

Protocol: Addressing root causes and drivers of irregular migration – an Evidence Gap Map

Authors:

Miriam Berretta
International Initiative for Impact Evaluation (3ie)

Carolyn Huang
3ie

Maria Daniela Anda Leon
3ie

Sanghwa Lee
Independent consultant

Root Causes and Drivers of Irregular Migration

EGM Protocol April 2023



USAID
FROM THE AMERICAN PEOPLE



International
Initiative for
Impact Evaluation



About 3ie

The International Initiative for Impact Evaluation (3ie) develops evidence on how to effectively transform the lives of the poor in low- and middle-income countries. Established in 2008, we offer comprehensive support and a diversity of approaches to achieve development goals by producing, synthesizing and promoting the uptake of impact evaluation evidence. We work closely with governments, foundations, NGOs, development institutions and research organizations to address their decision-making needs. With offices in Washington DC, New Delhi and London and a global network of leading researchers, we offer deep expertise across our extensive menu of evaluation services.

3ie evidence gap maps

3ie evidence gap maps are thematic collections of information about impact evaluations or systematic reviews that measure the effects of international development policies and programmes. The maps provide a visual display of completed and ongoing systematic reviews and impact evaluations in a sector or sub-sector, structured around a framework of interventions and outcomes.

The evidence gap map reports provide all the supporting documentation for the maps, including the background information for the theme of the map, the methods and results, protocols, and the analysis of results.

About this evidence gap map protocol

This report presents the protocol for a systematic search to identify and map the evidence base of impact evaluations and systematic reviews of interventions that aim to address the root causes of irregular migration in low- and middle-income countries. The EGM was developed by 3ie with funding by the International Organization for Migration (IOM) through the United States Agency for International Development (USAID) funded project, *Addressing the Root Causes of Irregular Migration in Guatemala*. The content of this report is the sole responsibility of the authors and does not represent the opinions of the IOM, USAID, 3ie, its donors or its Board of Commissioners. Any errors and omissions are also the sole responsibility of the authors. Please direct any comments or queries to the corresponding author, mberretta@3ieimpact.org.

Suggested citation: Berretta, M, Huang C, Anda Leon, MD, Lee, S. 2023. *Protocol: Addressing root causes and drivers of irregular Migration: an evidence gap map*. New Delhi: International Initiative for Impact Evaluation (3ie). © International Initiative for Impact Evaluation (3ie), 2023

Introduction

This protocol establishes the scope and methods to be used in this evidence gap map (EGM) of impact evaluations and systematic reviews that evaluate the effects of interventions aiming at addressing the root causes and other drivers of irregular migration. We define root causes as social, economic, or political conditions in the countries of origin, such as poverty and repression, which might induce irregular, unorderly, or unsafe departures. Root causes are considered drivers for irregular migration. For practical reasons, we concentrated on three root causes and one other driver, resulting in an intervention framework of four domains addressing 1) Limited economic and/or decent work opportunities; 2) Inability of households and communities to adapt to, mitigate, or recover from covariate shocks or stressors due to diminished resilience; 3) Violence or crime creating insecure and unsafe communities 4) Drivers that increase risk of migration through irregular pathways. Details on these domains are presented in Section 2. We will look at outcomes on human mobility both at the micro, meso and macro levels (stocks and flows), and some intermediate outcomes related to migration aspirations and intentions and perceptions that are theorized as precursors.

In the next sections we will outline the background and reasons behind this map (Section 1), the scope and the theories which support the focus of this work (Section 2), the inclusion and exclusion criteria, including the interventions and outcomes of interest (Section 3), and the rigorous methods we will follow to create this map (Section 4).

Contents

Introduction	i
List of figures and tables	iii
Acronyms	iv
1. Background	5
1.1 Development problem being addressed	5
1.2 Policy responses	6
1.3 Why is it important to do this EGM?	8
1.4 Study objectives and questions	9
2. Scope	10
2.1 Scope selection process.....	11
2.2 Conceptual framework.....	12
3. Criteria for including or excluding studies.....	15
3.1 Population to be covered by the map	15
3.2 Intervention(s) to be covered by this map	15
3.3 Outcomes of interest	22
3.4 Study Designs	25
3.5 Other inclusion and exclusion criteria.....	27
4. Methods	27
4.1 Overall methodological approach	27
4.2 Conceptual framework development.....	27
4.3 Search strategy	27
4.4 Screening protocol.....	29
4.5 Data extraction and critical appraisal.....	31
4.6 Dealing with multicomponent interventions	31
4.7 Analysis and reporting	32
4.8 Timeline	32
4.9 Engagement and communication plan	33
References.....	34
Appendix A: Search strategy	41
Appendix B: Data extraction template	45
Appendix C: Critical appraisal tool	47
Appendix D: EGM Advisory Group.....	52
Appendix E: Screening codes	58
Appendix F: World Bank Classification of Countries.....	59
Appendix G: List of shocks and stressors required for interventions included in the resilience domain.....	62

List of figures and tables

Figure 1: Theory of change by Carling and Talleraas (2016)	13
Table 1: Research questions	10
Table 2: Interventions included in the map	16
Table 3: Outcomes included in the map	23

Early Draft Protocol | Do not circulate

Acronyms

3ie	International Initiative for Impact Evaluation
DEP	3ie Development Evidence Portal
EGM	Evidence Gap Map
EU	European Union
EUR	Euro
HICs	High-Income Countries
IOM	International Organization for Migration
IE	Impact Evaluation
IDP	Involuntary displaced people
L&MICs	Low- and Middle-Income Countries
SR	Systematic Review
UNHCR	United Nations High Commissioner for Refugees
USAID	United States Agency for International Development
USD	U.S. Dollar

1. Background

In 2022, an estimated 281 million people (3.6% of the world's population), were counted as international migrants, or residing outside of their country of usual residence (IOM GMDAC, 2022). Migration is a reality for a globalized world and serves important development purposes. It is an internationally recognized human right and the "natural expression of people's desire to choose how and where to lead their lives, which is a fundamental component of human development" (Global Compact for Migration 2018; UNSD 2022: p.12; IOM 2022). Human mobility may also improve development in origin and destination countries (Ghosh, 2006; de Haas, 2010).

However, migration may not always be a choice. When decisions are made out of desperation or vulnerability, there are increased risks of further harm for migrants. This is especially the case when the means to migrate internationally are outside of the laws and regulations of the countries of origin, transit and destination. The potential risks and costs of irregular migration and forced international displacement warrant action from the global community, to address causes and drivers.

1.1 Development problem being addressed

1.1.1 *The prevalence of irregular migration*

There is no single source or global estimate of the number of individuals who transited through irregular means. Yayboke and Gallego (2019) estimated that during 2018 alone, there were as many as 100 million people in circumstances of irregularity, as measured by transit or residence. Other sources report population estimates of forced migration, where an estimated 27.1 million people were involuntarily displaced from their country of origin (UNHCR, 2021b).

1.1.2 *Individual risks and harms*

The International Organization for Migration (IOM) defines irregular migration as the "movement of persons that takes place outside the laws, regulations, or international agreements governing the entry into or exit from the State of origin, transit or destination." (IOM 2019, p. 116). A migrant might be in situations defined as irregular due to any of three circumstances: unauthorized entry, transit, or residence in a destination country (IOM 2019). Movement decisions may have been made on a spectrum of voluntariness or due to necessity, for example, due to humanitarian crises. In all instances, individuals in irregular circumstances are at higher risk of vulnerability (IOM 2019).

Being a migrant under irregular circumstances can put individuals at great risk of financial and/or labor exploitation, physical harm, violence, or death (Vutha, Pide and Dalis, 2011; Yayboke and Gallego, 2019; United Nations Office on Drugs and Crime, 2021; ILO, 2022). During 2014-23, an estimated 55,359 persons died or went missing while migrating internationally using irregular pathways (IOM, 2023). Recruiters or smugglers often assist in irregular migration journeys. This assistance, however, may lead to exploitation. For example, Libyan migrants attempting to transit the Mediterranean reported being trapped in cycles of exploitation and abuse at the hands of traffickers, their vulnerability was protracted due to physical isolation and inability access to state conferred protections (Amnesty International, 2020; Amenta, Di Betta and Ferrara, 2021). Women and girls are at high risk of gender-based violence and/or sex trafficking. It is estimated that 60 to 80 per cent of smuggled female migrants travelling through Mexico were victims of sexual violence; for women transiting

through Mediterranean routes, estimates increase to 90 per cent (UNODC 2021).

Migrants who successfully complete their journeys through irregular means have limited access to formal channels and services in countries of destination. Lack of legal status and documentation leaves migrants in unequal positions of power against potential employers or recruiters. It limits access to formal and predictable livelihoods guided by the protections under the law, basic services, and due process (UN ESCAP, 2020; Soto, 2021; ILO, 2022; CREST, n.d.). The persistent threat of detention and/or deportation may deter migrants from returning home and second-mover network migration, which creates social burdens by keeping families separated.

1.1.3 The costs of irregular migration

Irregular migration creates costs to the global community, some of which are quantifiable while others are not due to the difficult nature of data collection in these contexts and immeasurable human capital development opportunity costs. Smuggling is an illicit industry estimated to generate \$6.75 billion in revenue, just for the two largest smuggling routes from South America to North America and sub-Saharan and North Africa to Europe (UNCOD 2010). More recent estimates by Soto (2021) estimate that travellers from El Salvador, Guatemala, and Honduras generate \$2 billion – a magnitude noted by the authors to comprise between 1-1.4 per cent of the respective countries' 2020 GDPs. The source of these revenues are the payments of migrants along their irregular journey.

In situations of forced international displacement, massive population outflows demand support from host countries, which are disproportionately represented by neighbouring low and middle-income countries (UNHCR n.d., no date). Host countries must engage in large scale migration management and planning in order to avert potential environmental degradation and ensure adequate infrastructural support for refugees (Miller, 2018)

Forced international displacement is ultimately the costliest for affected populations. An estimated 74 per cent of all refugees (international) live in protracted situations, where displacement occurs for five or more years (UNHCR 2021b). The disruption affects adults' ability to sustain regular livelihoods. For children, the largest demographic group affected by displacement, it can have adverse human capital consequences on schooling. Interruptions of this kind in the young life may impact long-term livelihoods and economic productivity (UNHCR 2021b).

1.2 Policy responses

There are multiple intergovernmental frameworks and policy responses related to international migration, irregularity, and forced displacement. All global frameworks adopt a rights-based approach which respect an individual's decision to migrate and perceive migration management as part of sustainable development. Examples include Sustainable Development Goal 10.7, which calls on nations to "*facilitate safe, orderly, regular and responsible migration of people ... through planned and well-managed migration policies*" (UNSD 2022, p.12). The 2018 Global Compact for Safe, Orderly and Regular Migration (GCM) calls for global commitments to increase evidence- and rights-based policymaking, minimize adverse drivers, and expand and diversify regular pathways. The Global Compact for Refugees (GCR) offers an equity and multi-stakeholder framework to facilitate safe channels for refugees, increase self-reliance for the forcibly displaced, and create conditions for safe

return (Global Compact for Migration, 2018; UN, 2018).¹

The “root causes” of migration approach to migration management emerged during the 1980s and is cyclically reflected in large scale policies funded by destination countries. One theory posits that unfavourable conditions in countries of origin (e.g., economic disparity, conditions exacerbated by climate change, political instability, insecurity and transnational crime) and humanitarian crises such as conflicts, wars, or persecution, increase the risk that the migration journey will go along irregular channels (Vutha, Pide and Dalis, 2011; Loschmann, Kuschminder and Siegel, 2014; Yayboke and Gallego, 2019; National Security Council, 2021; Rose *et al.*, 2021; UNHCR, 2022a). By addressing unfavourable systemic conditions at home, the benefits of migration are reduced given an increased value of benefits and/or prospects of staying in the origin country in relative cost benefit calculations between origin factors, destination factors, and the migration journey itself.

The “root cause” framework for conceptualising migration has, at times, been controversial. It has been criticized for being an instrument of anti-migration agendas and restrictive policymaking (Gent, 2002), as well as incompletely capturing broader drivers and systemic factors that affect migration flows. This includes the absence of legal pathways which lead to fewer opportunities for safe and orderly migration, misinformation about irregular migration harms and risks, and the rise of modern slavery (Knoll and Sheriff, 2017; Czaika and Reinprecht, 2022). Furthermore, there are often multiple reasons why individuals choose to migrate and through which channels – factors are jointly considered and may include broader drivers, beyond “root causes” (Gent 2002).

Nonetheless, several large-scale policies have been designed to mitigate the harms of irregular migration and forced international displacement. The Government of the Netherlands’ 2016-2021 Addressing Root Causes of Conflict, Instability and Irregular Migration (ARC) programme allocated around EUR €90 million to projects in ten African countries (Burundi, Democratic Republic of Congo, Ethiopia, Jordan, Lebanon, Mali, Somalia, South Sudan, Sudan, and Syria) for addressing the underlying causes of irregular migration in security, rule of law, peace processes, political governance, and socioeconomic reconstruction (ECORYS, 2020). Pakistan and Afghanistan received approximately EUR €37 million for addressing issues around governance, rule of law, access to markets and employment, peace, and security (ECORYS 2020). In 2021, the EU Emergency Trust Fund (EUTF) committed EUR €3.9 million of EUR €4.9 billion to addressing root causes in Sub-Saharan Africa (Knoll and Sheriff, 2017; EU, 2021).

To address the needs of forcibly displaced population groups and other populations of concern, the UNHCR’s operating budget increased from USD7.2 billion in 2015 to \$10.5 billion in 2022 (UNHCR 2022a). Regional crises have led to expanding resources for root cause programming and legal pathways for refugees through the Economic and Investment Plan for the Southern Neighbours, and the European Neighbourhood Policy (European Commission, 2022, no date). The Neighbourhood Policy is expected to receive support of EUR €19.3 billion from 2021-2027, which is around 25 per cent increase from 2014-2020² (European

¹ The compacts rest on a range of existing international laws, including international covenants on economic, social and cultural rights, and on civil and political rights. For more details, see Global Compact for Migration 2018 pp.1; UN 2018 pp.2-3.

² The funding was EUR €15.4 billion for the period 2014-2020 (European Commission, n.d.)

Commission, n.d.).

In the Americas, the Biden-Harris Administration allocated USD \$4 billion to address the root causes of migration, of which USD \$987 million are for projects in Central America (Office of Management and Budget, 2022). The Root Causes Strategy seeks to address economic insecurity, inequality, governance, human rights and free press, and gender-based violence and trafficking in Central American countries, as well as U.S. citizenship opportunities to 11 million people estimated to reside in the US in an undocumented status (National Security Council, 2021; Rose *et al.*, 2021; Office of Management and Budget, 2022).

1.3 Why is it important to do this EGM?

Migration decisions occur under a complex set of multi-level factors and individual perceptions. Factors might be economic, social, geographic, political, legal and demographic, and may be influenced by technological, geopolitical and environmental trends (IOM, 2022b). Empirical research has focused primarily on describing factors that influence the decision to migrate as well as the characteristics of migrants and the impacts of migration (Obokata, Veronis and McLeman, 2014; IMF, 2015; Goldin *et al.*, 2018; Pitoski, Lampoltshammer and Parycek, 2021).

However, there is limited systematic evidence on whether interventions seeking to improve conditions in origin countries and decrease irregular migration or forced international displacement are effective, despite the large programs that adopt these approaches. A first search of impact evaluations relating to migration in 3ie's Development Evidence Portal (DEP)³ resulted in 341 potential relevant studies, suggesting there is existing evidence and value in mapping and eventually synthesizing this evidence base.

Our preliminary scan of the evidence base found few synthesis studies covering a variety of interventions; however, these reviews present little evidence of the effectiveness of these interventions. Tjaden and colleagues (2018) synthesized the evidence of 30 studies on information campaigns; none used a valid counterfactual design although a few (six) featured non-randomized control-group designs. Similarly, out of the 17 studies on information campaigns included in Pagogna and Sakdapolrak (2021), only one publication assessed effectiveness on migration decision-making, although it used qualitative methods. Giambra and Mackenzie (2019) examined the relationship between self-employment and migration in a panel survey across eight countries and discovered that the self-employed are less likely to migrate; they also synthesized the effects of seven experiments that increased self-employment, finding negative but small effects on migration. Fratzke and Salant (2017) focused on the effect of livelihood interventions on all phases of international migration: aspirations, decisions, and patterns, where conditional cash transfers were the only intervention found to have been evaluated using experimental or quasi-experimental methods. To our knowledge, one of the most extensive reviews examining salient root causes and drivers is the literature review conducted by Rose and colleagues (2021). However, this review did not use comprehensive search strategies and focused exclusively on Central America.

