



# 1. Evaluating complex interventions



Existing methods for impact evaluation are most appropriate when investigating the effectiveness of simple interventions. When development projects make a single change in a given context, it is easier to randomise treatment, control other variables and consequently draw robust inferences about the effect of that intervention. However, many interventions are complex. They involve a combination of several activities and/or work in challenging contexts, which make randomisation difficult for practical or ethical reasons. There may be a long and complex causal chain between the implementation of an intervention and the desired outcomes and impact. From a policymaker, implementer and donor perspective, the implication is that it is very difficult to know the impact of an entire portfolio of activity in a given sector and location.

## **CEDIL projects**

CEDIL is supporting research under this programme of work that will develop new approaches to assessing the effectiveness of these more complex interventions, particularly in challenging contexts, such as fragile and conflict-affected states. **For example**, researchers from the International Security and Development Center, partnered with the American University in Beirut, will evaluate the long-term impact of a complex agricultural intervention conducted by the Food and Agriculture Organization. Using modern computational methods, the project will combine household survey data with satellite imagery and information on conflict, weather, agricultural conditions and productivity. The research will generate rigorous new insights on the causal pathways through which the intervention produces outcomes.

In another **project**, a team from the University of North Carolina will evaluate the Provincial and Local Government Support Programme in Nepal. This complex intervention aims to build the capacity of local government to administer new powers granted to them by Nepal's 2015 constitution, which was designed to transition the country to a federal state. The research project will determine the impact of the intervention by applying an innovative case-control design and using cutting-edge methods to correct for selection bias.

The programme of work on evaluating complex interventions also includes evidence synthesis projects which will use the latest meta-analysis methods to, for example, examine the complex impacts of technology-based health interventions and climate-related aid, and understand the ways in which water, sanitation and hygiene interventions have an impact on gender and social equity.

**See below the CEDIL funded projects under this programme of work:**

### Completed and Closed Projects

Evaluating portfolio interventions

Evaluation and measurement

Big data for evaluating development outcomes

Involving men and boys in family planning: a systematic review of complex interventions to identify effective programme components and characteristics in low- and middle-income countries

Gender and social outcomes of WASH interventions: synthesis of research evidence

Evidence synthesis: the effectiveness of climate-related aid

Technology-based innovative solutions for improving perinatal care utilisation: a network meta-analysis

Impact evaluation of the SHARPE project in Ethiopia

Gender-sensitive risks and options assessment for decision-making to support WiF2

Seeds for recovery: the long-term impacts of a complex agricultural intervention on welfare, behaviour and stability in Syria

Impact of maternal depression treatment on maternal health, parental investment, and child development

Evaluating governance reform using a case-control approach

[← Funded projects](#)

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## Big Data For Evaluating Development Outcomes

<b>Programme of work</b>	Evaluating complex interventions
<b>Principal investigator(s)</b>	Francis Rathinam, Sayak Khatua, Zeba Siddiqui, Manya Malik, Pallavi Duggal, Xavier Vollenweider, Samantha Watson
<b>Host institution</b>	International Initiative for Impact Evaluation (3ie)
<b>Project type</b>	Evidence synthesis
<b>Country/ies</b>	Multi-country

## Research question

This systematic gap map addresses the following questions:

- How have different types of big data and methods been used for measuring and evaluating development outcomes?
- How dispersed or concentrated is the use of big data across Sustainable Development Goals (SDG) and geographies?
- What are the potential biases, measurement reliability issues, pros and cons, risks and ethical issues in using big data for measuring and evaluating development outcomes?
- What are currently some of the unexplored but promising applications of big data for impact evaluations?

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## Research design

This systematic gap map is based on the 3ie methodology and process for evidence gap maps. To create this gap map, the authors used systematic methods, such as database searches and data extraction, to identify any completed and ongoing impact evaluations, systematic reviews and big data measurement studies that evaluate or measure development outcomes. The studies identified were mapped on to the framework of big data sources and development (SDG) outcomes. The final output is a visual display of the volume of evidence for data sources–outcome combination, the type of evidence (impact evaluation, systematic reviews, measurement studies, completed or ongoing), a confidence rating for systematic reviews reflecting the study quality, an indication of research gaps at the data source, SDG outcome, geography level, and whether the studies and data are openly accessible.

