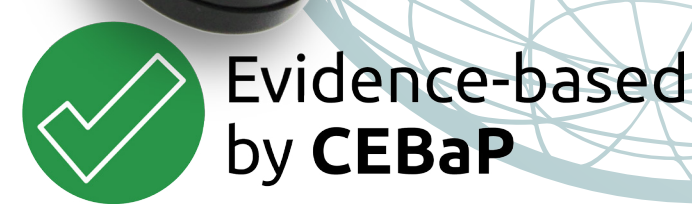# How a systematic review and continued stakeholder engagement can lead to a Theory of Change relevant to the aid sector …

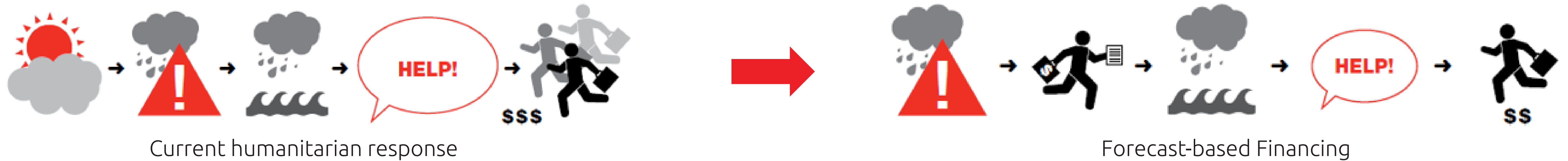Anne-Catherine Vanhove[1], Emmy De Buck[1,2], Philippe Vandekerckhove[2,3]

1 Centre for Evidence-Based Practice (CEBaP), Belgian Red Cross, Mechelen, Belgium; **2** Department of Public Health and Primary Care, Faculty of Medicine, KU Leuven, Leuven, Belgium; **3** Belgian Red Cross, Mechelen, Belgium

Evidence-based by CEBaP

Background

The Centre for Evidence-Based Practice provides evidence-based substantiation of the activities of the Belgian Red Cross. One of the activities in international humanitarian assistance is Forecast-based Financing (FbF). Many recent natural disasters had been forecasted before they caused damage, but humanitarian aid mostly still arrives only after the impact of the disaster becomes clear. FbF aims to bridge the gap between forecast and action by releasing funds based on forecast information for 'early actions' taking place in the 3-5 days before the disaster hits, to lower the impact of the disaster.

Current humanitarian response

Forecast-based Financing

Objectives

We aimed to establish an evidence base for the identification of early actions for an FbF project in Mozambique by conducting a review of the existing evidence and developing a Theory of Change (ToC). A ToC is a valuable tool for the aid sector which is used to develop a shared understanding of how interventions might work and how change will happen in a programme.
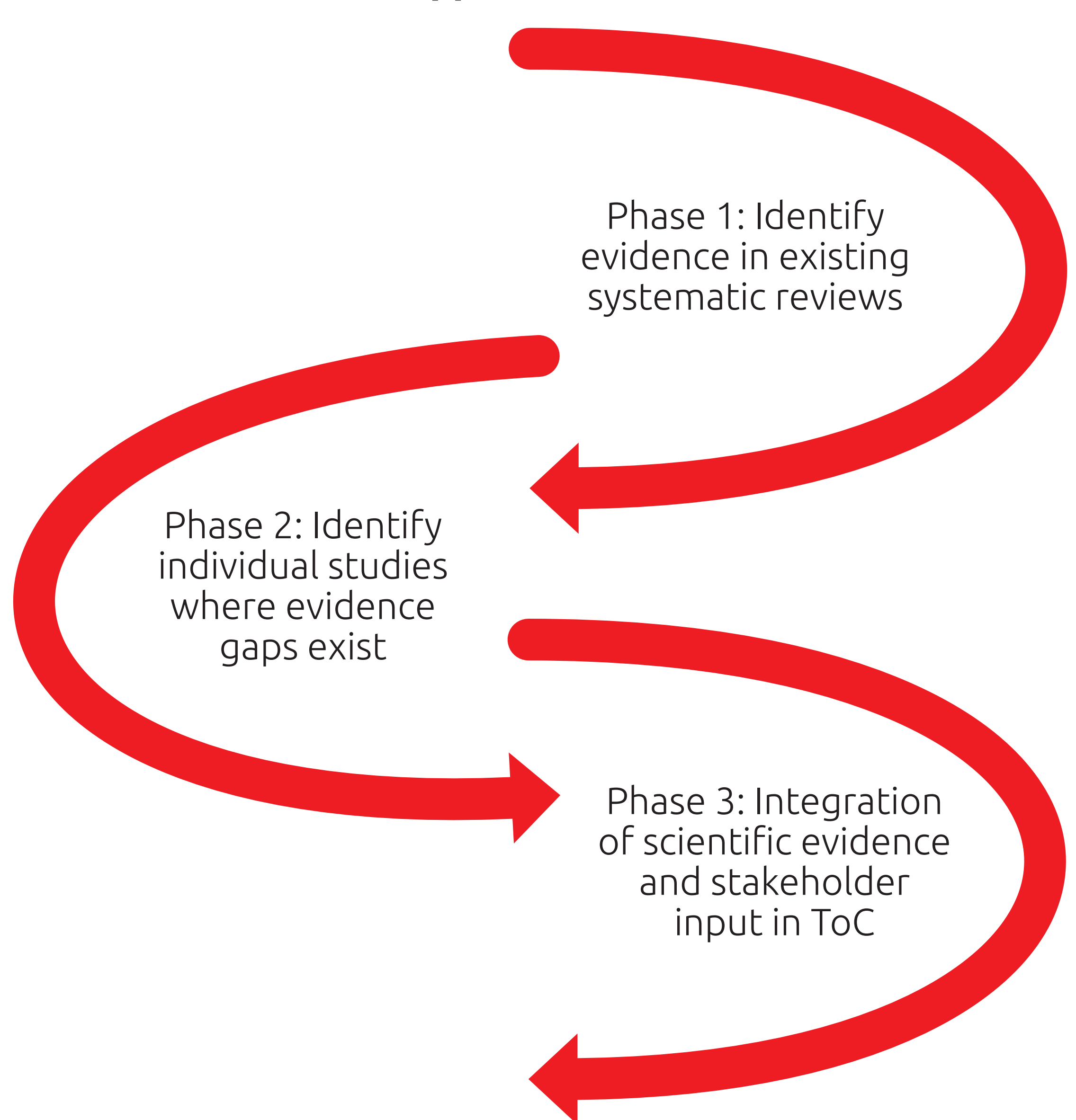
Methods