We were unable to find any comprehensive evidence reviews examining the effectiveness of root cause programming. IZA World of Labor produced two evidence maps on migration (IZA

³ www.develelopmentevidence.3ieimpact.org

World of labor, n.d.b, n.d.a), one on the impact of migration on trade⁴ and one on demographic and economic determinants of migration.⁵ Neither answers the specific aims of this evidence gap map protocol.

This evidence gap map will leverage previous efforts by using a comprehensive search strategy and screening methods to identify studies that evaluate the effectiveness of interventions addressing the root causes of irregular migration. Although we focus on four intervention domains, we will comprehensively map causal evidence against an intervention/outcome framework and without geographic restrictions (i.e., for root cause interventions, we will examine impact evaluations and systematic reviews from all low- and middle-income countries (L&MICs), for interventions addressing drivers, we will include all potential destination countries). Once we have a clear picture of the evidence landscape, we will identify an evidence synthesis gap and conduct a rapid evidence assessment (REA) as part of the larger research project to which this EGM and the REA belong.

1.4 Study objectives and questions

This study aims to increase access to evidence on root cause programming that seeks to address irregular migration and forced international displacement. It will do this by identifying, describing the evidence, and summarizing the results of high-confidence systematic reviews. In turn, it is expected that the project facilitates the use of evidence to inform policy decisions. EGMs are tools supporting policymakers and researchers to make evidence-informed decisions in a specific sector or thematic area. They make existing evidence more accessible and ease the prioritization of future research by mapping existing studies in a field on a framework of interventions and outcomes. Studies are mapped onto a framework of interventions and outcomes, providing a visual display of the volume of evidence for combinations of interventions and outcomes and the type of evidence (completed or ongoing impact evaluations and systematic reviews). This visualization provides an easy-and-fast-understandable overview on research gaps and research insecurities, based on the confidence rating reflecting the study quality for systematic reviews.

The results will be presented on 3ie's online platform, which provides a graphical and interactive display of the evidence in a matrix framework. There will also be filters which users can apply to sort the evidence in the EGM according to different dimensions, including study design, country and population. To complement the map, we will conduct descriptive analyses to address the key research questions listed in table 1.

The specific objectives of this EGM are to:

- Identify impact evaluations and systematic reviews on the effects of interventions aimed at addressing the root causes of irregular migration, on migration outcomes in L&MICs. This includes three root causes and one on other drivers, comprising four domains addressing the following: 1) Limited economic and decent work opportunities; 2) Inability of households and communities to adapt to, mitigate, or recover from covariate shocks or stressors due to diminished resilience; 3) Violence or crime creating insecure and unsafe communities; and 4) Drivers that lead to migration flows

⁴ (IZA World of labor n.d.b) <https://wol.iza.org/articles/impact-of-migration-on-trade/map>

⁵ (IZA World of labor, n.d.a) <https://wol.iza.org/articles/demographic-and-economic-determinants-of-migration/map>

through irregular pathways. Details on these domains are presented in Section 2.

- Describe the characteristics of identified impact evaluations and systematic reviews.
- Summarise the findings from the included medium- and high-confidence systematic reviews.
- Identify primary evidence and synthesis gaps.

To meet these objectives, we will address the research questions shown in Table 1 below.

Table 1: Research questions

Research questions No.	Research Question	Type
RQ1	What is the extent and characteristics of empirical evidence on the effects of interventions aimed at addressing the root causes of irregular migration on migration outcomes in L&MICs and interventions addressing other drivers of unsafe migration, relevant to destination countries?	Coverage
RQ2	What are the major primary and synthesis evidence gaps in the literature?	Gaps
RQ3	What intervention/outcome areas could be prioritized for primary research and/or evidence synthesis?	Research

The next section presents the scope of the EGM and the conceptual framework we adopted, Section 3 outlines the inclusion and exclusion criteria in terms of population, interventions, study designs, and outcomes, and Section 4 provides detailed explanations of the methods we will adopt.

2. Scope

This evidence gap map will include studies that assess the effectiveness of interventions addressing root causes and other drivers of irregular migration. We used the following definitions to define key conceptual boundaries:

- Root causes are defined as “the social and political conditions that induce departures – especially poverty, repression, and violent conflict” p.6 (Carling and Talleraas, 2016) as well as the effects of shock/stressors such as climate change or natural disasters. Drivers encompass all factors that influence irregular migration, including root causes occurring in origin countries, and phenomenon that are not specific to a single geographic area (e.g., information on regular channels available). We use the distinction “root causes” and “other drivers.” By this we emphasize that we see all root causes as drivers, but that there might also be drivers of irregular migration that do not fit the definition of a root cause (e.g. the lack of regular channels to migrate). This distinction also aligns with policymaking definitions.
- Irregular migration is defined as “movement... that takes place outside of the laws, regulations, or international agreements governing the entry into or exit from the State of origin, transit, or destination” p. 116 (IOM, 2019). Because our focus is on irregular migration – entry, transit, or residing in a country irregularly - consequently we examine international migration outcomes and exclude studies which only report internal migration or internal displacement.
- Due to our focus on root causes, three of our intervention domains relate to irregularity

and decision-making that occurs prior to emigration or during transit and hence before entry into destination countries (IOM, 2019). Our scope will include irregular stay in destination countries if there is overlap with migration and movement. For example, legalization pathways that would affect prospective migrants and asylum seekers who completed their transit into a destination country. Policies that pertain exclusively to irregular stay are beyond scope, such as regularization interventions. Although stringent enforcement interventions such as customs and border control may affect prospective migration, these are not within our scope.

- We examine migration decisions made on a “voluntary” basis (e.g., due to an individual’s desire to seek economic opportunity or a better life) as well as “involuntary” and due to necessity (e.g., forced international displacement caused by conflict, violence, fear of persecution, or human rights violations that may lead individuals to migrate through irregular channels) (UNHCR, 2021b). Although both scenarios may lead to irregularity, we adopt the distinct international definitions to maintain consistency with policymaking terminology.
- In reality, “voluntariness” and agency of migration decision-making occur on a spectrum (e.g., an individual who agreed to be smuggled but becomes trafficked; an individual who is migrating primarily for economic reasons but has also faced socio-political pressures at home) (Triandafyllidou, Bartolini and Guidi, 2019).
- We examine micro-, meso-, and macro- level causes. Our definitions are aligned with the conceptual and geographic scale of the intervention and of corresponding outcomes. We define micro as affecting individuals and households, meso levels as relating to community and sub-national, and macro levels as relating to national, systemic, structural, international. These definitions differ than other driver frameworks such as [Czaika and Reinprecht \(2022\)](#), whose categories are separated conceptually (i.e., macro level drivers include demographics, economic, environmental, human development, among others; meso include socio-cultural drivers; and micro include individual).

2.1 Scope selection process

To establish the scope of interventions, we first consulted key policy and research papers to comprehensively list the universe of root causes and other drivers of irregular migration. Our preliminary scoping began with a seminal U.S. government strategy document guiding policy on Central America, *The U.S. Strategy for Addressing the Root Causes of Migration in Central America*, as well as key sources such as Rose and colleagues ([2021](#)), Vutha and colleagues ([2011](#)), McKenzie ([2017](#)), and Tjaden and colleagues ([2018](#)).

Our intervention selection process was then conducted in two stages:

- We convened an Advisory Group of experts comprising migration researchers, policymakers, and practitioners who helped narrow the expansive initial scope. Advisory Group members were asked to ordinal rank intervention domains by relevance to the evidence base, policy salience, and proximal causal relationship between intervention and migration outcomes.
- Only intervention domains that were ranked as highly relevant proceeded to the second stage of consideration. A few intervention domains were equally ranked by our AG. To “tie break,” we consulted our study’s funders and reviewed available resources. While we are aware that other causes are relevant and future research should map

these evidence bases (e.g., high levels of corruption in the societies), for practical reasons we could only focus on 4 intervention domains given the respective sizes of evidence bases and the project's implementation period.

See Appendix D for a list of Advisory Group members, responsibilities, list of root causes and other drivers, and feedback form.

2.2 Conceptual framework

The causes of migration are complex, multi-dimensional, and multi-level (de Haas, 2021). There is no single unifying theory for migration decision-making (Massey *et al.*, 1993), nor for decisions made regarding ir/regularity. Gent (2002) suggests that a confluence of factors simultaneously influence migration decisions, making it impossible to isolate or identify a single reason or theory of change. Therefore, we use Carling's (2002) theory of migration aspirations and abilities – further adapted by Carling and Talleraas (2016) and Carling and Schewel (2018) - to illustrate the individual decision-making process. We combine these with prevailing theories summarized by Massey and colleagues (1993) that explain the global dynamics affecting conditions, prospects, "root causes," and related perceptions.

In Figure 1, we present Carling and Talleraas (2016)'s conceptual model of a simplified individual theory of change for "voluntary" migration decision-making. The darker shading shows the potential relationship between conditions in origin countries and migration outcomes achieved; the lighter shading illustrates other behavioural responses and outcomes, including decisions to stay or inability to migrate. Poor conditions, limited prospects, and/or individual perceptions in origin countries may lead to a sense of stagnation or hopelessness and a desire for change, which may affect migration aspirations. We focus on conditions or "root causes" such as poor economic conditions and economic insecurity; environmental, climate-related, or economic shocks and stressors; violence, conflict, or security issues in communities.

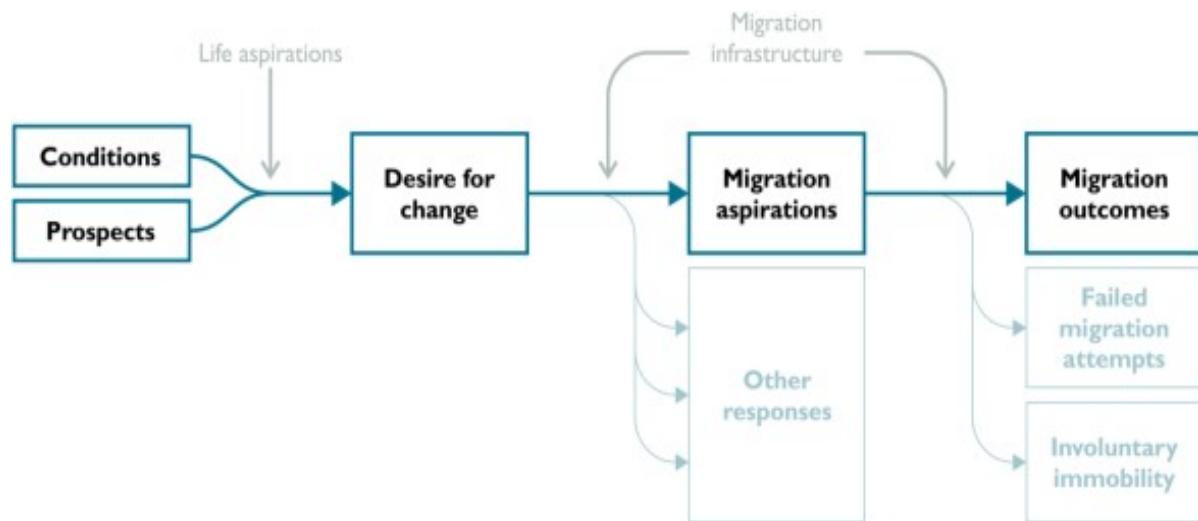
However, other global drivers beyond root causes – presented as "migration infrastructure" – also affect migration aspirations. These include global in/formal opportunities, information on options and knowledge of the costs, benefits, and risks, and availability of migration channels, regular and irregular. Achieving an individual's desired migration outcomes may depend on an individual's "abilities" – whether financial, physical, social, related to human capital – all of which interact with the available migration infrastructures. Therefore, decisions to migrate through in/formal channels are based on individualized aspirations and ability to meet the costs of migrating (financial and non) (Carling, 2002).

In situations of forced international displacement or trafficking in persons, the decision pathway may be shorter or modified. For example, conditions may be dire and the "desire for change" may be a desire to survive. In scenarios of human trafficking, poor conditions may lead individuals to seek opportunities abroad, but lack of legal pathways or means of accessing them leads prospective migrants to enlist recruiters. Resulting migration outcomes may have occurred without the full consent of the individual.

In this evidence gap map, we plan to collate the evidence base addressing conditions in origin countries on three root causes of irregular migration and one domain of interventions on other drivers: the lack of economic opportunities, the lack of capacity to adapt to shocks or stressors, the high levels of violence existing in origin countries, and the lack of regular migration

channels in destination countries or information and awareness about them (Castles *et al.*, 2012; Carling and Talleraas, 2016; National Security Council, 2021; Rose *et al.*, 2021; IOM, 2021b).

The root causes and drivers we examine occur at macro (structural), meso (community), and micro (household) levels, although are often overlapping due to conceptual relevance at multiple levels (IOM, 2021c). In the paragraphs below we outline the theoretical linkages



between the interventions aimed at addressing the root causes and other drivers we focus on, and migration outcomes.

Figure 1: Theory of change by Carling and Talleraas (2016)

Addressing economic insecurity by creating economic opportunities and decent work. Poverty, high inequality, low employment, and/or lack of economic opportunities are often issues confronting countries with low economic growth (Adams, 2004). These conditions are exacerbated by macro and meso level drivers such as global wage inequalities, the need for decent work opportunities, and lack of risk management mechanisms, all of which may incentivize migration for better opportunities. Dual market theories of migration hypothesize that destination countries “pull” individuals due to chronic labor demands and wage differentials in global labor markets (Piore, 1979). Destination countries often seek foreign workers to fill low skill labor needs (Massey *et al.*, 1993); wages for these jobs are often higher than what is offered locally and driven by differences in currency. Alternatively, world systems theories hypothesize that international migration is driven by capitalistic development (expressed through colonialism and multinational firm exploitation) that contributed to worsening local conditions, while attracting migrants to developed countries because “globalization creates material and ideological links to places where capital originates,” such as large global cities, industrial sites, or through educational institutions (Wallerstein, 1974).

The literature reveals mixed findings on the effects of improving economic security and migration outcomes or decisions to stay. Improvements in welfare may be insufficient to modify the life and migration aspirations of an individual, especially if other factors drive aspirations and perceptions (Soto, 2021). Several studies find that improving household welfare through cash transfers or other forms of basic needs assistance may increase “ability” to achieve migration aspirations (de Haas, 2010, 2021; Angelucci, 2015; Molina-Millan *et al.*, 2019).

However, these increases in capability may be insufficient to cover costs of regular migration and could therefore increase irregular migration, especially if there is a lack of migration infrastructure and means of access to support safe and orderly migration (Soto 2021). The literature recognizes that migration aspirations are inherently individualistic and perceptions of risks, costs, and benefits will vary.

Active labor market policies that develop skills and create employment opportunities may lead to greater economic security, income diversification through multiple livelihoods entrepreneurship, and economic growth and reduce decisions to travel through unsafe or irregular channels due to lack of better opportunities or increase the capability to migrate through regular means (Massey *et al.*, 1993; Kleemans, 2015). Increasing decent work opportunities may reduce risk of modern slavery, labor exploitation by recruiters, and alleviate unemployment particularly for youth (Dibeh, Fakih and Marrouch, 2018). Creating access to large credit or futures markets may also change patterns in international movement by increasing business investment, alleviating unemployment, and shifting risk primarily borne by households (Massey 1993).