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**Data source****Data source**

The authors drew on impact evaluations, systematic reviews and measurement studies found in academic databases, repositories and organisational databases. They looked at studies using different types of big data, which included:

- Human-sourced information from social networks, crowd sourcing, citizen reporting;
- Process-mediated sources such as administrative data, call details record, e-transactions; and
- Machine-generated data from automated systems, including information from sensors and machines that measure and record events and situations in the physical world.

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**Policy relevance**

For evaluators, evaluation commissioners and policymakers, the map will highlight what data collection methods are available in difficult contexts, their relative benefits and costs, and the reliability of the data collected.

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## Project Outputs

### Main Findings

- Satellite images and mobile call detail records are the most used big data sources.
- The development themes studied the most include environmental sustainability, economic development and livelihoods, urban development, health and well-being, and energy, industry and infrastructure provision
- Interventions and outcomes that have spatial dimension are more likely to be measured using big data. Some of the lesser studied outcomes include agriculture, education and water.
- Studies are evenly spread across the continents.
- While there are a number of studies that have used big data for measuring various development outcomes, there are not many impact evaluations that have used these innovative big data-based outcome measures.
- Impact evaluations fare better than measurement studies in reporting on data quality issues and transparency, but less than 18 per cent of them have data publicly available.

### Implications

- This systematic map shows how innovative, new data sources are being used in evaluating development outcomes, and more importantly where there is more potential to use big data in the future evaluations.
- This map shows that big data can contribute to the evidence base in development sectors where evaluations are not generally feasible due to data deficiency.
- Given the fast-growing availability of big data and improving computation capacity, there is great potential for using big data in future impact evaluations, particularly for measuring impact at higher frequency and with greater granularity.
- There are several sources of pre-processed satellite data that could be used in evaluations directly without the evaluators having to process them using complex machine learning models themselves
- Big data is a complement and not a replacement for traditional forms of data collection. There is still a critical role for locally gathered data to train machine learning algorithms, ground-truthing to validate variables generated using big data, and mixed-method fieldwork to help tell the story of what is happening on the ground.



- Donors can be introducing best practices and ethical standards, and facilitating more interaction among remote sensing scientists, big data analysts and development evaluators.
- It is important to prioritise meaningful stakeholder engagement, including policymakers, implementers, and clients. There is a need to make sure the advancing technologies of big data capture and processing do not disadvantage local researchers evaluating their own communities.

### Publications

Rathinam, F., Khatua, S., Siddiqui, Z., Malik, M., Duggal, P., Watson, S, and Vollenweider, X. 2020. *Using big data for evaluating development outcomes: a systematic map*. CEDIL Methods Working Paper. Oxford: Centre of Excellence for Development Impact and Learning (CEDIL).

### Additional links

**Online map citation:** Rathinam, F, Khatua, S, Siddiqui, Z, Malik, M, Duggal, P, Watson, S, Vollenweider, X. 2020. Using big data for evaluating development outcomes: a systematic map [Online]. 3ie. Available [here](#).

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### Additional Resources

#### Other related versions of this map (links to the submaps):

[Economic development and livelihoods](#)

[Health and well-being](#)

[Governance and human rights](#)

[Urban development](#)

[Environmental sustainability](#)

*This project is no longer supported by CEDIL due to UK aid cuts during COVID-19.*

## Evaluating Governance Reform Using A Case-Control Approach

**Programme of work** Evaluating complex interventions

**Principal investigator(s)** Sudhanshu Handa

**Host institution** Carolina Population Center, University of North Carolina at Chapel Hill

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<b>Other institutions</b>	Social Science Baha, Kathmandu, Nepal Department of Political Science, North Dakota State University
<b>Dates</b>	January 2020 to January 2023 (TBC)
<b>Budget</b>	test
<b>Project type</b>	Evaluation
<b>Country/ies</b>	Nepal
<b>Research question</b>	This study will evaluate the Provincial and Local Government Support Program (PLGSP), a multi-faceted intervention to build the capacity of local government units (LGs) to effectively administer their new powers. The programme is part of Nepal's 2015 new constitution designed to transition the country to a federal state with three levels of government at national, provincial and municipal level. For the first time, considerable decision-making authority will reside among 753 LGs.
<b>Research design</b>	<ul style="list-style-type: none"><li>• The study will use an innovative case-control design coupled with pre- and post-intervention outcome measures and synthetic control modelling.</li><li>• It will survey households in 90 randomly selected LGs across three provinces prior to the start of the PLGSP, and then two years later.</li><li>• It will define cases as those with significant improvement in key governance outcomes. The remaining LGs will constitute the control group.</li><li>• It will reweight the control LGs using recent developments in the synthetic control literature to correct for selection bias and adjust for baseline differences in order to estimate the causal effect of the programme on government effectiveness.</li></ul>
<b>Data source</b>	A household survey will be carried out in 90 randomly selected LGs across three provinces before and two years after the start of the PLGSP.