While gathering the scientific evidence by conducting a systematic literature search in several databases (phase 1 and 2), methodologists collaborate with several experts and practitioners. Impacts of floods and cyclones and potential early actions during these disasters were for instance identified through expert and stakeholder interviews in Mozambique.

Finally, an overarching ToC is constructed by the methodologists (phase 3), which is further refined through stakeholder engagement (FbF experts, policy makers and practitioners/end users in Mozambique from e.g. government agencies, NGOs and the Mozambique Red Cross Society).
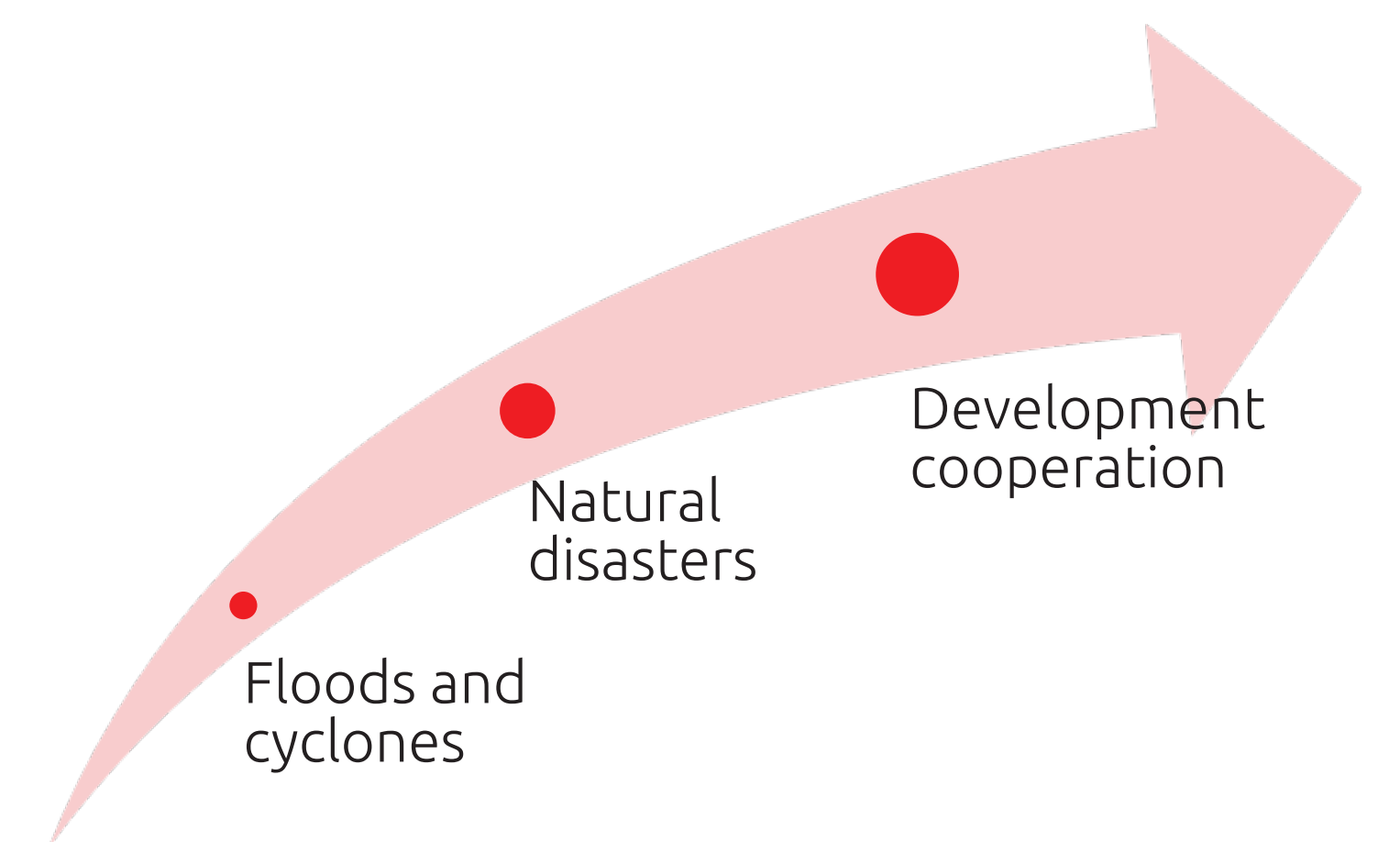
Research questions for literature search:

