**Appendix S1: Scoping review protocol**

**Table 1: Background of the scoping review**

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| **Title of the review** | A scoping review of environmental governance challenges in Southern Africa from 2010 to 2020 |
| **Data extraction** | August 2018 |
| **Data of write up** | March 2021 |
| **Objective** | How have governance challenges manifested in natural resource management between 2010-2020 in southern Africa? |
| **Research questions** | What is the broad characterisation of the studies selected?  What are the dominant concepts identified?  What are the challenges identified? |
| **Eligibility criteria** | The articles should focus on the governance of natural resources in southern Africa. Here southern Africa encompasses the sixteen countries that make up the SADC: Angola, Botswana, Comoros, Democratic Republic of the Congo (DRC), Eswatini (Swaziland), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, and Zimbabwe.  Articles should refer to at least one challenge that is affecting the governance and management of natural resources.  The articles included are in English. |
| **Electronic database** | Web of science  Scopus  EBSCOhost (Academic Search Premier) |
| **Methods** | **Database search**  **Manual scanning** |
| **Analysis** | A database of bibliographic references, authors' names, article title, year of publication, country of focus, type of article and governance challenges were created in Microsoft excel    To explore the broad characterisation of the studies selected, the papers' content was manually analysed based on the date of publication, location of research, overall article approach (case study or literature review), the scale of analysis, and the natural resource sector.  Descriptive analysis was carried out using Microsoft Excel. We used open coding to explore the dominant concepts or conceptual insights within the database. Analytical notes were written alongside each article to identify concepts/themes discussed (e.g., adaptive governance, polycentricity or stewardship).  To identify governance challenges, textual data (results section) were manually coded based on the governance attributes described in Table 1. Manual coding involved identifying words, sentences or phrases relating to governance challenges. This process resulted in the emergence of analytical notes that identified the presents or absents of governance challenges (Appendix S3-S6). The coded data for each article was then categorised based on the four main objectives of environmental governance  Some of the articles mentioned or identified more than one challenge; therefore, this means one paper could be sorted into two different categories. The categorises were iteratively revised to reflect the presents and absents of governance challenges. |