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## Policy relevance

The study will highlight the benefits (or otherwise) of decentralisation reform programmes.

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**Yale Eco...**   
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How can evaluations go beyond traditional outcome measurement to explore underlying behaviors & drivers of impact?

## Evaluating Portfolio Interventions

<b>Programme of work</b>	Evaluating complex interventions
<b>Principal investigator(s)</b>	Edoardo Masset
<b>Host institution</b>	Centre of Excellence for Development Impact and Learning
<b>Project type</b>	Conceptual paper
<b>Country/ies</b>	Not applicable

## Research question

This study will explore and propose methods for disentangling the impacts of complex interventions and for assessing the impact of interactions across components. The authors will review novel and promising methods and will provide examples of how these methods can be applied.

## Research design

The methods considered can be at the design stage, such as the use of factorial experiments; at the analysis stage, such as regression analysis with interactions; or may include the combined use of quantitative and qualitative methods.

## Data source

Not applicable

## Policy relevance

The paper will provide guidance and recommendations for evaluations of complex interventions.

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## Evaluation And Measurement

<b>Programme of work</b>	Evaluating complex interventions
<b>Principal investigator(s)</b>	Orazio Attanasio
<b>Host institution</b>	Yale University
<b>Project type</b>	Conceptual paper
<b>Country/ies</b>	Not applicable

**Research question**

This paper will examine conceptual issues linked to the construction and validation of appropriate measures that are useful for evaluation.

**Research design**

It will explore specific issues around: a) which outcomes should be measured and how; b) how to use existing measures; and c) how to construct new measures.

**Data source**

For this paper, the authors will draw on their experience in collecting and analysing data in the area of early child development.

**Policy relevance**

By identifying strategies for addressing challenges in measurement, the paper will offer useful takeaways for evaluators. Improvements in measurement can help decision-makers develop a better understanding of the mechanisms that generate (or don't generate) certain impacts. This is important for informing decisions on policy changes and extrapolating the results of an evaluation to different contexts.

**Project Outputs**

- CEDIL Methods Working Paper 9: Evaluation and Measurement
- CEDIL Methods Brief 9: Innovations in measurement and the evaluation of human behaviour
- Blog post: Innovations in measurement can help to understand individual behaviours and outcomes
- Video blog: Evaluation and Measurement
- CEDIL Webinar: Evaluation and Measurement

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*This project is no longer supported by CEDIL due to UK aid cuts during COVID-19.*

## Evidence Synthesis: The Effectiveness Of Climate-Related Aid

<b>Programme of work</b>	Evaluating complex interventions
<b>Principal investigator(s)</b>	Fedra Vanhuyse
<b>Host institution</b>	Stiftelsen The Stockholm Environment Institute

<b>Dates</b>	January to September 2021 (TBC)
<b>Project type</b>	Evidence synthesis
<b>Country/ies</b>	Multi-country
<b>Research question</b>	<p>This synthesis study will elucidate mechanisms of action of complex aid interventions on climate action, explore effect modifiers and identify critical factors for implementation.</p> <p>Specific research questions include:</p> <ol style="list-style-type: none"> <li>1. What is the effect of different funding modalities on climate-related outcomes? Which modalities have or have not been effective, and who has or has not benefitted?</li> <li>2. Under which conditions do different funding modalities lead to a change in climate-related outcomes? Which factors help or hinder the climate goals being achieved?</li> </ol>
<b>Research design</b>	This is a systematic review that will synthesise the available evidence.
<b>Data source</b>	It will draw on academic and grey literature on the effectiveness of different aid modalities in the context of climate action and extensive stakeholder engagement.
<b>Policy relevance</b>	This systematic review will bridge theory and practice, and allow policymakers to make more effective aid allocation decisions. It will provide insights that can help design more effective climate-related aid interventions.
<b>Project Outputs</b>	<ul style="list-style-type: none"> <li>• CEDIL Design paper 9: Effectiveness of finance for supporting climate change adaptation in agricultural sector in Low- and Middle-Income Countries: a systematic review protocol</li> </ul>