Addressing inability to adapt, mitigate, and/or recover from shocks and stressors through resilience-strengthening interventions. Climate change and increasing incidents of natural disasters over time disproportionately affect L&MICs, as well as other humanitarian shocks and stressors (FAO, 2021). The literature suggests that the number of irregular migration movements will increase dramatically due to increased escape behaviour from climate change effects (Perch-Nielsen, Bättig, and Imboden 2008; Klepp 2017). Increasing household and community resilience against, for example, climate shocks may alleviate migration used as an adaptation strategy (Mueller *et al.*, 2019). This includes the creation and/or expanded access to risk management mechanisms such as indexed insurance (Munshi and Rosenzweig, 2016). Welfare improvements may also change the means of pursuing migration strategies, for example by reducing migration pursued through irregular channels (Stecklov *et al.*, 2005; Chort and de la Rupelle, 2017). Shocks and stressors may diminish households' abilities to express their migration aspirations. In terms of outcomes, households appear to pursue more internal migration strategies rather than international (Kaczan and Orgill-Meyer, 2020). A full list of shocks/stressors that are relevant to this domain is available in Appendix G.

Addressing violence and community safety through prevention and interventions that build safe communities. Conflict and violence are leading drivers of migration and forced displacement; however, localized conflict is more likely to lead to internal displacement than to international displacement (UNHCR, 2021b). Violence that occurs across an entire country (e.g., gang networks, gender-based violence), may drive international migration out of necessity (Khashu, 2010; IOM, 2017; Casa Alianza, 2020). However, it may also affect perceptions of conditions, self-agency, and empowerment as migration intentions are associated with recent experiences or witnessing crime victimization among youth (Hiskey, Malone and Orcés, 2014). Creating safe communities may increase communities' ability to achieve economic opportunities locally and pursue human capital development.

Addressing drivers of unsafe migration and displacement vulnerability by creating enabling factors for safe and orderly migration. Decreasing barriers to legal pathways may affect unsafe migration by formalizing and increasing accessibility of options for pursuing migration aspirations. For example, providing work visas in receiving countries can meet labor

demand needs while providing the means for workers to migrate safely and regularly (McKenzie and Gibson, 2010; Clemens and Postel, 2017; Freier and Holloway, 2018).

Information, knowledge, and awareness moderate the impact of legal opportunities on migration outcomes. If migration aspirations are based on “income maximization,” cost- benefit calculations, or global labor markets (as described by neoclassical and dual market theories), social networks and information campaigns may affect what is understood about the true benefits and costs of pursuing migration strategies (Tjaden, Morgenstern and Laczko, 2018; Tjaden and Dunsch, 2021; Tjaden and Gninafon, 2022). Effectiveness of awareness raising campaigns may depend on content, messaging, and how they are received by individuals (Tjaden, Morgenstern and Laczko, 2018).

3. Criteria for including or excluding studies

3.1 Population to be covered by the map

We will include interventions implemented in L&MICs. An exception is when interventions fall under the intervention ‘Legal pathways’ under the Orderly and safe migration management intervention domain (see Table 2); in this case we will include interventions implemented in high-income countries (HICs). This is because legal pathway interventions often occur in neighbouring and/or developed destination countries (e.g. seasonal work or humanitarian visas) (Freier and Holloway, 2018). We will define country income level by using the most recent World Bank income status classification (see appendix F). We will classify the income level of a country according to the starting year of the study’s intervention implementation. If the study does not explicitly specify the intervention’s first year of implementation, we will classify the country income level based on the study publication year.

The same applies to multi-country studies. Except for the interventions falling under the ‘legal pathways’ intervention domain, we will include a multi-country study if it measures at least one estimate of effectiveness for a population based in L&MICs. In this case, the study must provide results for HICs and L&MICs separately.

For the systematic reviews, when they include a mixture of evidence from both HICs and L&MICs, we will include them if they present disaggregated evidence for L&MICs, or if more than 50 per cent of the evidence of non-disaggregated results is from L&MICs. Where there are no disaggregated results for L&MICs and more than 50 per cent of the evidence for consolidated findings in a systematic review comes from high-income countries, or where it is impossible to ascertain the composition of evidence by income level, the studies are excluded.

3.2 Intervention(s) to be covered by this map

The final scope of this EGM includes four intervention domains. The first three of these domains are widely acknowledged as root causes, and the last one as another driver of irregular migration:

- Limited economic and decent work opportunities;
- Inability of households and communities to adapt to, mitigate, or recover from covariate shocks or stressors due to diminished resilience;
- Violence or crime creating insecure and unsafe communities; and
- Drivers that increase risk of migration through irregular pathways.

The fourth included domain addresses the reality that migration and human mobility are a fundamental development strategy for some individuals and households. However, there are factors outside of origin countries that may increase migration through irregular pathways. These include information asymmetries, lack of awareness of legal or labor rights, or the absence of migration governance structures for achieving sustainable migration.

The final set of interventions cover micro, meso, and macro-level, root causes and one additional driver (IOM GMDAC, 2021). For instance, disaster risk financing policies are usually implemented at a macro level, while cash transfers target causes at a micro level; information campaigns on the risks of irregular migration target factors at all levels, while policies expanding legal migration channels have effects at the macro level.

Table 2: Interventions included in the map

Domain	Intervention	Level	Description
Economic opportunities and decent work	Active labor market policies (ALMPs)	Macro, meso	Demand-side interventions aimed to increase individuals' access to employment and entrepreneurship opportunities. This may include skills-based interventions such as technical and vocational education training (TVET), business skills training, mentorships, internships/apprenticeships, entrepreneurship workshops; job placement centers and matching programs, employment pipelines/pathways within communities; wage subsidies; or public works schemes.
	Access to large credit markets	Macro, meso	Interventions to improve or increase access to large capital credit or loans for the purposes of establishing a business or facilitating industry growth. This does not include microcredit or indexed insurance (for microcredit or index insurance, see Strengthening Resilience domain).
	Decent work policies	Macro, meso, micro	Supply-side interventions that create opportunities for work aimed to be productive and deliver fair incomes, occupationally safe and secure workplaces, social protection benefits (for social protection benefits delivered by employers – for example, health insurance policies or programs provided by employers. If delivered by government – for example,

Domain	Intervention	Level	Description
			unemployment assistance, see Strengthening Resilience domain), prospects for personal development and social integration, freedom to express concerns, organize, and participate in decisions that affect workers' lives or treatment.
	Microcredit and microinsurance schemes	Macro, meso, micro	Provision of, or increasing availability and access to, microcredit and/or microinsurance for households, entrepreneurs, or agricultural producers.
	Human capital strengthening interventions (non-food)	Macro, meso, micro	<p>Interventions that financially support human capital development outcomes directly (e.g., costs of schooling or health services) or indirectly by supporting non-food basic needs. This includes the following:</p> <ul style="list-style-type: none"> - Cash transfers: Giving cash to assist in meeting needs of recipients. The intervention could target eligible populations or be universal. Examples include unconditional, labelled (no conditions attached, but explicitly label the purpose of cash transfer), and conditional cash transfer. Universal basic income (UBI), retirement or senior citizen pensions, giving cash universally and unconditionally to citizens, is included in this category. - Health insurance or interventions that increase access to health services. <p>*If an intervention is 'Cash for Work (employing participants for public work and giving them cash)', it applies to the 'employment assistance' intervention category of the Resilience domain.</p> <p>* If an intervention supports food/nutrition related basic needs, it applies to the 'food and nutrition interventions' category under the Resilience domain.</p>
Strengthening Resilience against shocks	Disaster risk financing policies and index-based insurances	Macro, meso	Public financing policies that aim to manage disaster risks. Examples include risk transfer instruments (e.g., public agricultural, index-based livestock or weather- based insurance policies),

Domain	Intervention	Level	Description
and stressors⁶			loans (e.g., public contingent credit, borrowing and concessional financing), or revenue generation/fiscal policies (e.g., co-financing incentives for in-country stakeholders).
	Early warning systems	Macro, meso	Early warning preventative responsive policies which provide information to the households and communities about potential risks and how to face them. *If interventions adopt a new technology or technical assistance, including renewable energy and energy efficiency, they will belong to the 'technology-based assistance' intervention category.
	Natural resource management	Meso, micro	Community-based natural resources management program that bring together the civil society to take care of a natural resource. *If interventions adopt a new technology or technical assistance, including renewable energy and energy efficiency, they will belong to the 'technology-based assistance' intervention category.
	Technology-based assistance	Macro, meso, micro	Providing technology-based materials to improve risk reduction. Examples include new technology-based crop failure safeguards, improved seeds (flood-, salt-, or temperature-tolerant), water purification/supply, water harvesting, recycling, drip irrigation, and water storage. This category also includes renewable energy and energy efficiency-focused materials
	Infrastructure (re)construction and maintenance	Macro, meso	This includes the construction, maintenance, and reconstruction of environmental infrastructure, including the reconstruction of market infrastructures (e.g., road to markets, and agricultural facilities) for post-disaster recovery.

⁶ See Appendix G for a list of covariate or macro-level shocks/stressors included at the end of this document. Each of the interventions domain, to be included, should have been designed to prepare, manage, or recover from one or more of those shocks/stressors.

Domain	Intervention	Level	Description
	In-kind social assistance	Macro, meso, micro	Direct provision of goods or services, or subsidies to increase access. (E.g., social security, provision of non-food items, commodity vouchers, agriculture recovery and restoration programs). This does not include health insurance schemes.
	Food and nutrition interventions	Macro, meso, micro	Direct provision of food-focused goods or subsidies. Examples include commodity vouchers, food stamps, nutritional supplementation, and agricultural inputs (e.g., seeds, machine transfer). *If an intervention provides new technology-based materials (e.g., drought tolerant seed transfer), it belongs to the 'technology-based assistance' intervention category. *If an intervention is 'food/voucher for "work" (employing participants for public work and giving them food or voucher)', it applies to the 'employment assistance' intervention category.
	Employment assistance	Macro, meso, micro	Interventions providing cash or in-kind support for employment or during unemployment. Examples include public works (e.g., cash for work, food for work, and vouchers for work), employment guarantee schemes, and unemployment assistance in the context of shocks/stressors.
	Local coordination mechanisms in support of service provision	Meso, micro	Activities/mechanisms that bring uncoordinated and disparate actors together to collaborate and integrate provision of resilience strengthening services for all or eligible populations. Examples: hotlines and referral systems (e.g., Link and Referral programs) that link vulnerable and/or refugee populations to different social protection providers to qualifying services they may not have been aware of (e.g., humanitarian assistance to social protection, social protection to other social protection providers, or specific policies/programs to others); policies or coordinating groups that bring together

Domain	Intervention	Level	Description
			Ministries working on different issues affecting the same populations (e.g., Labor, Welfare or Social Security, Women and Children, Emergency Response). This does not include health and education services.
	Services Communication and advocacy	Macro, meso, micro	Communication, awareness-raising, dissemination, or public campaigns to increase knowledge of, access to, or uptake of social protection services. * If communication or awareness campaign relating to local opportunities, legal pathways, labor rights, etc., they will belong in the Safe and Orderly migration domain.
Build Safe Communities through Violence Prevention and Intervention	Diversion to or probation appropriate services	Macro, meso, micro	Arrest and pre-trial diversion programs that share the objective of diverting populations with mental health issues out of the criminal justice system and into behavioural healthcare and other more appropriate services.
	Psychosocial support and education programs	Macro, meso, micro	Targeting groups or individuals who are potentially vulnerable to engaging in crime, including in gangs, drugs, or gender-based violence or in other crime, with education interventions or school-based programming to promote alternatives to violence and crime or mental health and psychosocial support. For example, Cognitive behaviour therapy (CBT), Anger Replacement Therapy (ART) and family counselling-based initiatives, etc.
	Preventative programs for ex-offenders	Macro, meso, micro	In-facility and out-of-facility rehabilitation. Interventions to support prisoners to integrate effectively into society. These may include vocational training, economic interventions such as employment training programs, life skills provision, or psycho-social support and may take place in order outside of correctional institutions.
	Social services for victims of crime and violence	Macro, meso, micro	The creation and resourcing of services and interventions that can provide crisis intervention, emergency treatment, and referrals for services (physical or mental

Domain	Intervention	Level	Description
			support) to adult and child victims that have been referred by a relevant justice actor or institution. This could include court-ordered placement of children into social services or mental health support for crime victims referred by a Victims' Advice Bureau. The use and strengthening of approaches that engage the person involved in working on addressing the problems, specifically in relation to social care.
	Protection for at risk legal actors, political prisoners and witness protection services	Macro, meso, micro	Interventions that seek to protect either justice actors or justice seekers from harm that may be posed by their attempts to seek justice for themselves or others. Interventions to support the fair trial and safe treatment of political prisoners. Interventions to ensure that witnesses do not come to harm for their willingness to provide evidence.
	Society-led crime prevention and reporting initiatives	Meso, micro	Systems- or citizen-led interventions to support reporting and prevention of crime in their locality. Locally-led campaigns to promote anti-violence and anti-crime values, including anti-gender-based violence. Strengthening the ability of actors in no-legal services who come into contact with victims of crime and abuse to notice and report issues. For example, teachers are trained to recognize child abuse in pupils. Includes: Neighborhood watch schemes, School or community anti-crime or violence campaigns, and Reporting and referral by non-legal service providers.
	Behaviour change communication against violence	Macro, meso, micro	Communications to address harmful norms related to discrimination and violence (e.g. gender-based violence, stigmatisation of health conditions), and promote rights-affirming behaviours (e.g. willingness to report violence, treating people with respect). Activities may include: classes or workshops (e.g. on de-stigmatisation of HIV), community mobilisation activities (e.g. to create a

Domain	Intervention	Level	Description
Orderly and safe migration management	Information campaigns on legal rights, risks of irregular migration, legal alternatives, and/or working conditions	Macro, meso, micro	concern to combat gender based violence), and campaigns (e.g. using traditional and/or non-traditional media.
	Legal pathways	Macro, micro	Information on legal rights, workers' rights, and working conditions, such as visa recruitment processes, fees, indicators of abuse, exploitation, and/or contract violations; risks of irregular migration during the journey, return, or within destination country; or legal alternatives to irregular migration (local employment opportunities or legal pathways). Booklets, meetings, counselling, tours, mass media, posters, workshops and seminars might be used to disseminate the information.

3.3 Outcomes of interest

The primary focus of this evidence gap map is to examine irregular migration outcomes. We will exclude intermediate development outcomes that may establish that an intervention is working (e.g., the program increased health). During a preliminary review of relevant impact evaluations from 3ie's Development Evidence Portal⁷, we found that studies examining observed migration behaviour or "final outcomes" often did not test whether migration was internal versus international, or if the latter, occurring through regular versus irregular channels. We will therefore include all migration outcomes when the type is unspecified (it is not clear if it is internal or international), as the outcome may be a proxy for international and/or irregular migration and to provide a bridge for developing state of the evaluative literature on migration programming. If studies explicitly discuss migration occurring due to reasons of

⁷ <https://developmentevidence.3ieimpact.org>

forced international displacement, they will be coded as such.

The final outcomes will include indicators relevant to the micro and meso levels, such as "migration"; to the macro level, such as international migration stock and flows; and to all levels, such as reception of remittances, from internationally-based or geographically unspecified family members.

We also include some intermediate outcomes within the theory of change, which are not development outcomes, but rather directly related to migration aspirations and intentions and perceptions that are theorized as precursors (perceptions of current conditions, expectations).

