



EVIDENCE REVIEW: BEHAVIOURAL SCIENCE INTERVENTIONS WITHIN THE DEVELOPMENT AND ENVIRONMENTAL FIELDS IN DEVELOPING COUNTRIES

OBJECTIVES

To allocate limited resources effectively, the decisions of the Green Climate Fund (GCF) can be enhanced by learning from a robust evidence base. This brief presents the completed IEU evidence review on the effectiveness of behavioural science interventions in promoting environmental and development outcomes in developing countries. The evidence review was completed alongside the International Fund for Agricultural Development.

The rationale for this review is that there is an absence of systematically collected evidence that carefully explores the nature of behavioural science interventions on environmental and development outcomes in these settings. The evidence review defines behavioural science as the scientific study of behaviour informed by an array of disciplines including sociology, psychology, economics, anthropology, and political science.

WHAT ARE EVIDENCE REVIEWS? WHY ARE THEY USEFUL?

As a comprehensive collation, analysis, and presentation of evidence, this review on behavioural

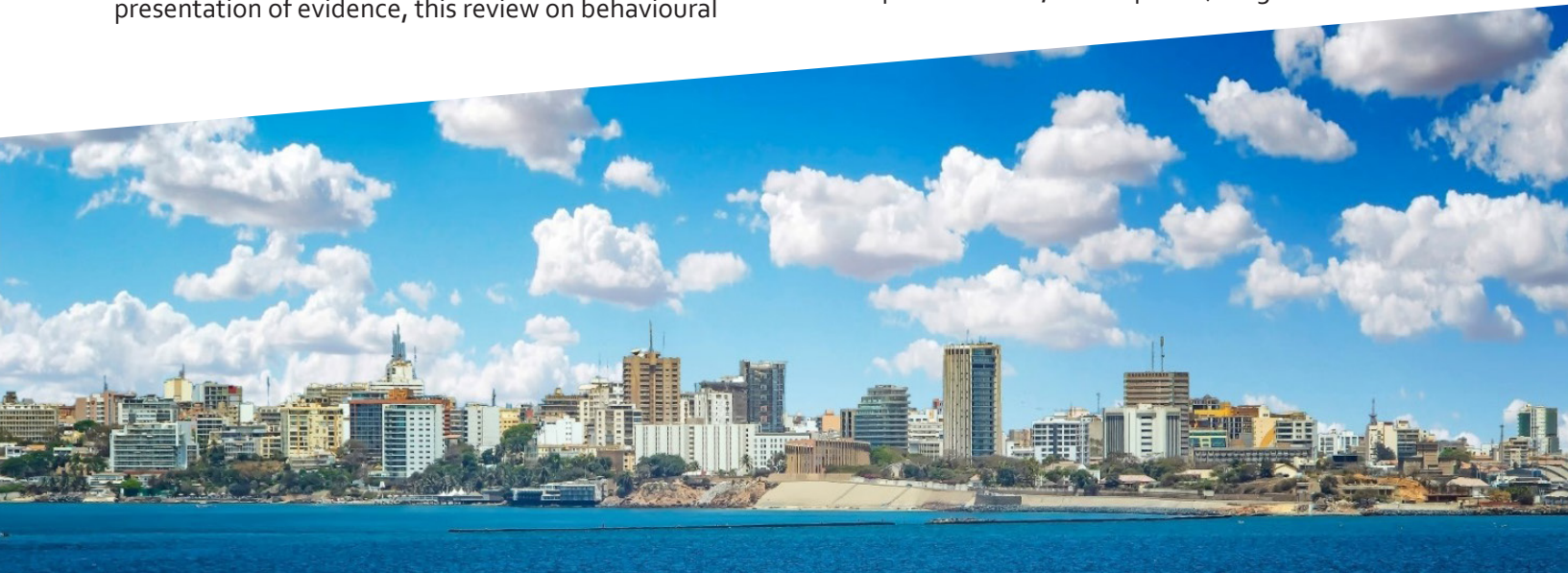
science interventions presents evidence in two formats:

- An evidence gap map (EGM)
- A systematic review of selected intervention and outcome combinations

EVIDENCE GAP MAP

The EGM presents a multisectoral search of publications in the academic and grey literature. The searches were restricted to quantitative studies published between 2000 and 2022 that assessed the effectiveness of one or more behavioural science interventions using experimental and quasi-experimental designs. The evidence review team systematically searched and reviewed the existing empirical evidence base and identified studies that met the inclusion/exclusion criteria, which we used to develop the EGM.

The EGM followed a consistent intervention–outcome framework to highlight the distribution of the evidence base across the full results chain, including knowledge, uptake and use, as well as behavioural outcomes, development results, and impacts (mitigation and



adaptation). From a landscape of 34,340 papers, this map included a total of 84 studies. Although the evidence base is thin, the EGM reveals that the most commonly evaluated interventions are reminders, feedback, micro-incentives, salience of communication, commitment devices, salience of experience design (how individuals interact with their physical or digital environment), goal setting, rules of thumb, social norms and social benchmarking.

FINDINGS

The EGM highlights **regional patterns** in evaluating these interventions with most from sub-Saharan Africa, East Asia, and the Pacific. A limited number of evaluations have been conducted in Europe and Central Asia, the Middle East and North Africa. In terms of sectors, the majority of the studies included in the EGM emanate from the water, sanitation and hygiene sector, the financial sector, energy and extractives, and the agricultural sector. In terms of outcomes, studies report on adaptation much more frequently than on mitigation. In addition, studies report on knowledge, uptake and use more frequently than on development results and impacts.

SYSTEMATIC REVIEW

The primary objective of the systematic review (SR) was to identify, assess and synthesize evidence on the effectiveness of feedback, reminders, salience (communication), salience (experience design), and goal-setting interventions conducted in developing countries on environmental and development outcomes. These intervention types were selected as there were a sufficient number of causal studies for meta-analysis. We conducted 12 meta-analyses in our SR. The most effective intervention type according

to this analysis is **feedback**, particularly in relation to behavioural outcomes of electricity and water consumption. We identified an overall pooled effect estimate of 0.26 (CI: 0.13 to 0.39). A similar pattern emerges for **reminders**, specifically on acquisition of knowledge, where we identify an overall pooled effect estimate of 0.87 (CI: 0.34 to 1.41). We found no significant effects on goal-setting interventions based on a limited number of meta-analyses. For salience (experience design) and salience (communication) interventions identified in this SR, the heterogeneity in interventions and outcomes did not allow for a meta-analysis and rigorous synthesis of effects.

CONTRIBUTION

Human behaviour is a key driver of climate change, and behavioural science interventions offer promising opportunities to promote positive environmental and development outcomes. Yet rigorous empirical guidance is lacking in terms of how to change behaviour most effectively to support adaptation and emissions reductions in developing countries. We completed an interactive evidence gap map (EGM) using a broad research scope to provide an overview of the evidence base on the effectiveness of behavioural science interventions, covering 22 interventions. Our meta-analysis provided cautious evidence that interventions that deploy **feedback and reminders are an effective behavioural approach to improving environmental and development outcomes in developing countries**. Feedback and reminders as tools for influencing behaviour should receive particular consideration by the GCF. For the remaining three behavioural science interventions in the SR – goal setting, salience of communication and salience of experience design – more research is required to inform decision-making.

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