## Gender And Social Outcomes Of WASH Interventions: Synthesis Of Research Evidence

<b>Programme of work</b>	Evaluating complex interventions
<b>Principal investigator(s)</b>	Biljana Macura
<b>Host institution</b>	Stockholm Environment Institute Sweden
<b>Other institutions</b>	Stockholm Environment Institute Africa
<b>Dates</b>	April 2020 to Sept 2021 (TBC)

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<b>Project type</b>	Evidence synthesis
<b>Country/ies</b>	Low- and middle-income countries
<b>Research question</b>	<p>This study aims to synthesise evidence on gender and social equality components in complex water, sanitation and hygiene (WASH) interventions, and to advance evaluation practices in the WASH sector by providing methodological advice on how to include and assess gender and social equality (GSE) outcomes. The main review questions are as follows:</p> <ol style="list-style-type: none"><li>1. What is the impact of complex WASH interventions on GSE outcomes in LMICs?</li><li>2. What are barriers to or facilitators of change in these outcomes?</li><li>3. What are the knowledge gaps within this subject?</li><li>4. What are methodological deficiencies and the best practices in relevant primary research?</li></ol>
<b>Research design</b>	<p>The study team will carry out a comprehensive mapping of WASH actors and major organisations that work in the WASH implementation and funding space.</p> <p>They will carry out a mixed-method systematic review to synthesise the best available evidence. They will develop accessible evidence summaries supported by infographics for capacity building, knowledge sharing and enhanced use of evidence in policymaking.</p>
<b>Data source</b>	Stakeholder discussions and systematic review of literature in English and Spanish.
<b>Policy relevance</b>	The study will generate evidence that can help policymakers and practitioners better understand how the design of WASH interventions may affect outcomes related to GSE.

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## Project Outputs

- Blog post: Gender and social equality in WASH
- Blog post: Covid-19 and WASH
- Webinar: Gender equality and social inclusion mainstreaming in WASH interventions: experiences from implementation, research and policy
- Paper: Systematic mapping of gender equality and social inclusion in WASH interventions: knowledge clusters and gaps, BMJ Health, January 2023
- CEDIL Syntheses Working Paper 7: Gender and social outcomes of WASH interventions: synthesis of research evidence
- CEDIL Evidence Brief 5: Gender equality and social inclusion in WASH interventions: policy and practice insights from a systematic mapping exercise
- Commentary: The next Water Action Agenda must be gender transformative

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## Gender-Sensitive Risks And Options Assessment For Decision-Making To Support WiF2

<b>Programme of work</b>	Evaluating complex interventions
<b>Principal investigator(s)</b>	Claudia Ringler
<b>Host institution</b>	International Food Policy Research Institute

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**Other institutions**

Lincoln University  
Australian National University  
American University Beirut  
University of Dhaka

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**Dates**

February 2020 to April 2022 (TBC)

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**Project type**

Evaluation

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**Country/ies**

Bangladesh, Nepal, Jordan and Lebanon

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**Research question**

This evaluation will support the Department for International Development programme, Work in Freedom Phase 2 (WiF2) in assessing the effectiveness of interventions to reduce forced labour and trafficking along migration pathways from Bangladesh and Nepal to Jordan and Lebanon.

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**Research design**

The study will:

1. Update the gender-sensitive Risks and Options Assessment for Decision-making (ROAD) process by incorporating a gendered focus;
  2. Implement a quantitative complex survey with female migrants and their spouses to assess the risk of forced labour and trafficking along the migration pathway and the impact of WiF interventions to date;
  3. Assess the determinants of wage differentials of female migrants in Nepal, reanalysing existing quantitative data; and
  4. Conduct a qualitative evaluation of WiF's impact on women's empowerment in forced labour and trafficking situations in Bangladesh and Nepal.
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**Data source**

Data will be collected on:

1. Migrants in Nepal; and
2. Employers in Lebanon.

In addition, qualitative work will be carried out on freedom of association in Lebanon and Jordan and on women's empowerment in the countries of origin.