Table 3: Outcomes included in the map

Final outcomes- observed migration behavior	Definition
Any migration (micro)	Unspecified
	International-unspecified
	International-regular
	International-irregular
	Forced displacement unspecified
International migration flow (macro)	Forced displacement international
	Unspecified

		it is regular or irregular.
	Regular	The number of international migrants arriving in a country (immigrants) or the number of international migrants departing from a country (emigrants) over the course of a specific period <i>through means that are in compliance with countries of origin, transit, or destination.</i>
	Irregular	The number of international migrants arriving in a country (immigrants) or the number of international migrants departing from a country (emigrants) over the course of a specific period <i>through mechanisms outside of the laws, regulations, and agreements governing entry/exit.</i>
International migration stock (macro)	Unspecified	The total number of international migrants present in a given country/area/region at a particular point in time who have ever changed their country of usual residence. Unspecified to whether it is regular or irregular.
	Regular	<i>Same as above, but through means that are in compliance with countries of origin, transit, or destination.</i>
	Irregular	<i>Same as above, but through mechanisms outside of the laws, regulations, and agreements governing entry/exit.</i>
Remittances (micro)	Remittances-unspecified	Receipt of financial support from family/kin. Unspecified to whether it comes from family living abroad (international) or in the same country (internal). Exclude if remittances come from an internal source.
	Remittances-international	Receipt of financial support from family/kin that occurs from one country to another.
Intermediate outcomes		
Intention to migrate (micro)	Unspecified	Individual plans to move in the next 12 months. Unspecified as to whether it is in compliance or outside the laws, regulations, and agreements governing entry/exit of people.
	Regular	<i>Same as above, but through means that are in compliance with the laws, regulations, and agreements governing entry/exit in countries of origin, transit, or destination.</i>

	Irregular	<i>Same as above, but through mechanisms outside of the laws, regulations, and agreements governing entry/exit in countries of origin, transit, or destination.</i>
	Perception/psychosocial condition of current situation	The desire for change, feelings of inescapable stagnation, and challenges due to conditions that cannot be addressed. Only include if the study also examines another intermediate or final migration outcome; exclude if the outcome does not relate to migration.
Knowledge, perceptions, attitudes, and Expectations (meso, macro)	Expectations, awareness, knowledge, or attitudes on risks, benefits, costs, and/or consequences of movement through irregular channels	Outcomes relating to what is understood about the potential costs, benefits, and/or risks of irregular migration (e.g., physical risks or harm, expulsion, exploitation risks, labor opportunities, wages in destination countries, smuggling or recruiter fees).
	Knowledge or awareness of legal pathways, legalization processes, or asylum seeking processes	Any knowledge about regular migration pathways (schemes, programs, processes, or other options).
	Knowledge or awareness of migrant labour rights	Any knowledge of worker's rights. This may include those relating to labor or contract violations, labor exploitation, freedom from discrimination, freedom of movement.

3.4 Study Designs

We will include studies that look at the migration impacts of interventions addressing root cause conditions and drivers that affect irregular migration. Specifically, we will include studies that adopt methods estimating the effects that can be attributed to an intervention, as compared to what would have happened in the absence of the intervention. We define the specific criteria required for inclusion below, drawing on commonly accepted standards for impact evaluations (Gertler *et al.*, 2016) and systematic reviews (Waddington *et al.*, 2012).

We will include both impact evaluations and systematic reviews:

- **Impact evaluation:** An impact evaluation is a study that uses a counterfactual to provide a quantitative estimate of the impact of an intervention. The counterfactual provides evidence about what would have happened in the absence of the intervention. The impact of a program is measured by comparing the outcomes of those who receive the intervention with those of a comparison group that does not receive the intervention. The comparison group may be a specific population in the study area that does not receive the treatment (as in a randomized control trial) or may be constructed by researchers (as in propensity score matching or interrupted time series). For an impact evaluation to be valid, there must be a sound statistical basis for claiming that the comparison group represents what would have happened to the treatment group had they not received the intervention.
- **Systematic review:** A systematic review is a synthesis of the research evidence on a

particular topic, such as the effectiveness of water supply and sanitation, obtained through an exhaustive systematic literature search for all relevant studies using widely accepted scientific strategies to minimize error associated with appraising the design and results of studies. Systematic effectiveness reviews will be included if they describe the search, data collection and synthesis methods according to the 3ie database of systematic review protocols (Snilstveit *et al.*, 2016). Any evidence reviews, such as literature reviews, that do not adopt these methods will be excluded. We will exclude systematic reviews that are not effectiveness reviews (i.e. those which do not aim to synthesize the evidence of the effects of a relevant intervention on priority outcomes of interest), such as systematic reviews of drivers of migration. If the review includes studies using multiple research designs, we will include these if at least 50 percent of studies use one impact evaluation design, as specified above.

3.4.1 Effectiveness studies

Studies will be excluded if they do not evaluate the effectiveness of an intervention delivered in a real-world setting (i.e., experiments conducted in tightly controlled settings, like those of a laboratory will be excluded). Screening questions used to help determine whether a study qualifies as an effectiveness study will include (answering “yes” signals the study may have been conducted in a lab setting and therefore leads to its exclusion):

- Is the study primarily designed to determine to what extent a specific technique, technology, treatment, procedure or service works under ideal condition rather than attempt to answer a question relevant to the roll-out of a large program (i.e. lab-in-the field)?
- Is the intervention being carried out by the researchers themselves (e.g., by applying fertilizer in test plots to measure effects on plant growth), rather than by the people who would carry it out at scale (e.g., farmers applying fertilizer to their crops)?
- Does the study evaluate an intervention that is “basic science” research on biophysical mechanisms?

3.4.2 Study designs included

We will only include studies that implement at least one of the following study designs widely used to evaluate intervention effectiveness (Aloe *et al.*, 2017; Reeves, Wells and Waddington, 2017):

- A) Prospective studies that allocate participants to treatment and control groups using random assignment or quasi-experimental methods:
 1. Randomised controlled trials (RCTs), with assignment at individual, household, community, or other cluster level, and quasi-RCTs using prospective methods of assignment (such as alternation).
 2. Natural experiments with clearly defined intervention and comparison groups, which exploit natural randomness in implementation assignment by decision makers (e.g., public lottery) or random errors in implementation.
- B) Quasi-experimental designs where treatment arms are created without random assignment:
 1. Regression discontinuity designs (RDD), either sharp or fuzzy designs
 2. Instrumental variables (IV)
 3. Endogenous treatment-effects models, endogenous switching regression, and other methods synonymous to the Heckman two step model
 4. Difference-in-differences (DID), two-way fixed-effects (TWFE), and two-way

Mundlak regressions (TWM)

5. Interrupted time series (ITS) models, with or without a contemporaneous comparison group. An ITS model should include pre-intervention outcome data for a minimum of three time periods.
6. Weighting and matching approaches which control for observable confounding, including non-parametric approaches (e.g., statistical matching, covariate matching, coarsened- exact matching, propensity score matching) and parametric approaches (e.g., propensity- weighted multiple regression analysis).
7. Synthetic control methods

Note that natural experiments where the assignment to intervention and control groups was not part of a planned experiment could use different includable designs (e.g., RCT, RDD, ITS). These cases will be categorized as RCT, RDD, ITS, etc.

3.4.3 Additional studies that will be excluded:

- Before-after studies without a comparison group or cross-sectional studies that do not attempt to control for selection bias or confounding.
- Studies that only examine willingness-to-pay for goods, services, process and business models.

3.5 Other inclusion and exclusion criteria

- **Language:** We will include studies published in any language, although the search terms used will be in English only.
- **Publication date:** We will include studies published from 1990 onwards.
- **Status of studies:** We will include ongoing and completed impact evaluations and systematic reviews, both peer-reviewed studies and 'grey' literature. For on-going studies, we will include prospective study records, protocols and trial registrations. Providing an indication of the prevalence and characteristics of on-going evaluation evidence is expected to enrich the analysis of current evidence gaps and support decision making in relation to evidence generation.

4. Methods

4.1 Overall methodological approach

We will follow the standards and methods for EGMs developed by 3ie (Snistveit *et al.*, 2016, 2017). EGMs are developed using systematic methods to identify and describe all completed and ongoing impact evaluations and systematic reviews relevant to research objectives. We outline the methods employed in more detail below.

4.2 Conceptual framework development

The scope and conceptual framework of this EGM were established by consulting key policy and research papers, consultations with an expert Advisory Group, and through preliminary searches of evidence in 3ie's impact evaluation repository, the Development Evidence Portal. The process is described in detail in Section 2.

4.3 Search strategy

We will adopt a systematic search strategy following guidelines for systematic literature searching (Kugley *et al.*, 2017). The strategy will be designed to address potential publication bias issues by systematically searching academic bibliographic databases and implementing additional searches for grey literature in specialist organisational websites, websites of bilateral and multilateral agencies and repositories of research in international development.

Two of the framework domains, strengthening resilience and building safe communities, leverage pre-existing EGMs such as *Mapping evidence of what works to strengthen resilience to shocks and stressors* (Berretta, 2022) and *The effects of rule of law interventions on justice outcomes: an evidence gap map* (Doherty *et al.* 2020). We will re-screen all included studies and all studies that were excluded due to irrelevance of outcomes. We will run an updated search strategy, from January 2022 (Resilience EGM) and July 2020 (Rule of Law EGM) until present and screen the results against the inclusion/exclusion criteria of this EGM.

For the other two intervention domains, economic opportunities and orderly and safe migration management, we have developed new search strings, and given the nature of interventions within those domains, reported changes in outcomes are expected to occur in a number of development sectors. As such, the strategy will consider sector specific databases where appropriate, as indicated in below in this section. Finally, where possible, the review team will contact key experts and organisations through our advisory group (presented in Appendix D) to identify additional studies that meet the inclusion criteria.

An example of the search strings employed by the strategy for one database are presented in Appendix A. The precise strings and logic (e.g., index terms and truncation operators) will be adapted for each database and platform.

For the domain on resilience to climate change, from which we have taken numerous categories from the *Mapping evidence of what works to strengthen resilience to shocks and stressors* (Berretta, 2022), the following databases will be searched:

- CAB Abstracts (EBSCO)
- CAB Global Health (OVID)
- Africa-Wide (EBSCO)
- Academic Search Complete (EBSCO)
- APA PsycInfo (OVID)
- Web of Science (SSCI)
- Econlit (EBSCO)
- Social Science Research Network (SSRN)
- World Bank (EBSCO Discovery)
- Agris (EBSCO Discovery)
- RePEc (EBSCO Discovery)
- Campbell library

For the domain on violence prevention, from which we have taken numerous categories from *The effects of rule of law interventions on justice outcomes: an evidence gap map* (Doherty *et al.*, 2020) the following databases will be searched:

- Scopus
- Social Science Citations Index
- International Political Science Abstracts

- Communication & Mass Media Complete
- Research Papers in Economics (RePEc)

For the two domains on Economic opportunities and Orderly and safe migration management we will search the following databases:

- Scopus
- Social Science Citations Index
- International Political Science Abstracts
- Research Papers in Economics (RePEc)
- CAB Abstracts
- Africa-Wide
- Academic Search Complete
- Web of Science
- Econlit
- Social Science Research Network (SSRN)
- World Bank
- Campbell library

We will search for grey literature on the websites of 102 organizations. These organizations were selected on the basis of their action and work in migration related matters such as the International Organization of Migration (IOM), the Center for Migrant Studies, the Global Forum on Migration and Development, and IZA World of Labor, among others. Other websites from referential international development and research organizations were also searched including Abdul Latif Jameel Poverty Action Lab (J-Pal), the United Nations Evaluation Group, the United States – Development Experience Clearing House, the AEA RCT Registry protocols, and others. A complete list of organizations and websites are presented in Appendix A. We will also conduct the forward and backward citation tracking of all the included studies to reduce the risk of missing relevant studies.

4.4 Screening protocol

This subsection provides an overview of the processes we will adopt to systematically screen, critically appraise and extract data from studies identified by the search.

The selection of studies for data extraction as part of the map will be managed using EPPI-Reviewer 4 software (Thomas *et al.*, 2022), developed by the Evidence for Policy and Practice Information and Co-ordinating Centre, and will be completed by implementing the following steps:

- **Import study records:** All output files (e.g. RIS or.txt files) of the search strategy will be imported into EPPI.
- **Removal of duplicate studies:** An automated process within EPPI will be used to remove known duplicate files.
- **Training of screeners:** A team of consultants will be trained on the protocol by the core project team, with a focus on understanding the subject matter and the screening process. All screeners will screen the same set of studies (around 100-200 studies) and measures of consistency (i.e. did screeners make the decision that was consistent with the core team?). The screeners will continue screening in a double mode until an 85 per cent level of consistency is achieved in terms of the decision to include or

exclude a study.

- **Title and abstract screening:** The title and abstract (T/A) of all imported and de-duplicated studies will be screened by one screener, who will give a judgment of include, exclude, or unsure. Items marked unsure will be screened by a second screener (an approach that has been demonstrated to produce comparable results to double screening at significantly lower cost, [Shemilt et al. 2016](#)). Several exclude codes will be available to provide more information on the reasons for exclusion in each case (Appendix E). Screening codes will be applied in a hierarchical order so that consistent comparisons can be made about why studies were excluded and at what stage in the screening process (screening codes are available in Appendix E). Periodic meetings will be held by members of the core team to address studies flagged for a second opinion and make any refinements to the screening approach. We will use a machine learning classifier trained on data from 3ie's Development Evidence Portal repository of impact evaluations and systematic reviews of social and economic interventions, regardless of sector. The classifier model will attempt to replicate human labelling decisions such as whether the study mentions an intervention, utilizes a relevant study design (impact evaluations or systematic reviews), and whether the intervention was conducted in an L&MIC. The model is built on the studies included and excluded in the DEP, drawing on a large sample (80K+). The model learned from the inclusion and exclusion decision taken during the DEP screening in relation to the criteria explained above, and showed a precision (0.70) and recall (0.8) higher than other DEP models run in 2022 and 2021. This "generic" classifier model will be applied to our search results to rank studies by the likelihood of relevance to our inclusion criteria, with a percentage ranking 0-100 per cent. We will direct resources to screening highest likelihood studies first and proceed in descending priority rank order. We will automatically exclude studies which ranks below the 20 per cent, indicating a low possibility of being included. Before doing so, we will check a random sample of them to ensure they are irrelevant. In case there seems to be still relevant studies among them, we will screen another portion until it appears they are all not includable studies. The output of this process will be a set of screened studies that have been put forward for full text screening.
 - **Full-text screening:** We will retrieve the full text manuscript for each study that meet all the T/A inclusion criteria. Two reviewers will examine each full text in detail against the protocol. Again, we will apply a code to each study that reflects either that the study is included, or why the study is excluded. The output of this stage will be a set of studies deemed suitable to include in the EGM.
 - **Checks for linked publications:** The project team will attempt to group publications that focus on the same intervention and study population (i.e., publications that report on the same study). This typically occurs in cases where an author group publishes more than one paper in relation to one particular study on a specific population. Descriptive information will only be extracted once for each group of linked publications, drawing on all linked publications so that extraction is as comprehensive as possible.

Each step in this process will be documented in detail and graphically presented in a flow chart in the final report to facilitate replication of the approach.

4.5 Data extraction and critical appraisal

We will systematically extract data from all included studies using the data extraction tool available in Appendix B. The data will cover the following broad areas:

- **Basic study and publication information:** This coding will focus on capturing the general characteristics of the study including authors, publication date and status, study location, intervention type, outcomes reported, definition of outcome measures, population of interest, study and programme funders, time periods for delivery and analysis;
- **Topical cross-cutting issues:** We will extract data on a number of cross-cutting issues, including equity, targeted population (e.g indigenous people).
- **Critical appraisal:** All included systematic reviews will be critically appraised following the practices adopted by the 3ie systematic review database protocol, which draws on Lewin et al. (2009). This appraisal assesses systematic reviews according to criteria relating to the search, screening, data extraction, and synthesis activities conducted, and covers all the most common areas where biases are introduced. Each systematic review will be rated as low, medium, or high confidence drawing on guidance provided in Snistveit et al. (2017). The tool used for this process is presented in Appendix C. We will not critically appraise impact evaluations, as this is typically beyond the scope of EGMs.

The following processes will be implemented to collect this information:

- **Develop and refine data extraction tools and codebooks:** The draft tools developed for this project will be reviewed and potentially refined in light of any feedback received by the EGM advisory group and insights from project implementation.
- **Data extraction training and pilot:** Coders assigned to each data extraction task will undergo theory- and practice- based training in using the tools provided. Each coding group will all code a ‘training set’ of studies and assessments of inter-rater reliability will be calculated. Additional group training will be completed as required prior to the main-stage extraction.
- **Main-stage extraction:** In the case of descriptive and equity-based information, studies will be coded by one coder. In the case of critical appraisal assessments, studies will first be single coded and then reviewed by a systematic review methods expert. Meetings will be held periodically with coders on the project to provide support and resolve queries.
- **Quality checks:** Once the data extraction is near completion, the project team will check all extracted data. In practice, a member of the core team will check the consistency of data extracted in duplicate by consultants and measures of consistency will be calculated and used to inform the checking process.

4.6 Dealing with multicomponent interventions

Depending on the number and nature of multi-component interventions included, the project team will adopt one approach to coding these in the map to be consistent. The decision will be taken based on how many similar combinations of interventions categories or domains there are, and consequently it will be chosen the most appropriate options to represent those studies in a way which are accessible to the EGM’s users. This approach may be (i) to determine the main intervention of focus in the study and grouping the study with others that

focus on that main component, (ii) grouping all multicomponent studies together in a ‘package’ of intervention categories, (iii) grouping studies by packages of interventions domains (rather than interventions categories) or (iv) a combination of those approaches. The approach adopted and the associated limitations will be clearly stated in the final report.

