) for PSM, Rosenbaum's test suggests the results are not sensitive to the existence of hidden bias. (d) Different matching methods, including varying sample sizes, yield the same results. 	<p>analysis for outcomes equations, or if some important outcomes are subsequently omitted from the results, or the significance and magnitude of important outcomes was not assessed.</p>

Bias domain	Question	Scoring criteria	Decision rules
		<ul style="list-style-type: none"> - For IV models, the authors test and report the results of a Hausman test for exogeneity ($p \leq 0.05$ is required to reject the null hypothesis of exogeneity). - For Heckman selection models, the coefficient of the selectivity correction term (Rho) is significantly different from zero ($p < 0.05$). 	
	7c. Analysis reporting bias – justification	Justification for coding decision (include a brief summary of justification for rating, mentioning your response to all sub-questions – cite relevant pages).	

Critical appraisal tool – Process evaluations

Questions for process evaluations (apply to implementation sections) [used for any study coded as having implementation evidence]

		High	Medium	Low		Low
1	Is the qualitative methodology described?	Yes		No	>> 3	
2	Is the qualitatively methodology appropriate to address the evaluation questions?	Yes	Partially	No		Insufficient detail
3	Is the recruitment or sampling strategy described?	Yes		No	>> 5	
4	Is the recruitment or sampling strategy appropriate to address the evaluation questions?	Yes	Partially	No		Insufficient detail
5	Are the researcher's own positions, assumptions and possible biases outlined?	Yes	Partially	No		
6	Have ethical considerations been sufficiently considered?	Yes	Partially	No		Insufficient detail
7	Is the data analysis approach adequately described?	Yes		No	>>9	
8	Is the data analysis sufficiently rigorous?	Yes	Partially	No		
9	Are the implications or recommendations clearly based on the evidence from the study?	Yes	Partially	No		

10	Overall (including questions for all studies) – the overall score uses the weakest link in the chain principle (i.e. is the lowest score on any item)	High: High on all items Medium: No lower than medium on any item Low: At least one low				
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Annex E Appendix E Definitions of outcomes

Outcome category	Sub-category	Description
Economic outcomes (Economic)	Employment	Employment measures, including job quality
	Income/earnings and savings	Earnings and expenditure
	Poverty	Reduction of poverty
	Economy stability	Individual/household ability to access resources essential to life (e.g. livestock/animal assets, house, reduced credit)
	Economic recovery	Recovery and access to jobs opportunities/employment
	Market system	Participation in market system, such as producers, buyers, and consumers
	Economic empowerment	Economic empowerment is the capacity of women and men to participate in, contribute to and benefit from growth processes in ways that recognise the value of their contributions, respect their dignity and make it possible for them to negotiate a fairer distribution of the benefits of growth (OECD definition)
Food security and nutrition	Food security	(e.g. dietary diversity, macro and micro nutrient intake)
	Child nutritional status	Measure of child nutritional status (anthropometric measurements to assess growth and development)
Social outcomes/attitude (Social outcomes and attitudes refers to how someone thinks or feels about something, whereas a belief is an acceptance that something is true)	Self-esteem/self-worth	Confidence in one's own worth
	Psychosocial wellbeing	Psychological wellbeing, self-esteem, self-efficacy, sense of inclusion and entitlement

	Self-confidence	Confidence: it is an attitude about one's skills and abilities
	Investment behaviour	Behaviour – risk propensity, risk preference, and attitudes
	Host attitudes to refugee populations	An attitude (positive/negative) towards refugee population
	Social cohesion	Connectedness and solidarity among groups in society
Physical and mental health	Physical health	Any measure of physical health (morbidity and mortality)
	Mental health	Mental health here does not include mental disorders or illness. We mean by mental health the psychological issues faced by the humanitarian-affected population, such as stress, depression and anxiety



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