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**Policy relevance**

The study will provide evidence on the effectiveness of interventions that reduce vulnerability to trafficking and forced labour of women and girls from Bangladesh and Nepal to Middle Eastern countries. The evidence will be useful for organisations working on migrant rights and the scientific community.

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## Project Outputs

### Journal papers

- ElDidi, H., C. van Biljon, M. Alvi, C. Ringler, N. Ratna, S. Abdulrahim, P. Kilby, J. Wu and Z.A. Choudhury. (2022). Reducing vulnerability to forced labour and trafficking of women migrant workers from South- to West-Asia. *Development in Practice*. Special issue on Modern Slavery and Exploitative Work Regimes. DOI: 10.1080/09614524.2022.2059448
- Joyce Wu & Patrick Kilby (2022): The precarity of gender, migration, and locations: case studies from Bangladesh and Nepal, *Development in Practice*. DOI: 10.1080/09614524.2022.2057441
- The role of social identity in improving access to water, sanitation and hygiene (WASH) and health services: Evidence from Nepal – Research paper, September 19, 2021, *Development Policy Review*. <https://doi.org/10.1111/dpr.12588>
- ElDidi, H., C. van Biljon, M.F. Alvi, C. Ringler, N. Ratna, S. Abdulrahim, P. Kilby, J. Wu and Z. Choudhury. 2021. Reducing vulnerability to forced labor and trafficking of short-term, low-skilled women migrant workers in the South Asia to Middle East corridor. IFPRI Discussion Paper 2049. Washington, DC: International Food Policy Research Institute (IFPRI).
- Kilby, P., & Wu, J. (2021). 'Migration and the Gender Impacts of COVID-19 on Nepalese Women'; *Pakistan Journal of Women's Studies*, special issue on gender and COVID-19 (December). [Migration-and-the-Gender-Impact-of-Covid-19-on-Nepalese-Women.pdf](#) (researchgate.net)

### Papers and policy briefs

- CEDIL Design Paper: Gender-Sensitive Risks and Options Assessment for Decision Making (ROAD) to Support WiF2, Design paper 4
- Reducing Vulnerability and Precarity of Low-Skilled Women in Short-Term Migration from the Global South: Key Policy Recommendations for the G-20 – Policy note on key risks along the migration pathway, on the role of women's empowerment and on impact of WiF interventions, September 2021
- CEDIL Evidence Brief: Beyond Kafala: Employer roles in growing vulnerabilities of women migrant domestic workers
- CEDIL Evidence Brief: Development and validation of a Women's Empowerment in Migration Index (WEMI)
- IFPRI Discussion Paper: Elder care in Lebanon: An analysis of care workers and care recipients in the face of crisis

### **Blog posts**

- When ties that bind Increase migrants' vulnerability: Insights from the south to west Asia migration corridor
- Women's labour migration: A journey fraught with violence
- From helping to collective organizing: Insights from women migrant domestic workers in Lebanon

### **Media coverage**

- “কাজ করতে হয় ১৪ ঘণ্টা, সাপ্তাহিক ছুটি পান না ৭৬ শতাংশ (You have to work 14 hours, you don't get 7 percent weekly leave)” – Prothom Alo (in Bangla, with English option), 12 May 2022
- “Provide them with language skills training” – Daily Star, 13 May 2022
- “Study: 79% of women migrants jobless since return to Bangladesh” – Dhaka Tribune, 12 May 2022
- ভাগ্য বদলের আশায় মধ্যপ্রাচ্যে গিয়েও বেতনভাতা পাননি ৩৭ শতাংশ নারী (37 percent women did not get salary even after going to the Middle East in the hope of changing their destiny) – Sara Bangla, 12 May 2022
- ‘নারী অভিবাসীদের ভোগান্তি নিরসনে প্রয়োজন নীতি গ্রহণ’। (‘Adoption of necessary policies to alleviate the suffering of women migrants’. ) – DBC, 12 May 2022
- G20 called on to reduce exploitation of women migrants in garment, domestic work | Arts, Design & Architecture – UNSW Sydney

### **Webinars**

- CEDIL Webinar – 25 January 2023

### **Videos**

- Gender-Sensitive Risks and Options Assessment for Decision Making (ROAD) to Support Work in Freedom Phase 2 (WiF-2) – Early findings and lessons learned