4.7 Analysis and reporting

We will conduct a range of descriptive analyses to provide an overview of included studies across the following dimensions:

- Publication year
- Publication type
- Geography
- Study participants
- Interventions
- Outcomes
- Study type characteristics
- Results of the systematic review critical appraisal
- Equity and cross cutting themes considerations

Where appropriate, we will consider running cross-tabs to provide a more nuanced overview of the evidence identified. We will produce the following analytical outputs:

- **Interactive EGM:** An interactive evidence gap map that visually presents the current evidence base that is categorised by coverage with respect to the pre-determined intervention-outcome framework, quality and completeness. Filters will be incorporated into the map to enable a more targeted use – for example, by restricting the studies to a specific targeted population. The map will be stored on the 3ie website and shared as a public good. We aim to use the following filters: Region, Country, Setting, Study design, Equity dimension, Age, Sex, Ethnicity (e.g. indigenous people).
- **Presentation:** A presentation will provide an overview of the emerging findings of the EGM. This will be presented by the evaluation team and will provide an opportunity for IOM, USAID, and the Advisory Group to comment on the findings and to collaboratively discuss opportunities for additional analyses, presentation of results and implications. It will be designed such that it can be used by IOM and USAID for internal learning purposes.
- **EGM technical report:** The EGM technical report will include a detailed overview of the methods, theory of change and the key results of the EGM; it will provide a high level of analytical detail and will be supported by technical annexes. This report will conclude by directly addressing the key research questions stated in Section 2 and provide a set of research and policy implications. The technical report will be published by 3ie and shared as a public good.
- **EGM executive summary:** This report will provide a high-level summary of the results and will primarily focus on answering the research questions specified in Section 1 using non-technical language.

4.8 Timeline

The approximate date for publication of the EGM and accompanying technical report is June 2023. All final analytical outputs will be published on 3ie's Development Evidence Portal.

4.9 Engagement and communication plan

It is important that the results of the EGM are shared with IOM and its internal audiences, and more broadly to the development sector. The project will complete the following activities to engage with key stakeholders to attempt to ensure the results of the project accurately reflect the policy and research needs of key stakeholders:

4.9.1 Develop an EGM advisory group

The project team, in collaboration with USAID, engaged with key stakeholders with academic and/or practitioner expertise in the field of migration. 3ie set up an advisory group which will provide pro-bono support to the project at several key stages of the project. These stages include developing the project protocol, reviewing the search results produced, reviewing and interpreting emerging findings, and developing and optimizing the analytical outputs produced to aid evidence uptake and use.

4.9.2 Develop a Stakeholder Engagement and Communication Plan

A stakeholder engagement and communication plan (SECP) will be drafted. The aim of this plan is to ensure that findings from the EGM are effectively disseminated to the appropriate audiences, in an engaging and accessible format. This plan includes a provisional analysis of key stakeholder groups, focusing on their relevant interests and the extent to which 3ie and/or USAID have access to them, and an assessment of what the most value-added EGM project outputs might be to aid evidence uptake and use. The SECP is a 'live document' and will be refined, if necessary, as additional information needs or dissemination opportunities are identified by the project team, advisory group or USAID.

References

Adams, R.H. (2004) 'Economic Growth, Inequality and Poverty: Estimating the Growth Elasticity of Poverty', *World Development*, 32(12), pp. 1989–2014. Available at: <https://doi.org/10.1016/j.worlddev.2004.08.006>.

Aloe, A.M. et al. (2017) 'Quasi-experimental study designs series—paper 9: collecting data from quasi-experimental studies', *Journal of Clinical Epidemiology*, 89, pp. 77–83. Available at: <https://doi.org/10.1016/j.jclinepi.2017.02.013>.

Amenta, C., Di Betta, P. and Ferrara, C. (2021) 'The migrant crisis in the Mediterranean Sea: Empirical evidence on policy interventions', *Elsevier*, 78(101038). Available at: <https://doi.org/10.1016/j.seps.2021.101038>.

Amnesty International (2020) *Between Life And Death' Refugees And Migrants Trapped In Libya's Cycle Of Abuse*. Amnesty International. Available at: <https://www.amnesty.org/en/documents/mde19/3084/2020/en/>.

Angelucci, M. (2015) 'Migration and Financial Constraints - Evidence from Mexico'. Available at: <https://www.jstor.org/stable/43554990>.

Berretta, M. (2022) 'Mapping evidence of what works to strengthen resilience to shocks and stressors'. Available at: <https://www.3ieimpact.org/blogs/mapping-evidence-what-works-strengthen-resilience-shocks-and-stressors> (Accessed: 21 December 2022).

Carling, J. (2002) 'Migration in the age of involuntary immobility: Theoretical reflections and Cape Verdean experiences', *Journal of Ethnic and Migration Studies*, 28(1), pp. 5–42. Available at: <https://doi.org/10.1080/13691830120103912>.

Carling, J. and Schewel, K. (2018) 'Revisiting aspiration and ability in international migration', *Journal of Ethnic and Migration Studies*, 44(6), pp. 945–963. Available at: <https://doi.org/10.1080/1369183X.2017.1384146>.

Carling, J. and Talleraas, C. (2016) *Root causes and drivers of migration Implications for humanitarian efforts and development cooperation*. Peace Research Institute Oslo (PRIO).

Casa Alianza (2020) *Informe Mensual de La Situación de Los Derechos de Las Niñas, Niños y Jóvenes En Honduras.* Tegucigalpa: Casa Alianza. Tegucigalpa. Available at: http://casa-alianza.org.hn/new.casa-alianza.org.hn/datos_descargables/observatorio/Informes-2020/InformesMensuales/Informe_Mensual_Julio_2020.pdf.

Castles, S. et al. (2012) 'Irregular Migration: Causes, Patterns, and Strategies', in I. Omelaniuk (ed.) *Global Perspectives on Migration and Development*. Dordrecht: Springer Netherlands (Global Migration Issues), pp. 117–151. Available at: https://doi.org/10.1007/978-94-007-4110-2_9.

Chort, I. and de la Rupelle, M. (2017) 'Managing the Impact of Climate Change on Migration: Evidence from Mexico', *Global Labor Organization (GLO)*, Maastricht, 78. Available at: https://www.econstor.eu/bitstream/10419/161923/1/GLO_DP_0078.pdf.

Clemens, M.A. and Postel, H. (2017) 'Temporary work visas as US-Haiti development cooperation: a preliminary impact evaluation', *IZA Journal of Labor & Development*, 6(1), p. 4. Available at: <https://doi.org/10.1186/s40175-016-0070-x>.

CREST (n.d.) *THEORY OF CHANGE Working Together to End Migrant Worker Exploitation*

in Business Operations and Supply Chains. CREAST and International Organization Migration. Available at: <https://crest.iom.int/en/resources/reports/theory-change-working-together-end-migrant-worker-exploitation-business>.

Czaika, M. and Reinprecht, C. (2022) 'Migration Drivers: Why Do People Migrate?', in P. Scholten (ed.) *Introduction to Migration Studies*. Cham: Springer International Publishing (IMISCOE Research Series), pp. 49–82. Available at: https://doi.org/10.1007/978-3-030-92377-8_3.

Dibeh, G., Fakih, A. and Marrouche, W. (2018) 'Labor Market and Institutional Drivers of Youth Irregular Migration: Evidence from the MENA Region', *GLO Discussion Paper* [Preprint], (261).

Doherty, J. et al. (2020) *Protocol: The effects of rule of law interventions on justice outcomes: an evidence gap map*. New Delhi: International Initiative for Impact Evaluation (3ie). Available at: <https://www.3ieimpact.org/sites/default/files/2020-10/Protocol-for-Rule-of-Law-EGM.pdf>.

ECORYS (2020) *Addressing Root Causes (ARC) Programme Final Report*. Rotterdam: The Netherlands. Available at: <https://www.kpsrl.org/publication/addressing-root-causes-arc-programme-final-report>.

EU (2021) *Factsheet EUTF for Africa*. Available at: https://ec.europa.eu/trustfundforafrica/sites/default/files/factsheet_eutf-for-africa_january_2021_0.pdf.

European Commission (2022) *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Report on Migration and Asylum*. Available at: https://ec.europa.eu/info/sites/default/files/com_2022_740_1_en_act_part1_v4.pdf.

European Commission (no date) *European Neighbourhood Policy What Is It?* Available at: https://neighbourhood-enlargement.ec.europa.eu/european-neighbourhood-policy_en.

FAO (2021) *The impact of disasters and crises on agriculture and food security: 2021*. FAO. Available at: <https://doi.org/10.4060/cb3673en>.

Fratzke, S. and Salant, B. (2017) *Understanding the Impact of Livelihood Opportunities and Interventions on Migration Patterns*. Available at: <https://assets.publishing.service.gov.uk/media/5a992b27ed915d57d4d0f2dc/Migration-Livelihoods1.pdf>.

Freier, L.F. and Holloway, K. (2018) 'The Impact of Tourist Visas on Intercontinental South-South Migration: Ecuador's Policy of "Open Doors" as a Quasi-Experiment'. Available at: <https://journals.sagepub.com/doi/abs/10.1177/0197918318801068>.

Gent, S. (2002) *The root causes of migration: Criticising the approach and finding a way forward*. Sussex Centre for Migration Research.

Gertler, P.J. et al. (2016) *Impact evaluation in practice*. Second Edition. Washington, DC: Inter-American Development Bank and World Bank.

Ghosh, B. (2006) *Migrants' remittances and development: myths, rhetoric and realities*. Geneva, Switzerland: International Organization for Migration.

Giambra, S. and McKenzie, D. (2019) 'Self-Employment and Migration', *IZA* [Preprint], (12624). Available at: <https://www.iza.org/publications/dp/12624/self-employment-and-migration>.

Global Compact for Migration (2018) *Global Compact for Safe, Orderly, and Regular Migration*. Available at: https://refugeesmigrants.un.org/sites/default/files/180713_agreed_outcome_global_compact_for_migration.pdf.

Goldin, I. et al. (2018) *Migration and the Economy Economic Realities, Social Impacts & Political Choices*. Available at: <https://www.citivelocity.com/citigps/migration-and-the-economy/>.

de Haas, H. (2010) 'Migration and Development: A Theoretical Perspective', *International Migration Review*, 44(1), pp. 227–264. Available at: <https://doi.org/10.1111/j.1747-7379.2009.00804.x>.

de Haas, H. (2021) 'A theory of migration: the aspirations-capabilities framework', *Comparative Migration Studies*, 9(1), p. 8. Available at: <https://doi.org/10.1186/s40878-020-00210-4>.

Hiskey, J., Malone, M. and Orcés, D. (2014) *Violence and Migration in Central America*. 101. Vanderbilt University. Available at: <https://www.vanderbilt.edu/lapop/insights/IO901en.pdf>.

ILO (2022) *Global estimates of modern slavery forced labour and forced marriage*. Geneva: International Labour Office.

IMF (2015) *International Migration: Recent Trends, Economic Impacts, and Policy Implications*. Available at: <https://www.imf.org/external/np/g20/pdf/2015/111515background.pdf>.

IOM (2017) *Four Decades of Cross-Mediterranean Undocumented Migration to Europe A Review of the Evidence*. International Organization for Migration (. Available at: https://publications.iom.int/system/files/pdf/four_decades_of_cross_mediterranean.pdf.

IOM (2019) *Glossary on Migration*. Available at: https://publications.iom.int/system/files/pdf/iml_34_glossary.pdf.

IOM (2022) 'IOM's conceptual approach on drivers of migration and displacement'.

IOM (2023) *Missing Migrants Project, Missing Migrants*. Available at: <https://missingmigrants.iom.int/> (Accessed: 25 April 2023).

IOM (2021b) *IOM Regional Office for East and Horn of Africa - Annual Regional Overview*.

IOM (2021c) *Programme and Budget for 2022*. Available at: https://governingbodies.iom.int/system/files/en/council/112/C-112-6%20-%20Programme%20and%20Budget%20for%202022_0.pdf.

IOM (2022b) *World Migration Report*. Geneva: IOM. Available at: <https://publications.iom.int/books/world-migration-report-2022>.

IOM GMDAC (2021) *Migration drivers*. Available at: <https://www.migrationdataportal.org/themes/migration-drivers> (Accessed: 16 March 2023).

IOM GMDAC (2022) *Irregular Migration, Migration Data Portal*. Available at:

<https://www.migrationdataportal.org/themes/irregular-migration#recent-trends> (Accessed: 7 November 2022).

IZA World of labor (n.d.a) *Demographic and economic determinants of migration*. Available at: <https://wol.iza.org/articles/demographic-and-economic-determinants-of-migration/map> (Accessed: 25 November 2022).

IZA World of labor (n.d.b) *The Impact of Migration on Trade*. Available at: <https://wol.iza.org/articles/impact-of-migration-on-trade/map> (Accessed: 25 November 2022).

Kaczan, D.J. and Orgill-Meyer, J. (2020) 'The impact of climate change on migration: a synthesis of recent empirical insights', *Climatic Change*, 158(3–4), pp. 281–300. Available at: <https://doi.org/10.1007/s10584-019-02560-0>.

Khashu, A. (2010) 'Children in Transit: Results of Interviews with Central American Unaccompanied Minors Encountered in Mexico', *SSRN Electronic Journal* [Preprint]. Available at: <https://doi.org/10.2139/ssrn.1622374>.

Kleemans, M. (2015) 'Migration Choice under Risk and Liquidity Constraints'. Available at: <https://doi.org/10.22004/AG.ECON.200702>.

Klepp, S. (2017) 'Climate Change and Migration', in Klepp, S., *Oxford Research Encyclopedia of Climate Science*. Oxford University Press. Available at: <https://doi.org/10.1093/acrefore/9780190228620.013.42>.

Knoll, A. and Sheriff, A. (2017) *Making Waves: Implications of the Irregular Migration and Refugee Situation on Official Development Assistance Spending and Practices in Europe*. Expertgruppen för biståndsanalys (EBA). Available at: <https://www.oecd.org/derec/sweden/201701-ECDPM-rapport.pdf>.

Kugley, S. et al. (2017) 'Searching for studies: a guide to information retrieval for Campbell systematic reviews', *Campbell Systematic Reviews*, 13(1), pp. 1–73. Available at: <https://doi.org/10.4073/cmg.2016.1>.

Lewin, S. et al. (2009) 'SUPPORT Tools for evidence-informed health Policymaking (STP) 8: Deciding how much confidence to place in a systematic review', *Health Research Policy and Systems*, 7(S1), p. S8. Available at: <https://doi.org/10.1186/1478-4505-7-S1-S8>.

Loschmann, C., Kuschminder, K. and Siegel, M. (2014) *The root causes of movement: Exploring the determinants of Irregular Migration from Afghanistan*. Maastricht Graduate School of Governance (MGSoG) | UNU-MERIT. Available at: <https://www.homeaffairs.gov.au/research-and-stats/files/irregular-migration-afghanistan.pdf>.

Massey, D.S. et al. (1993) 'Theories of International Migration: A Review and Appraisal', *Population and Development Review*, 19(3). Available at: <https://www.jstor.org/stable/2938462>.

McKenzie, D. (2017) 'How Effective Are Active Labor Market Policies in Developing Countries? A Critical Review of Recent Evidence', *The World Bank Research Observer*, 32(2), pp. 127–154. Available at: <https://doi.org/10.1093/wbro/lkx001>.

McKenzie, D. and Gibson, J. (2010) *The development impact of a best practice seasonal worker policy*. The World Bank (Policy Research Working Papers). Available at: <https://doi.org/10.1596/1813-9450-5488>.

Miller, S.D. (2018) 'Assessing the Impacts of Hosting Refugees', (4).

Molina-Millan, T. *et al.* (2019) 'The Long-Term Impacts of Honduras' CCT Program: Higher Education and International Migration'. Available at: <http://dx.doi.org/10.18235/0001670>.