1. What is the effectiveness of different potential early actions to reduce the impact of flooding and cyclones in LMIC?

2. What factors influence the implementation of potential early actions to reduce the impact of flooding and cyclones in LMIC?

Overview of research approach:

Phase 1: Identify evidence in existing systematic reviews

Phase 2: Identify individual studies where evidence gaps exist

Phase 3: Integration of scientific evidence and stakeholder input in ToC

Results

Evidence for interventions in the humanitarian sector is still limited. No evidence concerning floods and cyclones was identified for many interventions from the existing systematic reviews. If we identified no relevant studies for floods and cyclones, we expanded the setting to systematic reviews concerning all types of natural disasters and ultimately again to the broad international development cooperation setting if needed. Phase 2 is currently ongoing, in which we aim to identify relevant individual studies for potential early actions for which no evidence was identified in systematic reviews.

Floods and cyclones

Natural disasters

Development cooperation

Potential early action	Effectiveness	Factors influencing implementation	Evidence
Prevent diarrhea: chlorine tablets	👎	Taste and smell ↓ Ease of use ↑ Education ↑	Flood setting in one SR: Yates 2015
Prevent malaria: nets, repellents, spray or larviciding	Nets 👍 Personal repellent 👍 Indoor spray 👍 Outdoor spraying ??? Larviciding 👍	For nets: Education ↑ Free distribution or pay = Incentive for use =	Development cooperation setting in Cochrane SRs: Augustincic Polec 2015, Gamble 2006, Lengeler 2004, Maia 2018, Plues 2010, Tusting 2013
Evacuation: incentives, transport, shelter	Phase 2 ongoing	Phase 2 ongoing	
Protect fields: early harvest, dig drainage	Phase 2 ongoing	Phase 2 ongoing	
Protect goods/documents/ food	Phase 2 ongoing	Phase 2 ongoing	
Protect livestock: vaccination, evacuation	Phase 2 ongoing	Phase 2 ongoing	
Reinforce houses/ schools/ hospitals	Phase 2 ongoing	Phase 2 ongoing	

Stakeholder meeting:

Stakeholders discussed the identified scientific evidence and preliminary ToCs. Their input was used to refine the ToCs regarding issues raised such as taking action at the houses versus in shelters, the need for education at several timepoints and barriers towards the use of chlorine tablets and mosquito nets.

Conclusions

Conducting a review of the existing evidence provides a solid base for the construction of a ToC, which can be refined based on stakeholder input. Continuous stakeholder engagement ensures the resulting ToC is relevant for practice and creates a sense of ownership and stakeholder buy-in.

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More information? Belgian Red Cross, Centre for Evidence-Based Practice, Motstraat 42, B-2800 Mechelen, Belgium.
Contact: anne-catherine.vanhove@cebap.org

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