## Impact Evaluation Of The SHARPE Project In Ethiopia

<b>Programme of work</b>	Evaluating complex interventions
<b>Principal investigator(s)</b>	Alan de Brauw
<b>Host institution</b>	International Food Policy Research Institute
<b>Dates</b>	February 2020 to April 2022 (TBC)
<b>Project type</b>	Evaluation

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**Country/ies**

Ethiopia

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**Research question**

The study will evaluate the impact of the Ethiopia—Strengthening Host and Refugee Populations (SHARPE) project, a humanitarian intervention that will use a market systems approach to improve livelihoods between both refugees and host populations near three refugee camps in Ethiopia. Choices about specific sectors for the intervention will be made collaboratively between the research team and SHARPE. The team proposes to learn about the causal chain within the project theory of change for targeted market sectors in collaboration with SHARPE’s implementing partner.

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**Research design**

The study will use a mixed-method approach including randomised encouragements around market interventions with sub-experiments to facilitate quick lessons and inform mid-level theory.

Randomised encouragement is particularly suitable for evaluating market systems, to inform the role of individual components and interactions between them.

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**Data source**

The study will use:

1. Administrative records of camp inhabitants and members of the surrounding community where available, augmented with own baseline listings where necessary; and
2. Implement encouragement or information campaigns about these programmes or opportunities in the form of local community meetings, household visits or phone messages.

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**Policy relevance**

The study will:

1. Build evidence on SHARPE’s market systems for resilience approach to interventions in refugee populations and host communities to help drive the dialogue around new ways to intervene in protracted refugee situations; and
2. Ensure the costs associated with those interventions are well understood and directly compared with the costs of other humanitarian interventions in protracted refugee situations, helping with better intervention design.

## Project Outputs

- CEDIL Design Paper 7: Impact Evaluation of Ethiopia's SHARPE program
- Blog post: Designing a community referral system to increase the financial access of refugee populations in Ethiopia
- Blog post: Examining ways to promote mobile money use in refugee-hosting areas in Ethiopia
- Webinar: The effectiveness of digital financial services in humanitarian interventions: results of an adaptive randomized trial in Ethiopia
- Blog post: Increasing financial access through mobile money
- Blog post: Increasing financial access in Ethiopia through mobile money: Results from experiments to catalyze enrollment and use among women and refugees

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Impact of maternal depression treatment on maternal health, parental investment, and child development

*This project is no longer supported by CEDIL due to UK aid cuts during COVID-19.*

## Impact Of Maternal Depression Treatment On Maternal Health, Parental Investment, And Child Development

**Programme of work** Evaluating complex interventions

**Principal investigator(s)** Joanna Maselko

<b>Host institution</b>	University of North Carolina at Chapel Hill, Gillings School of Global Public Health
<b>Other institutions</b>	Human Development Research Foundation (HDRF) University of Zurich Columbia University
<b>Dates</b>	February 2020 to January 2023 (TBC)
<b>Project type</b>	Evaluation
<b>Country/ies</b>	Pakistan
<b>Research question</b>	The aim of this project is to evaluate the impact and mechanisms of action of a five-year, low-intensity, scalable maternal depression treatment integrated with a child development component (the Thinking Healthy Programme–Peer delivered) on maternal health, parental investments and child development.
<b>Research design</b>	The study will use: <ol style="list-style-type: none"><li>1. Biological markers to enable early detection and pathways of treatment effects;</li><li>2. An embedded pilot experiment testing the effects of personalised child development feedback; and</li><li>3. Machine learning to examine heterogeneity of treatment effects.</li></ol>
<b>Data source</b>	The study team will carry out a new round of data collection to follow-up with children who are now five years old.
<b>Policy relevance</b>	<p>The findings will build on existing research that shows mental health of mothers and fathers has a significant impact on early childhood development, with lifelong impacts for children. It will provide new causal evidence on the medium-term benefits of low-cost treatment for depression.</p> <p>The evidence from this study will be valuable for policymakers and practitioners working on mental health interventions, particularly in low-resource settings.</p>

## Project Outputs

- CEDIL Design Paper 2: Impact of Maternal Depression Treatment on Maternal Health, Parental Investment, and Child Development
- Blog post: Measuring patience among young children in rural Pakistan: Lessons learned from the marshmallow test
- Blog post: COVID in Pakistan: its effects on field research work and future implications

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How can evaluations go beyond traditional outcome measurement to explore underlying behaviors & drivers of impact?