Mueller, V. *et al.* (2019) 'Do social protection programs foster short-term and long-term migration adaptation strategies?' Available at: <https://www.cambridge.org/core/journals/environment-and-development-economics/article/abs/do-social-protection-programs-foster-shortterm-and-longterm-migration-adaptation-strategies/D2FDBA236D3EBBDEAE4F30BA9B382513>.

Munshi, K. and Rosenzweig, M. (2016) 'Networks and Misallocation: Insurance, Migration, and the Rural-Urban Wage Gap', *American Economic Review*, 106(1), pp. 46–98. Available at: <https://doi.org/10.1257/aer.20131365>.

National Security Council, U. (2021) *U.S. Strategy for Addressing the Root Causes of Migration in Central America*. National security council. Available at: <https://www.whitehouse.gov/wp-content/uploads/2021/07/Root-Causes-Strategy.pdf>.

Obokata, R., Veronis, L. and McLeman, R. (2014) 'Empirical research on international environmental migration: a systematic review'. Available at: <https://pubmed.ncbi.nlm.nih.gov/25132701/>.

Office of Management and Budget (2022) 'Budget of the U.S. Government Fiscal Year 2023'. U.S. Government Publishing Office. Available at: https://www.whitehouse.gov/wp-content/uploads/2022/03/budget_fy2023.pdf.

Pagogna, R. and Sakdapolrak, P. (2021) 'Disciplining migration aspirations through migration-information campaigns: A systematic review of the literature'. Available at: <https://compass.onlinelibrary.wiley.com/doi/epdf/10.1111/gec3.12585>.

Perch-Nielsen, S.L., Bättig, M.B. and Imboden, D. (2008) 'Exploring the link between climate change and migration', *Climatic Change*, 91(3–4), pp. 375–393. Available at: <https://doi.org/10.1007/s10584-008-9416-y>.

Piore, M.J. (1979) *Birds of Passage: Migrant Labor and Industrial Societies*. 1st edn. Cambridge University Press. Available at: <https://doi.org/10.1017/CBO9780511572210>.

Pitoski, D., Lampoltshammer, T.J. and Parycek, P. (2021) 'Drivers of Human Migration: A Review of Scientific Evidence'. Available at: <https://www.mdpi.com/2076-0760/10/1/21>.

Reeves, B.C., Wells, G.A. and Waddington, H. (2017) 'Quasi-experimental study designs series-paper 5: a checklist for classifying studies evaluating the effects on health interventions-a taxonomy without labels', *Journal of Clinical Epidemiology*, 89, pp. 30–42. Available at: <https://doi.org/10.1016/j.jclinepi.2017.02.016>.

Rose, S. *et al.* (2021) *Addressing the “Root Causes” of Irregular Migration from Central America: An Evidence Agenda for USAID*. 243. Centre for Global Development. Available at: <https://www.cgdev.org/publication/addressing-root-causes-irregular-migration-central-america-evidence-agenda-usaid>.

Shemilt, I. *et al.* (2016) 'Use of cost-effectiveness analysis to compare the efficiency of study identification methods in systematic reviews', *Systematic Reviews*, 5(1), p. 140. Available at: <https://doi.org/10.1186/s13643-016-0315-4>.

Snistveit, B. et al. (2016) 'Evidence & Gap Maps: A tool for promoting evidence informed policy and strategic research agendas', *Journal of clinical epidemiology*, 79, pp. 120–129. Available at: <https://doi.org/10.1016/j.jclinepi.2016.05.015>.

Snistveit, B. et al. (2017) *3ie evidence gap maps: a starting point for strategic evidence production and use*. New Delhi: International Initiative for Impact Evaluation (3ie).

Soto, A.G.R. (2021) 'Charting a New Regional Course of Action: The Complex Motivations and Costs of Central American Migration'.

Stecklov, G. et al. (2005) 'Do Conditional Cash Transfers Influence Migration? A Study Using Experimental Data from the Mexican Progresa Program', 42(4). Available at: <https://www.jstor.org/stable/4147339>.

Thomas, J. et al. (2022) 'EPPI-Reviewer: Advanced software for systematic reviews'. EPPI-Centre, UCL Social Research Institute, University College London.

Tjaden, J. and Dunsch, F.A. (2021) 'The effect of peer-to-peer risk information on potential migrants – Evidence from a randomized controlled trial in Senegal', *World Development* [Preprint], (145).

Tjaden, J. and Gninafon, H. (2022) 'Raising Awareness About the Risk of Irregular Migration: Quasi-Experimental Evidence from Guinea'. Available at: <https://onlinelibrary.wiley.com/doi/full/10.1111/padr.12468>.

Tjaden, J., Morgenstern, S. and Laczko, F. (2018) 'Evaluating the impact of information campaigns in the field of migration: A systematic review of the evidence, and practical guidance', *IOM's Global Migration Data Analysis Centre* [Preprint], (1). Available at: https://gmdac.iom.int/sites/g/files/tmzbd1416/files/documents/evaluating_the_impact.pdf.

Triandafyllidou, A., Bartolini, L. and Guidi, C.F. (2019) *Exploring the links between enhancing regular pathways and discouraging irregular migration: a discussion paper to inform future policy deliberations*.

UN (2018) *Global Compact on Refugees*. New York. Available at: <https://www.unhcr.org/5c658aed4.pdf>.

UN ESCAP (2020) *Asia-Pacific Migration Report 2020*. United Nations, p. 230. Available at: https://www.unescap.org/sites/default/files/APMR2020_FullReport.pdf.

UNHCR (2022a) *Budget and Expenditure, Global Focus*. Available at: <http://reporting.unhcr.org/financial> (Accessed: 4 November 2022).

UNHCR (2021b) *Global Trends Report 2021*. The UN Refugee agency. Available at: <https://www.unhcr.org/publications/brochures/62a9d1494/global-trends-report-2021.html> (Accessed: 13 December 2022).

UNHCR n.d. (no date) *Refugee host countries by income level*, *UNHCR Refugee Statistics*. Available at: <https://www.unhcr.org/refugee-statistics/insights/explainers/refugee-host-countries-income-level.html> (Accessed: 20 December 2022).

United Nations Office on Drugs and Crime (2021) *COVID 19 and the Smuggling of Migrants*. United Nation Office on Drugs and Crime. Available at: https://www.unodc.org/documents/human-trafficking/SOM_and_COVID-19_Publication_final_EN_final.pdf.

United Nations Office on Drugs and Crime (UNCOD) (ed.) (2010) *The globalization of crime: a transnational organized crime threat assessment*. Vienna: UNODC.

UNSD (2022) 'Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development'. Available at: https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202022%20refinement_Eng.pdf.

Vutha, H., Pide, L. and Dalis, P. (2011) 'Irregular Migration from Cambodia: Characteristics, Challenges, and Regulatory Approach', (2011–26). Available at: <https://www.econstor.eu/handle/10419/126861>.

Waddington, H. *et al.* (2012) 'How to do a good systematic review of effects in international development: a tool kit', *Journal of Development Effectiveness*, 4(3), pp. 359–387. Available at: <https://doi.org/10.1080/19439342.2012.711765>.

Wallerstein, I.M. (1974) 'Immanuel Wallerstein. The Modern World-System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century. (Studies in Social Discontinuity.) New York: Academic Press. 1974. Pp. xiv, 410. \$16.50', *New York: Academic Press* [Preprint].

Yayboke, E.K. and Gallego, C.G. (2019) *Out of the Shadows Shining a Light on Irregular Migration*. CSIS Project on Prosperity and Development. Available at: <https://reliefweb.int/report/world/out-shadows-shining-light-irregular-migration>.

Appendix A: Search strategy

Complete list of organizations websites searched for grey literature.

Website name	Link
Migration related organizations	
CALP Network	https://www.calpnetwork.org/library/
Center for Global Development	https://www.cgdev.org/section/publications
Center for Migration studies	https://cmsny.org/research-and-policy/
CIGAR	https://www.cgiar.org/research/publications/
European Commission/ DG DEVCO Academy/Resources/Migration	https://webgate.ec.europa.eu/devco-academy/
European Commission/ DG DEVCO Capacity4Development- subpages 'groups', 'topics'	https://europa.eu/capacity4dev/
Foreign Commonwealth & Development Department (FCDO), United Kingdom/R4D Research for Development Outputs	https://www.gov.uk/research-for-development-outputs?keywords=migration&research_document_type%5B%5D=evaluation_report&research_document_type%5B%5D=protocol&research_document_type%5B%5D=research_paper&research_document_type%5B%5D=systematic_review&research_document_type%5B%5D=working_paper
Food and Agriculture Organization of the United Nations (FAO)	https://www.fao.org/publications/en/
Global Forum on Migration & Development	http://www.gfmd.org/
Global Labor Organization	https://glabor.org/
Health in Humanitarian Crises Centre, LSHTM	https://www.lshtm.ac.uk/research/centres/health-humanitarian-crises-centre/publications
INEE	https://inee.org/collections/evidence
Institute for Development Studies	https://opendocs.ids.ac.uk/opendocs
International Centre for Migration Policy Development (ICMPD)	https://www.icmpd.org/publications
Internal Displacement Monitoring Centre (IDMC)	https://www.internaldisplacement.org/
International Development Research Centre (IDRC)	https://www.idrc.ca/en
International Federation of Red Cross and Red Crescent Societies	https://www.ifrc.org/evaluations
International Food Policy Research Institute	https://www.ifpri.org/publications/search
International Livestock Research Institute (ILRI)	https://www.ilri.org/publications
International Labour Organisation (ILO)/MIGRANT	https://www.ilo.org/global/topics/labourmigration/lang--en/index.htm

International Labour Organisation (ILO)/RESEARCH	https://www.ilo.org/global/research/publications/lang--en/index.htm
IOM UN Migration - Publications platform	https://publications.iom.int/
International Organisation for Migration/ Displacement tracking matrix portal	https://migration.iom.int/ dtm-portals
IOM - Environmental migration portal	https://environmentalmigration.iom.int/meclep-highlights
IOM - gender and migration	https://www.iom.int/gender-and-migration
IOM - Global migration data analysis centre	https://gmdac.iom.int/search?keywords=&type%5B0%5D=resources&type%5B1%5D=resources&region_country=&created=All
IOM Global Migration Data Analysis Centre (GMDAC) - Document exploring cross-linkages with trade:	https://migrationdataportal.org/themes/migration-and-trade
IOM Global Migration Data Analysis Centre (GMDAC) - Migration Data Portal:	https://gmdac.iom.int/migration-data-portal
IOM Global Migration Data Analysis Centre (GMDAC) - Migration Governance Data:	https://gmdac.iom.int/migration-governance-indicators
IOM Global Migration Data Analysis Centre (GMDAC) - Migration Governance Profile:	https://migrationdataportal.org/overviews/mgi#0
IOM Global Migration Data Analysis Centre (GMDAC) - Data innovation directory DID	https://www.migrationdataportal.org/data-innovation
IOM/ iDiaspora	https://idiaspora.org/
IOM/ Return and reintegration platform	https://returnandreintegration.iom.int/en
IOM/M4D	http://www.migration4development.org/en
IRC	https://www.rescue.org/reports-and-resources
IZA World of Labour	https://wol.iza.org/subject-areas/program-evaluation
Joint Data Center on Forced Displacement Literature Review Database	https://www.jointdatacenter.org/jdc-literature-review/
Livestock Emergency Guidelines and Standards (LEGS)	https://www.livestock-emergency.net/general-resources-legs-specific/
Maastricht Centre for Citizenship, Migration and Development(MACIMIDE)	https://macimide.maastrichtuniversity.nl/publications/
MIDEQ: site which plans to host studies in near future on what works to harness t	https://www.mideq.org/en/about-us/
MIGNEX	https://www.mignex.org/publications
Migration Policy Institute (MPI)	https://www.migrationpolicy.org/
Migrating Out of Poverty (MOOP), University of Sussex	http://www.migratingoutofpoverty.org/publications
Migration Observatory	https://migrationobservatory.ox.ac.uk/resources/
OECD/DAC Evaluation Resource Centre (DEReC)	http://www.oecd.org/derec/home/?hf=5&b=0&s=score
OECD iLibrary	https://www.oecd-ilibrary.org/
REACH Resource Centre	https://www.reachresourcecentre.info/search/
SEADS	https://seads-standards.org/about/

Swedish International Development Cooperation Agency (SIDA)	https://www.sida.se/en/publications
Support Kind	https://supportkind.org/resources/
Swedish International Development Cooperation Agency (SIDA)	https://www.sida.se/English/publications/publication-search/
Swiss Development Cooperation (SDC), Switzerland	https://www.eda.admin.ch/deza/en/home/publications-services/publications.html
u4 – Anti-Corruption resource centre	https://www.u4.no/
UN Department of Economic and Social Affairs (UNDESA) - International migrant stock data:	https://www.un.org/en/development/desa/population/migration/data/estimates2/estimates19.asp
UN High Commissioner for Human Rights	https://www.ohchr.org/Documents/Publications/MigrationH_R_and_Governance_HR_PUB_15_3_EN.pdf
UN High Commissioner for Refugees	https://www.unhcr.org/uk/evaluation-and-research.html
UN OCHA	https://www.unocha.org/research-and-reports
UNDP Evaluation Resource Centre:	https://erc.undp.org/
UNESCO	https://en.unesco.org/gem-report/report/2019/migration
UNHCR	https://www.unhcr.org/evaluation-office
UNHCR Microdata Library	https://microdata.unhcr.org/index.php/home
UNHCR Ref World	https://www.refworld.org/
UNICEF/ Office of Research-Innocenti/Evidence Synthesis and Knowledge Management	https://www.unicef-irc.org/
United Nations Food and Agriculture Organisation (FAO)	http://www.fao.org/3/a-i6064e.pdf
University of Oxford / COMPAS Centre on Migration, Policy, and Society	https://www.compas.ox.ac.uk/publications/
WOLA- Advocacy for human rights in the Americas	https://www.wola.org/?s=evaluation
World Health Organisation Europe	https://www.euro.who.int/en/health-topics/health-determinants/knowledge-hub-on-health-and-migration/knowledge-library?category_code=354706
Other international development organizations and related websites:	
Abdul Latif Jameel Poverty Action Lab (J-Pal)	https://www.povertyactionlab.org/evaluations
AEA RCT Registry protocols	https://www.socialscienceregistry.org
African Development Bank (AfDB)	https://www.afdb.org/en/documents/evaluation-reports
ANLEP	https://www.alnap.org/help-library/evaluation-map
Asian Development Bank (ADB)	https://www.adb.org/publications
British Library for Development Studies	https://guides.lib.sussex.ac.uk/c.php?g=655545&p=4613793
Campbell Collaboration Evidence Portal	https://www.campbellcollaboration.org/better-evidence.html

Centre for Effective Global Action (CEGA)	https://cega.berkeley.edu/our-research/
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	https://mia.giz.de/esearcha/browse.tt.html
Education Cannot Wait	https://www.educationcannotwait.org/downloads/reports- and-publications/
ELDIS	https://www.eldis.org/search?theme=C205
ELRHA	https://www.elrha.org/programme/research-for-health-in-humanitarian-crises/
Emergency Nutrition Network (ENN)	https://www.ennonline.net/resources
EU Publications	https://op.europa.eu/en/web/general-publications/publications
European Commission	https://ec.europa.eu/info/publications_en
German Institute for Development Evaluation (DEval)	https://www.deval.org/en/evaluations/our-evaluations
Innovations for Poverty Action (IPA)	https://www.poverty-action.org/search-studies
Inter-American Development Bank (IDB)	https://publications.iadb.org/en/publications
International Initiative for Impact Evaluation (3ie)	https://developmentevidence.3ieimpact.org/
International Monetary Fund (IMF)	https://www.elibrary.imf.org/
Mercy Corps - report SUBSIST OR PERSIST? Assessing Drivers of Migration and Effects of Foreign Assistance Programs on Migration from the Northern Triangle	https://www.mercycorps.org/sites/default/files/2019-11/Subsist_or_Persist_Full_Report.pdf
Mercy Corps	https://www.mercycorps.org/research-resources
National Bureau of Economic Research (NBER) – Working Papers	https://www.nber.org/
ODI	https://odi.org/en/publications/
Oxfam International	https://policy-practice.oxfam.org.uk/publications
Registry for International Development Impact Evaluations	https://ridie.3ieimpact.org/
Social Science Research Network	https://www.ssrn.com/index.cfm/en/
UN DAC resource centre	https://resourcecenter.undac.org/
United Nations Evaluation Group	http://www.uneval.org/evaluation/reports
USAID, United States –Development Experience Clearing House	https://www.usaid.gov/results-and-data/information-resources/development-experienceclearinghouse-dec
World Food Programme	https://www.wfp.org/publications
World Vision	http://www.wvi.org/resources

Academic database search strategy to be included.

