**Resilience to climate induced disasters and its overall impact on well-being in southern Africa: a systematic review**

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**Citation**

**Review question(s)**
The objective is to synthesise how resilience to climate induced disasters impacts health well-being and explore how affected communities cope with disasters in southern Africa

How do communities affected cope with disasters in southern Africa?

What type of resilience interventions have they been exposed to or resilience strategies have they adopted?

Is there a relationship between adoption of resilience strategies or exposure to resilience programs and health and well-being among affected communities?

**Searches**
Various databases will be searched for peer reviewed and grey literature using full text and MeSH terms on resilience and its impact on well-being in the disaster prone southern Africa covering the period of 1980 – 2017. The basis of the 1980 base year is explained in the inclusion and exclusion criteria.

The databases to be searched include: African Journals Online (AJOL), Applied Social Sciences Index, Cambridge Core, CINAHL, Environmental Complete, Google Scholar, EMBASE, MEDLINE, Scopus, and Social Science Research Network - SSRN eLibrary, ProQuest Central, Political Science Database, PsycINFO, and Web of Science.

Additionally, the search syntax will be adapted to meet multidisciplinary databases requirements especially databases with grey literature that may require manual search. These include: Global Health Library, and key organisation websites especially Africa Development Bank, DFID, FAO, OECD, USAID, UNIFEM, and the World Bank.

Furthermore, the reference lists will be scanned for relevant articles that meet the inclusion criteria. Authors and organisations identified in relevant articles from the reference lists will be contacted to seek any key pieces of work published or on going but not be available in various databases. A search log of the entire conducted search will be kept for accountability and transparency.

**Types of study to be included**
We will include studies with mixed methods as well as qualitative studies.

**Condition or domain being studied**
General health and well being of communities impacted by re-currying disasters in southern Africa.

**Participants/ population**
The review will cover the rural communities affected by re-carrying climate induced disasters in southern Africa Region which includes the countries of Botswana, Lesotho, Namibia, South Africa and Swaziland as categorised in the United Nations geographical regions. Both peer reviewed and grey literature that measured resilience and/or assessed its relationship to health and well-being will be included in the study. However, books, thesis and dissertations, reviews, editorials, letters to editors, and opinion pieces, will be excluded. Due to language, budget constraints, and...
logistical limitations, only studies in English language and conducted between 1980-2017 will be included. The 1980 base year is chosen because the period marked the intensification of climate induced disasters in and organised response from the governments in southern Africa.

**Intervention(s), exposure(s)**
Resilience is a broad term and difficult to define as there is no generally accepted definition. Past studies have defined resilience differently within the contexts of their research and research questions have sought to address resilience to what, by whom, and how. This implies, setting specific parameters for exploring resilience. For this systematic review, resilience is the ability to harness one’s environment to anticipate, endure, recover from, and adapt to disaster induced distress (Acosta et al. 2017). Such ability occurs at the individual, household, and community level. People do not live in isolation of their households and communities, and therefore the application of resilience behaviours and qualities depends on the community structures and systems as well as assets available in the affected communities. This systematic review will incorporate individual, household and community resilience and how it impacts well-being. We define well-being as the state of people’s healthiness, comfort delight, and the “…realisation of their full potential” (City of Santa Monica 2015) p.8.

**Comparator(s)/ control**
None.

**Context**
Studies measuring and/or assessing resilience and its relationship to health and well-being in southern Africa region will be included.

**Outcome(s)**

**Primary outcomes**
Establishing how disasters affect health and well-being and how affected communities cope with disasters. This will improve coordination of humanitarian assistance in the region.

This review comes at the end of an intense 2015/16 El Nino induced drought that devastated food security, water and livelihoods in southern Africa that triggered an International humanitarian intervention.

**Secondary outcomes**
The outcome of the study will contribute to the refinement of the regional and national disaster management policies.

**Data extraction, (selection and coding)**
The data extraction will comply with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Liberati et al. 2009). Studies will be downloaded into an endnote database and filtered by: title, by abstract and the remaining studies full text will be obtained and reviewed for the subject matter. Furthermore, the reference lists of included studies will be screened for relevant studies that may not be captured by the search strategy. Studies extracted into the endnote database will be assessed in three steps above by the first author and verified by the second author. Where discrepancies emerge, consensus will be sought through discussion and unresolved issues will be referred to a third independent reviewer’s validity.

**Risk of bias (quality) assessment**
A ten-quality appraisal criteria informed by the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement for studies with mixed methods (.von Elm et. al. 2008). The qualitative studies appraisal criteria will be informed by the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist (Tonga et al. 2007). The two quality assessment tools above will be used to minimise biasness and maximise the scholarly contribution of the review. The appraisal criteria will address: study objective; theoretical frame work; researcher reflexivity; sampling procedures; setting of data collection; data analysis; clarity of themes; findings and reporting consistency; ethical issues; and study limitations.

**Strategy for data synthesis**
Due to the heterogeneity of the studies to be included, a meta-analysis may not be possible. Nonetheless, the findings will be summarised by the first author into two comprehensive tabulated piloted forms where emerging themes will be
The second author will review the appropriateness of the content as well as the consistency of the emerging themes. The appraised studies will be graded and scored as high, moderate, or low by the two authors. Any grading/scoring disagreements that may emerge between the two authors will be addressed through a kappa statistic or through a mutual discussion and when necessary, by involving a third author for consensus.

**Analysis of subgroups or subsets**
None planned.

**Dissemination plans**
This systematic review will be disseminated through a peer reviewed publication and will form a chapter of Joseph K. Kamara's PhD. When possible the findings will be presented in a relevant conference.

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Stage of review at time of this submission

<table>
<thead>
<tr>
<th>Stage of review</th>
<th>Started</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary searches</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Piloting of the study selection process</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Formal screening of search results against eligibility criteria</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Data extraction</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Risk of bias (quality) assessment</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Data analysis</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

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