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Involving men and boys in family planning: a systematic review of complex interventions to identify effective programme components and characteristics in low- and middle-income countries

## Involving Men And Boys In Family Planning: A Systematic Review Of Complex Interventions To Identify Effective Programme Components And Characteristics In Low- And Middle-Income Countries

**Programme of work** Evaluating complex interventions

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**Principal investigator(s)** Maria Lohan

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**Host institution** Queen's University Belfast

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**Other institutions**

The Women's Health Action Research Centre Benin City Nigeria  
Stellenbosch University South Africa and Queen's University Belfast

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**Dates**

April 2020 to June 2021

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**Project type**

Evidence synthesis

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**Country/ies**

Low- and middle-income countries

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**Research question**

The study aims to uncover the true mechanisms of change in family planning (FP) interventions involving men and boys. The study will answer the following questions:

1. What is the state of the evidence on engaging men and boys in FP and what gaps in research knowledge exist?
  2. What are the impacts of involving men and boys in FP interventions on maternal and child health and other FP related outcomes?
  3. What are the key components of effective interventions?
  4. What characteristics and combinations of characteristics are associated with positive maternal and child health and other FP-related outcomes?
  5. What are the system- and process-level barriers to and enablers of effective FP models involving men and boys?
  6. Do outcomes vary by context and participant characteristics?
  7. Are there any unintended or adverse outcomes for vulnerable groups?
-

## Research design

This systematic review will use a causal chain analysis to synthesise the available evidence on the effectiveness and implementation of complex FP interventions, examine characteristics of intervention components, systems and processes to enable a better understanding of existing interventions for adaptation and scaling up.

The team will build a logic model that provides a visual representation of how and under what circumstances FP interventions might work to improve maternal and child health. The logic model will inform pairwise analysis to identify which interventions are effective, mediator and moderator analysis to identify the pathways to effectiveness (quantitative causal chain analysis), and meta-regression to assess the impact of specific components and characteristics, and the combinations of components and characteristics of effective interventions.

An advisory group of 9–10 expert stakeholders from Kenya, Zambia, Tanzania, Malawi, Mozambique, Nepal, Ethiopia and Uganda will be convened and meet three times via videoconference. Representatives from organisations involved in FP-service planning and delivery will also be approached. Stakeholders will advise on developing the logic model and comment on the protocol development including identification of pertinent review outcomes, and finalising review questions.

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## Data source

Systematic review of evidence including randomised controlled trials, quasi-experimental studies and process evaluations. Stakeholder consultation to develop logic model.

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## Policy relevance

This evidence synthesis is relevant to ministries of health, medical research councils, global sexual health and FP-service providers, programme designers, and national and international organisations looking for ways to accelerate the use of FP in low- and middle-income countries.

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## Project Outputs

- CEDIL Design Paper 13: Involving Men and Boys in Family Planning (INVOLVE\_FP): A systematic review of complex interventions to identify effective programme components and characteristics in low- and middle-income countries
- Involving Men and Boys in Family Planning (Involve FP) in low- and middle-income countries – CEDIL webinar, 23 February, 2022
- Involving men and boys in family planning: A systematic review of the effective components and characteristics of complex interventions in low- and middle-income countries – Campbell Systematic Review, January 2023
- Involving men and boys in family planning is effective in increasing contraceptive use – CEDIL Evidence Brief 6 (in English, French and Spanish)
- Involving men and boys in family planning is effective for increasing contraceptive use – video

« 1. Evaluating complex interventions



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## Seeds For Recovery: The Long-Term Impacts Of A Complex Agricultural Intervention On Welfare, Behaviour And Stability In Syria

<b>Programme of work</b>	Evaluating complex interventions
<b>Principal investigator(s)</b>	Tilman Brück
<b>Host institution</b>	International Security and Development Center gGmbH (ISDC)
<b>Other institutions</b>	American University of Beirut (AUB)