Appendix B: Data extraction template

Code	Subcode
Study Information	Study EPPI internal ID
	Coder name
	Title name
	Foreign Title
	Short title
	Language
Author Information	Author Name
	Author Affiliation Institution
	Author Affiliation Country
Publication Information	Publication Type
	DOI
	Study status
	Abstract
	Keywords
	Journal name
	Other journal name
	Journal volume
	Journal issue
	Pages
	Year of Publication
	URL
	Publisher location
	Open access
Sector Information	Sector name
	Sub-sector name
	DAC rank
	Primary DAC Code
	Secondary DAC Code
	CRS-Voluntary (tertiary) Code
	SDGs
	World Bank (WB) first theme
	WB first sub-theme
	WB second theme
	WB second sub-theme
	WB third theme
	WB third sub-theme
	Other topics
	Equity focus
	Equity dimension
	Equity description
Geographic Information	First year of intervention

Code	Subcode
	Continent name
	Country name
	Additional country
	Country income level
	Region name
	State/province name
	District name
	City/town name
	Location name
Target population and cost data	Age
	Sex
	Setting
	Sexual orientation
	Specific population group
	Cost data
	Type of cost data
Methodological information	Evaluation Design
	Evaluation Method
	Mixed Method
	Additional quantitative Methods
	Unit of Observation
Program, Funding, and Implementation Information	Project Name
	Implementation Agency Category
	Implementation Agency Name
	Program Funding Agency Category
	Program Funding Agency Name
	Research Funding Agency Category
	Research Funding Agency Name
Intervention Information	Treatment group/Arm 1
	Treatment group/Arm 1 Description
	Intervention group/Arm 2
	Treatment group/Arm 2 Description
	Create 3 different treatment options in case there is more than one intervention group.
Outcome Information	Outcome
	Outcome description

Appendix C: Critical appraisal tool

Question	Criteria
Section A: Methods used to identify, include, and critically appraise studies	
A.1 Were the criteria used for deciding which studies to include in the review reported? Did the authors specify: <ul style="list-style-type: none">• Types of studies• Participants/ settings/ population• Intervention(s)• Outcome(s)	Yes; partially; no; can't tell Coding guide - check the answers above YES: All four should be yes NO: All four should be no PARTIALLY: Any other
A.2 Was the search for evidence reasonably comprehensive? Were the following done: <ul style="list-style-type: none">• Language bias avoided (no restriction of inclusion based on language)• No restriction of inclusion based on publication status• Relevant databases searched (<u>Minimum criteria</u>: All reviews should search at least one source of grey literature such as Google; for health: Medline/ PubMed + Cochrane Library; for social sciences IDEAS + at least one database of general social science literature and one subject specific database)• Reference lists in included articles checked• Authors/experts contacted	Yes; partially; no; can't tell Coding guide - check the answers above: YES: All five should be yes PARTIALLY: Relevant databases and reference lists are both reported NO: Any other
A.3 Does the review cover an appropriate time period? Is the search period comprehensive enough that relevant literature is unlikely to be omitted?	Yes; can't tell (only use if no information about time period for search); no; unsure Coding guide: YES: Generally, this means searching the literature at least back to 1990 NO: Generally, if the search does not go back to 1990 CAN'T TELL: No information about time period for search Note: With reference to the above – there may be important reasons for adopting different dates for the search, e.g. depending on the intervention. If you think there are limitations with the timeframe adopted for the search which have not been noted and justified by the authors, you should code this item as a NO and specify your reason for doing so in the comment box below. Older reviews should not be downgraded, but the fact that the search was conducted some time ago should be noted in the quality assessment. Always report the time period for the search in the comment box.

Question	Criteria
A.4 Was bias in the selection of articles avoided? Did the authors specify: <ul style="list-style-type: none"> Independent screening of full text by at least 2 reviewers List of included studies provided List of excluded studies provided 	Yes; partially; no Coding guide: YES: All three should be yes, although reviews published in journals are unlikely to have a list of excluded studies (due to limits on word count) and the review should not be penalized for this. PARTIALLY: Independent screening and list of included studies provided are both reported NO: All other. If list of included studies provided, but the authors do not report whether or not the screening has been done by 2 reviewers review is downgraded to NO.
A.5 Did the authors use appropriate criteria to assess the quality and risk of bias in analyzing the studies that are included? <ul style="list-style-type: none"> The criteria used for assessing the quality/ risk of bias were reported A table or summary of the assessment of each included study for each criterion was reported Sensible criteria were used that focus on the quality/ risk of bias (and not other qualities of the studies, such as precision or applicability/external validity). "Sensible" is defined as a recognized quality appraisal tool/ checklist, or similar tool which assesses bias in included studies. Please see footnotes for details of the main types of bias such a tool should assess. 	Yes; partially; no Coding guide: YES: All three should be yes PARTIALLY: The first and third criteria should be reported. If the authors report the criteria for assessing risk of bias and report a summary of this assessment for each criterion, but the criteria may be only partially sensible (e.g. do not address all possible risks of bias, but do address some), we downgrade to PARTIALLY. NO: Any other
A.6 Overall – how much confidence do you have in the methods used to identify, include, and critically appraise studies? Summary assessment score A relates to the 5 questions above. High confidence applicable when the answers to the questions in section A are all assessed as 'yes' Low confidence applicable when any of the following are assessed as 'NO' above: not reporting explicit selection criteria (A1), not conducting reasonably comprehensive search (A2), not avoiding bias in selection of articles (A4), not assessing the risk of bias in included studies (A5) Medium confidence applicable for any other – i.e. section A3 is assessed as 'NO' or can't tell and remaining sections are assessed as 'partially' or 'can't tell'	Low confidence (limitations are important enough that the results of the review are not reliable) Medium confidence (limitations are important enough that it would be worthwhile to search for another systematic review and to interpret the results of this review cautiously, if a better review cannot be found) High confidence (only minor limitations)
Section B: Methods used to analyze the findings	
B.1 Were the characteristics and results of the included studies reliably reported? Was there: <ul style="list-style-type: none"> Independent data extraction by at least 2 reviewers A table or summary of the characteristics of the participants, interventions, and outcomes for the included studies A table or summary of the results of all the included studies 	Yes; no; partially; not applicable (e.g. no included studies) Coding guide: YES: All three should be yes PARTIALLY: Criteria one and three are yes, but some information is lacking on second criteria. No: None of these are reported. If the review does not report whether data was independently extracted by 2 reviewers (possibly a reporting error), we downgrade to NO. NOT APPLICABLE: if no studies/no data

Question	Criteria
<p>B.2 Are the methods used by the review authors to analyze the findings of the included studies clear, including methods for calculating effect sizes if applicable?</p>	<p>Yes; partially; no; not applicable Coding guide: YES: Methods used clearly reported. If it is clear that the authors use narrative synthesis, they don't need to say this explicitly. PARTIALLY: Some reporting on methods but lack of clarity NO: Nothing reported on methods NOT APPLICABLE: if no studies/no data</p>
<p>B.3 Did the review describe the extent of heterogeneity? Did the review ensure that included studies were similar enough that it made sense to combine them, sensibly divide the included studies into homogeneous groups, or sensibly conclude that it did not make sense to combine or group the included studies? Did the review discuss the extent to which there were important differences in the results of the included studies? If a meta-analysis was done, was the I^2, chi square test for heterogeneity or other appropriate statistic reported? If no statistical test was reported, is a qualitative justification made for the use of random effects?</p>	<p>Yes; partially; no; not applicable Coding guide: YES: First two should be yes, and third category should be yes if applicable should be yes PARTIALLY: The first category is yes NO: Any other NOT APPLICABLE: if no studies/no data</p>
<p>B.4 Were the findings of the relevant studies combined (or not combined) appropriately relative to the primary question the review addresses and the available data? How was the data analysis done? <ul style="list-style-type: none"> • Descriptive only • Vote counting based on direction of effect • Vote counting based on statistical significance • Description of range of effect sizes • Meta-analysis • Meta-regression • Other: specify • Not applicable (e.g. no studies or no data) How were the studies weighed in the analysis? <ul style="list-style-type: none"> • Equal weights (this is what is done when vote counting is used) • By quality or study design (this is rarely done) • Inverse variance (this is what is typically done in a meta-analysis) • Number of participants (sample size) • Other: specify • Not clear • Not applicable (e.g. no studies or no data) Did the review address unit of analysis errors? <ul style="list-style-type: none"> • Yes - took clustering into account in the analysis (e.g. used intra-cluster correlation coefficient) • No, but acknowledged problem of unit of analysis errors • No mention of issue • Not applicable - no clustered trials or studies included </p>	<p>Yes; partially; no; not applicable (e.g. no studies or no data); can't tell. Coding guide: YES: If appropriate table, graph or meta-analysis AND appropriate weights AND unit of analysis errors addressed (if appropriate). PARTIALLY: If appropriate table, graph or meta-analysis AND appropriate weights AND unit of analysis errors not addressed (and should have been). NO: If narrative OR vote counting (where quantitative analyses would have been possible) OR inappropriate reporting of table, graph, or meta-analyses. NOT APPLICABLE: if no studies/no data CAN'T TELL: if unsure (note reasons in comments below)</p>

Question	Criteria
<p>B.5 Does the review report evidence appropriately?</p> <p>The review makes clear which evidence is subject to low risk of bias in assessing causality (attribution of outcomes to intervention), and which is likely to be biased, and does so appropriately</p> <p>Where studies of differing risk of bias are included, results are reported and analyzed separately by risk of bias status</p>	<p>Yes; partially; no; not applicable</p> <p>Coding guide:</p> <p>YES: Both criteria should be fulfilled (where applicable)</p> <p>NO: Criteria not fulfilled</p> <p>PARTIALLY: Only one criterion fulfilled, or when there is limited reporting of quality appraisal (the latter applies only when inclusion criteria for study design are appropriate)</p> <p>NOT APPLICABLE: No included studies</p> <p>Note on reporting evidence and risk of bias: For reviews of effects of 'large n' interventions, experimental and quasi-experimental designs should be included (if available). For reviews of effects of 'small n' interventions, designs appropriate to attribute changes to the intervention should be included (e.g. pre-post with assessment of confounders)</p>
<p>B.6 Did the review examine the extent to which specific factors might explain differences in the results of the included studies?</p> <p>Were factors that the review authors considered as likely explanatory factors clearly described?</p> <p>Was a sensible method used to explore the extent to which key factors explained heterogeneity?</p> <ul style="list-style-type: none"> • Descriptive/textual • Graphical • Meta-analysis by sub-groups • Meta-regression • Other 	<p>Yes; partially; no; not applicable</p> <p>Coding guide:</p> <p>YES: Explanatory factors clearly described and appropriate methods used to explore heterogeneity</p> <p>PARTIALLY: Explanatory factors described but for meta-analyses, sub-group analysis or meta-regression not reported (when they should have been)</p> <p>NO: No description or analysis of likely explanatory factors</p> <p>NOT APPLICABLE: e.g. too few studies, no important differences in the results of the included studies, or the included studies were so dissimilar that it would not make sense to explore the heterogeneity of the results</p>
<p>B.7 Overall - how much confidence do you have in the methods used to analyze the findings relative to the primary question addressed in the review?</p> <p>Summary assessment score B relates to the 5 questions in this section, regarding the analysis.</p> <p>High confidence applicable when all the answers to the questions in section B are assessed as 'yes.'</p> <p>Low confidence applicable when any of the following are assessed as 'NO' above: critical characteristics of the included studies not reported (B1), not describing the extent of heterogeneity (B3), combining results inappropriately (B4), reporting evidence inappropriately (B5).</p> <p>Medium confidence applicable for any other: i.e. the "Partial" option is used for any of the 6 preceding questions or questions and/or B.2 and/ or B.6 are assessed as 'no'.</p>	<p>Low confidence (limitations are important enough that the results of the review are not reliable)</p> <p>Medium confidence (limitations are important enough that it would be worthwhile to search for another systematic review and to interpret the results of this review cautiously, if a better review cannot be found)</p> <p>High confidence (only minor limitations)</p>

Question	Criteria
Section C: Overall assessment of the reliability of the review	
C.1 Are there any other aspects of the review not mentioned before which led you to question the results?	<ul style="list-style-type: none"> Additional methodological concerns – only one person reviewing Robustness Interpretation Conflicts of interest (of the review authors or for included studies) Other No other quality issues identified
C.2 Are there any mitigating factors which should be considered in determining the review's reliability?	<ul style="list-style-type: none"> Limitations acknowledged No strong policy conclusions drawn (including in abstract/ summary) Any other factors
C.3 Based on the above assessments of the methods how would you rate the reliability of the review?	
<p><u>Low confidence in conclusions about effects:</u> <u>Medium confidence in conclusions about effects:</u> The systematic review has the following limitations... <u>High confidence in conclusions about effects:</u> If applicable: The review has the following minor limitations... Coding guide: High confidence in conclusions about effects: high confidence noted overall for sections A and B, unless moderated by answer to C1. Medium confidence in conclusions about effects: medium confidence noted overall for sections A or B, unless moderated by answer to C1 or C2. Low confidence in conclusions about effects: low confidence noted overall for sections A or B, unless moderated by answer to C1 or C2. Limitations should be summarized above, based on what was noted in Sections A, B and C.</p>	

Appendix D: EGM Advisory Group

3ie convened an advisory group of experts from policy, practice, and academia. Meetings were held during December 2022. Membership includes:

- Alan Hirsch, University of Cape Town – Nelson Mandela School of Public Governance
- Anjini Mishra, International Rescue Committee
- Beza Tesfaye, Mercy Corps Research and Learning – Migration and Climate Change
- Brianna Nichols, University of Pennsylvania
- David Mckenzie, World Bank – Development Research Group
- Domenico Tabasso, United Nations High Commissioner for Refugees – Joint Data Center on Forced Displacement
- Jose Lopez, United States Agency for International Development
- Marina Manke, International Organization for Migration – Global Migration Data Analysis Center

Terms of reference for an EGM advisory group

Evidence Synthesis for Addressing Root Causes of Irregular Migration

Terms of Reference Advisory Group Member

Background

The International Organization for Migration (IOM)-Guatemala and the International Initiative for Impact Evaluation (3ie) are undertaking a research project to 1) identify and map the evidence base of studies evaluating the effectiveness of “root cause” interventions for addressing irregular migration; and 2) to synthesize evidence to answer priority questions about programmatic effectiveness. This research will directly inform programmatic priorities by highlighting where evidence exists and/or where more may be needed to understand the impacts of under-evaluated interventions. The outputs of this project are an evidence gap map (EGM) and a rapid evidence review.

The IOM and 3ie are seeking Advisory Group members to provide inputs at defining stages of the research process and to ensure that outputs are policy relevant and meet the needs of the global community. Advisory groups are comprised of policymakers, practitioners, researchers, or stakeholders with knowledge of the policy and/or evidence landscape.

Terms and responsibilities

Participation in this Advisory Group is on a voluntary basis and uncompensated. Advisory Group members will receive acknowledgement in the written research outputs. The total time commitment is not likely to exceed 3-4 days over the project’s implementation period, November 2022-October 2023.

Advisory Group members may be asked to participate in the following ways:

- Advise on key decisions regarding the scope of the evidence gap map and rapid evidence review, including refining the intervention and outcome framework.
- Define key concepts.
- Suggest relevant background literature and studies for inclusion .
- Participate in up to 5 virtual meetings for the duration of the project (e.g., scoping stage; draft protocol; presentations of the results and draft reports).
- Provide written comments on draft protocols and reports.
- Help the team draw policy implications from the evidence gap map. This may involve participating in a brainstorming/focus group session to review lessons and implications.
- Assist the research team with policy engagement or dissemination. This may include suggesting key stakeholders who the team should engage with throughout the process, participating in dissemination events, and/or assisting with publicizing research outputs.