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<b>Dates</b>	February 2020 to January 2023
<b>Project type</b>	Evaluation
<b>Country/ies</b>	Syria
<b>Research question</b>	<p>This project will evaluate the long-term impact of a complex agricultural intervention conducted by the Food and Agricultural Organization (FAO) in acutely conflict-affected Syria.</p> <p>FAO currently implements an agricultural intervention, funded by the Department for International Development, across government and rebel-held areas in Syria by providing two packages of measures to address both emergency and early recovery needs. The composition, location and timing of the packages vary with the local context, making the intervention complex.</p>
<b>Research design</b>	<p>The study will:</p> <ol style="list-style-type: none"><li>1. Use modern computational methods (machine learning and deep learning) to produce geo- and time-coded data from the satellite information;</li><li>2. Spatially and temporally match the survey data with the processed satellite information to facilitate analyses of how contextual variation affects the intervention impacts;</li><li>3. Use difference-in-difference techniques based on five different points in time to study the separate and additive impacts of the intervention packages and temporal evolution;</li><li>4. Perform machine-learning estimations to assess long-term programme sustainability and heterogeneity of treatment effects;</li><li>5. Build on these parametric and non-parametric techniques for decomposition analysis assessing impact pathways; and</li><li>6. Conduct an out-of-sample prediction analysis that emphasises the role of contextual factors.</li></ol>

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## Data source

The study will use five-wave panel data (of which three will be post-intervention). The study sample comprises 1,447 households across Syria (in both government- and rebel-held areas), including 718 treated and 729 control households.

These individual-level data will be matched with geo- and time-coded information generated from satellite data on conflict, weather, agro-ecological conditions and agricultural productivity.

The agricultural and agro-ecological information will be purchased from Worldview (32 cm resolution) and Sentinel-2 (10 m resolution).

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## Policy relevance

The study will generate new insights on the long-term impacts of complex agricultural interventions implemented in settings experiencing protracted crises. Evidence from this study can help fine-tune current and design future programmes to improve welfare and nutrition, and promote sustainable agriculture in Syria and beyond.

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## Project Outputs

- Presentation on the study in the Home Gardens for Resilience and Recovery Webinar Series
- Story Map of the SEEDS for Recovery project
- CEDIL evidence brief: Syria: Do Complex Agricultural Interventions Strengthen Food Security?
- Webinar: SEEDS for Recovery: The impact of agricultural interventions in Syria
- Blog post: How to make impact evaluations in humanitarian and conflict settings work
- Violent conflict moderates food security impacts of agricultural asset transfers in Syria: A heterogeneity analysis using machine learning

*This project is no longer supported by CEDIL due to UK aid cuts during COVID-19.*

## Technology-Based Innovative Solutions For Improving Perinatal Care Utilisation: A Network Meta-Analysis

**Programme of work** Evaluating complex interventions

**Principal investigator(s)** Md Mizanur Rahman



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<b>Host institution</b>	Department of Global Health Policy, The University of Tokyo
<b>Other institutions</b>	Department of Global Health Nursing, St Luke's International University, Japan Global Public Health Research Foundation, Bangladesh
<b>Dates</b>	February 2020 to August 2021 (TBC)
<b>Project type</b>	Evidence synthesis
<b>Country/ies</b>	Low- and middle-income countries
<b>Research question</b>	This study will examine the impact of technology-based interventions in improving antenatal, postnatal and delivery care services in low- and middle-income countries (LMICs).
<b>Research design</b>	<p>This systematic review will use meta-analysis to provide a comprehensive review of associated outcomes with regards to target populations. It will then explore how interactions take place and produce causal outcomes along the antenatal-delivery-postnatal pathway.</p> <p>Bayesian random effects meta-analysis will then be used to summarise the effect size of individual interventions for each outcome, separately.</p> <p>Bayesian network meta-analysis will also be used to identify the most effective interventions for each outcome.</p> <p>Sub-group analysis will be used to estimate the pooled effect for each intervention (e.g. by country, region, age group, year of publication, survey year). Funnel plots and the Egger test will assess publication bias.</p>
<b>Data source</b>	The study will draw on published evidence (British Nursing Index, CINAHL PLUS, Cochrane Library, EMBASE, MEDLINE, POPLINE, PsycINFO, PubMed and Web of Science) and publicly available data.

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## Policy relevance

The study will provide insights and evidence-informed recommendations for the utilisation of technology-based interventions in addressing maternal health-care challenges in LMICs. It will assess the impact of technology-based interventions by comparing the country-income level and population demographics.

## Project Outputs

- CEDIL Design Paper: Technology-Based Innovative Solutions for Improving Perinatal Care Utilization: a Network Meta-Analysis, Design paper 5

« 1. Evaluating complex interventions



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