Template shared with the Advisory Group to collect feedback on draft Intervention/Outcome Framework

Background

Thank you for attending the first meeting of the Advisory Group for the 3ie and IOM research project on *Addressing the Root causes of Irregular Migration*. Your inputs will help us strengthen the relevance, utility, and validity of the two studies produced by this project (the evidence gap map and targeted evidence synthesis study). We are currently in the scope setting phase of the project and will use your inputs to strategically answer the following questions. **We kindly request all feedback by December 9th.**

Interventions

1. What are the priority "root causes" and policy salient interventions that we should focus our evidence mapping efforts? **(Complete the right column)**

For your high assessments, please indicate an ordinal ranking of your top 6 choices of thematic interventions. Please also indicate Medium and Low rankings. If there are other root causes and drivers that we have not included but should consider, indicate in the last row.

We encourage you to consider these factors: relevance to global or Guatemalan contexts, distal v. proximal linkages between addressing the root cause and expected effect on migration decision-making, policy salient interventions.

Root cause of irregular migration (USG Pillars & CGD driver)	Intervention Domains	US Strategy language	Ordinal ranking of top 6 high priority, indication of other high, medium, and low
Economic Insecurity and Inequality	Foster a Business Enabling Environment and Inclusive Economic Growth	Implement reforms to address structural impediments to growth, streamline and digitalize business registration and operations processes, offer legal certainty, reduce opportunities for corruption, enforce labor and environmental rules, combat insecurity and extortion, and level the playing field for international businesses.	
	Enhance workforce development, health, and education	Governments are able to effectively manage the COVID-19 response and prepare for the potential of future pandemics,	

Root cause of irregular migration (USG Pillars & CGD driver)	Intervention Domains	US Strategy language	Ordinal ranking of top 6 priority, indication of other high, medium, and low
	Build Resilience to Address Climate Change and Food Insecurity	Governments target investments so they are better able to mitigate the impact of severe weather events, including flooding and drought. Agriculture, including fisheries and aquaculture, is developed toward higher levels of climate resilience, leading to affordable and available food that can be utilized for a healthy diet, contributing to greater food security.	
	Enhance and diversify trade	Customs and border systems are more efficient and less subject to malfeasance, there is increased alignment and reduced redundancy of regulations across the region, and infrastructure projects better facilitate trade. Enhance and diversify trade to include new export sectors, including those that reinforce U.S. supply chain needs.	
Corruption, Weak Governance and the Rule of Law	Strengthen Democratic Institutions Improve Governance Rule of Law	Governments enact and implement legislative reforms towards transparent to and participatory policy making and electoral processes, including broad civic engagement. Oversight is instituted at all levels of government.	
	Combat Corruption	Governments are freed from entrenched networks of corruption and impunity. They develop and strengthen independent and transparent systems to eliminate conflicts of interest, including in selection of judges and other government personnel.	
	Improve Government Service Delivery	Governments improve capacity to raise and manage public resources, initiate reforms to improve fiscal and operational transparency, and provide services to all citizens.	
Gaps in human	Enhance Respect for Human Rights	Governments prevent, reduce, and mitigate risk factors and reduce human rights violations. Civil society organizations and a robust free press hold government actors accountable. At-risk populations have national and international resources, including U.S. government support and advocacy.	

Root cause of irregular migration (USG Pillars & CGD driver)	Intervention Domains	US Strategy language	Ordinal ranking of top 6 high priority, indication of other high, medium, and low
and labor rights	Enhance Respect for Labor Rights	Governments ensure labor laws are enforced as required by CAFTA-DR, with a particular emphasis on freedom of association and the right to organize and bargain collectively, addressing child labor and forced labor, and promoting decent work in safe, healthy, and inclusive workplaces free from discrimination.	
Violence, extortion, and other crimes perpetrated by criminal gangs, trafficking networks, and other organized criminal organizations	Professionalize security forces	Governments support the development of accountable security forces that earn the respect of the citizens they serve. This includes adopting budgets for security forces that enable them to be sufficiently staffed, trained, equipped, and compensated, and have internal oversight to strengthen accountability. Governments establish legal limitations on the use of militaries in civilian policing and implement plans for the removal of militaries from civilian policing.	
	Counter Organized Crime	Security forces counter organized crime and using place-based strategies, disrupt and dismantle transnational criminal organizations and other criminal actors in key corridors to improve citizen security.	
	Build Safe Communities through Violence Prevention and Intervention	Governments make legal and policy reforms in violence prevention, support rehabilitation and re-insertion into society of former gang members and individuals previously incarcerated, and provide protection to at-risk youth and victims of violence, and other marginalized populations, including prevention of human trafficking.	
Inaccessibility of legal migrations pathways	Decrease barriers to legal pathways	N/A	
Root cause/Driver not currently listed (please add):			

2. Is there any additional information you'd like to provide about your rankings or that we should consider during the prioritization process?

3. Review the Intervention tab of the draft I/O framework [here](#). For your 6 high priorities, have we comprehensively captured the type of intervention activities, policies, and programs that are relevant to the intervention domain? See Column I for our additional follow up questions.

If activities are not comprehensive, please indicate which activities are missing from each domain. For activities that you think have been missed, please specify policies, programs, and/or projects that you have come across in your work that will help us understand more about your suggestion. We will review your suggestions for overlap against other sections of the framework.

Outcomes:

4. Review the outcomes tab of the draft I/O framework [here](#). Are there any key outcomes related to irregular migration that we have missed?

Gray literature sources:

5. Which websites, repositories, resources, stakeholders, and/or studies should we include in our search strategy to ensure we are not missing relevant gray literature evidence?

Other comments:

6. Do you have other comments, questions, or suggestions that you would like to share to share with the IOM and 3ie?

Appendix E: Screening codes

Title and abstract screening codes

- EXCLUDE – On year (before 1990)
- EXCLUDE – No intervention.
- EXCLUDE – Lab/efficacy.
- EXCLUDE – Not a quantitative effectiveness study.
- EXCLUDE – High-income country.
- EXCLUDE – No comparison group.
- EXCLUDE – Not a systematic review.
- EXCLUDE – Intervention not relevant.
- EXCLUDE – duplicate (indicate ID of duplicates in notes)
- INCLUDE – IE or SR
- INCLUDE – IE or SR
- INCLUDE – with language marker.
- NOT SCREENED with language marker
- UNSURE – Efficacy
- UNSURE – Topic
- UNSURE – General

Full text screening codes

- MARKER – Exclude on TA
- EXCLUDE – No intervention.
- EXCLUDE – Lab/efficacy.
- EXCLUDE – Cost analysis only.
- EXCLUDE – Not a quantitative effectiveness study.
- EXCLUDE – High-income country.
- EXCLUDE – No valid causal inference.
- EXCLUDE – Insufficient clusters.
- EXCLUDE – Not a systematic review.
- EXCLUDE – Intervention not relevant.
- EXCLUDE – Outcomes not relevant.
- EXCLUDE – duplicate (indicate ID of duplicates in notes)
- INCLUDE – Protocol/ongoing.
- INCLUDE – IE
- INCLUDE – Systematic review.
- INCLUDE – Linked papers (include ID of top version in notes)
- INCLUDE with language marker.
- NOT SCREENED with language marker
- UNSURE – Efficacy
- UNSURE – Intervention unclear
- UNSURE – Methods
- UNSURE – Topic
- UNSURE – General
- MARKER – Check reference list

Appendix F: World Bank Classification of Countries

LOW-INCOME ECONOMIES (\$1,085 OR LESS)

Afghanistan	Guinea-Bissau	Somalia
Burkina Faso	Korea, Dem. People's Rep	South Sudan
Burundi	Liberia	Sudan
Central African Republic	Madagascar	Syrian Arab Republic
Chad	Malawi	Togo
Congo, Dem. Rep	Mali	Uganda
Eritrea	Mozambique	Yemen, Rep.
Ethiopia	Niger	Zambia
Gambia, The	Rwanda	
Guinea	Sierra Leone	

LOWER-MIDDLE INCOME ECONOMIES (\$1,086 TO \$4,255)

Angola	India	Philippines
Algeria	Indonesia	Samoa
Bangladesh	Iran, Islamic Rep	São Tomé and Príncipe
Benin	Kenya	Senegal
Bhutan	Kiribati	Solomon Islands
Bolivia	Kyrgyz Republic	Sri Lanka
Cabo Verde	Lao PDR	Tanzania
Cambodia	Lebanon	Tajikistan
Cameroon	Lesotho	Timor-Leste
Comoros	Mauritania	Tunisia
Congo, Rep.	Micronesia, Fed. Sts.	Ukraine
Côte d'Ivoire	Mongolia	Uzbekistan
Djibouti	Morocco	Vanuatu
Egypt, Arab Rep.	Myanmar	Vietnam
El Salvador	Nepal	West Bank and Gaza
Eswatini	Nicaragua	Zimbabwe
Ghana	Nigeria	
Haiti	Pakistan	
Honduras	Papua New Guinea	

UPPER-MIDDLE-INCOME ECONOMIES (\$4,256 TO \$13,205)

Albania	Fiji	Namibia
American Samoa	Gabon	North Macedonia
Argentina	Georgia	Palau

Armenia	Grenada	Paraguay
Azerbaijan	Guatemala	Peru
Belarus	Guyana	Russian Federation
Belize	Iraq	Serbia
Bosnia and Herzegovina	Jamaica	South Africa
Botswana	Jordan	St. Lucia
Brazil	Kazakhstan	St. Vincent and the Grenadines
Bulgaria	Kosovo	Suriname
China	Libya	Thailand
Colombia	Malaysia	Tonga
Costa Rica	Maldives	Türkiye
Cuba	Marshall Islands	Turkmenistan
Dominica	Mauritius	Tuvalu
Dominican Republic	Mexico	
Equatorial Guinea	Moldova	
Ecuador	Montenegro	

HIGH-INCOME ECONOMIES (\$13,205 OR MORE)

Andorra	Greece	Poland
Antigua and Barbuda	Greenland	Portugal
Aruba	Guam	Puerto Rico
Australia	Hong Kong SAR, China	Qatar
Austria	Hungary	Romania
Bahamas, The	Iceland	San Marino
Bahrain	Ireland	Saudi Arabia
Barbados	Isle of Man	Seychelles
Belgium	Israel	Singapore
Bermuda	Italy	Sint Maarten (Dutch part)
British Virgin Islands	Japan	Slovak Republic
Brunei Darussalam	Korea, Rep.	Slovenia
Canada	Kuwait	Spain
Cayman Islands	Latvia	St. Kitts and Nevis
Channel Islands	Liechtenstein	St. Martin (French part)
Chile	Lithuania	Sweden
Croatia	Luxembourg	Switzerland
Curaçao	Macao SAR, China	Taiwan, China
Cyprus	Malta	Trinidad and Tobago
Czech Republic	Monaco	Turks and Caicos Islands
Denmark	Nauru	United Arab Emirates
Estonia	Netherlands	United Kingdom

Faroe Islands	New Caledonia	United States
Finland	New Zealand	Uruguay
France	Northern Mariana Islands	Virgin Islands (U.S.)
French Polynesia	Norway	
Germany	Oman	
Gibraltar	Panama	

Appendix G: List of shocks and stressors required for interventions included in the resilience domain

Emergency	Definition
Rapid/ sudden onset emergencies:	
emerge suddenly and affect rapidly usually from a single distinct event	
Earthquake	Earthquake is defined as sudden movement of a block of the Earth's crust along a geological fault and associated ground shaking. (CRED EM-DAT) Earthquakes often trigger landslides, tidal waves and tsunamis. Powerful aftershocks frequently occur, causing further damage and increasing psychological stress (IFRC).
Flood	Flood is a general term for the overflow of water from a stream channel onto normally dry land in the floodplain (riverine flooding), higher-than- normal levels along the coast and in lakes or reservoirs (coastal flooding) as well as ponding of water at or near the point where the rain fell (flash floods). (CRED EM-DAT) Flash Flood is defined as rapid inland floods due to intense rainfall. A flash flood describes sudden flooding with short duration. In sloped terrain the water flows rapidly with a high destruction potential. (CRED EM-DAT)
Land Slide	Land Slide is defined as the usually rapid downward movement of a mass of rock, earth, or artificial fill on a slope. Covers all mass movements other than Mudslide (MS) and Avalanche (AV). (CRED EM- DAT) Mud slide is defined as a type of landslide, which occurs when the slope is saturated with water. This more destructive flow can pick up rocks, trees, houses and cars. As the debris moves into river and stream beds, bridges can become blocked or even collapse, making a temporary dam that can flood neighboring areas. (GLIDE) Snow Avalanche is defined as mass of snow and ice falling suddenly down a mountain slope and often taking with it earth, rocks and rubble of every description. (CRED EM-DAT)
Tropical Cyclone	"Hurricane", "cyclone" and "typhoon" (GLIDE hazard code: TC) are different terms for the same weather phenomenon which is accompanied by torrential rain and maximum sustained wind speeds (near center) exceeding 119 kilometers per hour.
Tsunami	Tsunami is defined as a series of waves (with long wavelengths when traveling across the deep ocean) that are generated by a displacement of massive amounts of water through underwater earthquakes, volcanic eruptions, or landslides. Tsunami waves travel at very high speed across the ocean but as they begin to reach shallow water they slow down, and the wave grows steeper. (CRED EM-DAT)
Emergency	Definition
Volcano	Volcanic eruption with disastrous effects: eruption and emission of gas and ashes, stone falls (pyroclast), flows of lava, etc.
Slow onset emergencies:	
emerge gradually over time, often based on a confluence of different events	
Cold wave	Cold Wave is defined as a period of abnormally cold weather. Typically, a cold wave lasts two or more days and may be aggravated by high winds. The exact temperature criteria for what constitutes a cold wave vary by location (CRED EM-DAT). It can cause respiratory problems, adverse effects on livelihoods and food security (ACAPS 2014).
Drought	Drought is defined as an extended period of unusually low precipitation that produces a shortage of water for people, animals and plants. Drought is different from most other hazards in that it develops slowly, sometimes even over years, and its onset is generally difficult to detect. Drought is not solely a physical phenomenon because its impacts can be exacerbated by human activities and water supply demands. Drought is therefore often defined both conceptually and operationally. Operational definitions of drought, meaning the degree of precipitation reduction that constitutes a drought, vary by locality, climate and environmental sector. (CRED EM-DAT)
Epidemic	Epidemic is defined as either an unusual increase in the number of cases of an infectious disease, which already exists in the region or population concerned, or the appearance of an infection previously absent from a region. (CRED EM-DAT)
Heat Wave	Heat Wave is defined as a prolonged period of excessively hot and sometimes also humid weather relative to normal climate patterns of a certain region. Heat waves like in Central Europe 2003. (CRED EMDAT)
International Displacement	International displacement involves a number of people crossing international borders, being in need of assistance regardless of their status.

Emergencies with variable onset period:

can emerge either rapidly or slowly depending on cause, triggering event and situations

Conflict/Gangs/Terrorism/War Any civil or political conflicts, gangs, terrorism or war as intervention contexts. war.

Emergency	Definition
*Famine/Starvation	A situation where households face an extreme lack of food that can bring a lack of other basic needs as well. Famine is intertwined with starvation, death, destitution, and extremely critical acute malnutrition levels. (IPC, 2022)
Other:	
All disasters that do not fall into any of the other disaster types	
*Climate Change	This refers to general climate change being addressed as a stressor in a study. We will select this only if other specific shocks/stressors are not mentioned.
*Economic Crisis	A sharp decline in economic performance of a country, which includes drastic increases in unemployment and business bankruptcy. (Dzingirai & Ndava, 2022)
Technological Disaster	Danger originating from technological or industrial accidents, dangerous procedures, infrastructure failures or certain human activities, which may cause the loss of life or injury, property damage, social and economic disruption, or environmental degradation. Includes Explosions/Chemical explosion/Nuclear explosion/Radiation/Mine explosion; Pollution/Chemical pollution/Atmosphere pollution; Acid rain
Wildfire	Wildfire (GLIDE hazard code: WF) is defined as any uncontrolled and non-prescribed combustion or burning of plants in a natural setting such as a forest, grassland, brush land or tundra, which consumes the natural fuels and spreads based on environmental conditions (e.g., wind, topography). Wildfires can be triggered by lightning or human actions. (CRED EM-DAT)