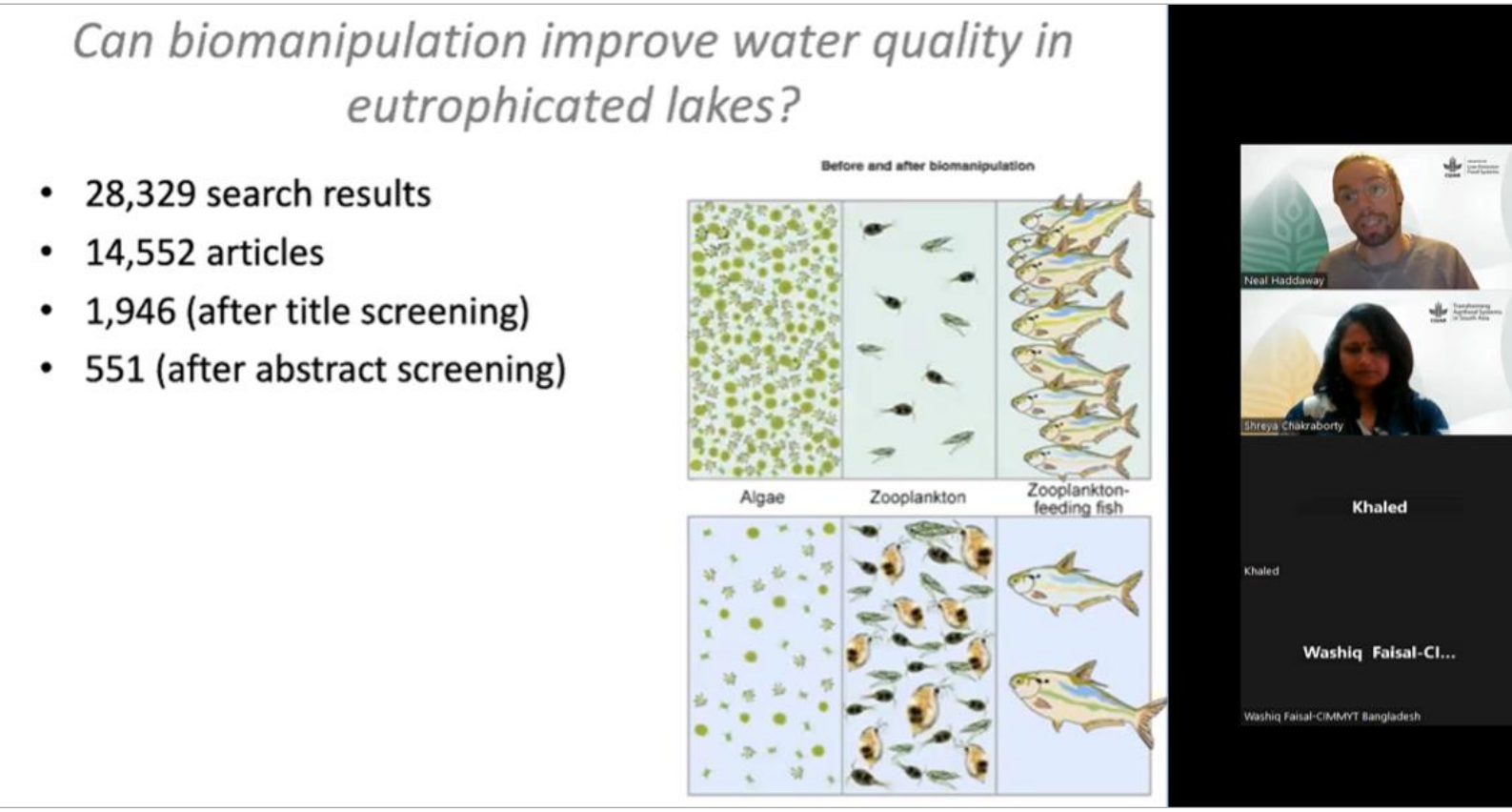
Training Workshop Proceedings

Virtual Training Workshop on Systematic Review Methods

Dates: 7th, 8th, 14th, 15th November 2022
Location: Online Platform
Work Package 5, Training Report 1



Above: Online presentation and training on systematic review methods by Dr. Neal Haddaway
Photo credit: Online platform screen shot

OVERVIEW

The One-CGIAR initiatives for Mitigate+: Research for Low-Emission Food Systems (Mitigate+) and Transforming Agrifood Systems in South Asia (TAFSSA) jointly organised a virtual training workshop on Systematic Review Methods for CGIAR scientists to build capacities in concepts and tools of evidence synthesis. The workshop covered a 12-hour course module in 3-hour sessions across four days from across CGIAR centres, particularly focussed on scientists and researchers working on systematic scoping reviews. This was organized considering that multiple systematic scoping reviews had been planned or were ongoing in the two host initiatives as well as other CGIAR initiatives, making this effort for capacity building of researchers timely.

This workshop aimed to introduce systematic reviewing and systematic mapping as methods for evidence synthesis. The course instructor, Dr. Neal Haddaway, has an established international reputation in evidence synthesis (systematic reviews and systematic maps) methodology, specialising in synthesising environment and international development topics (including pollution, agricultural ecology and conservation, protected areas, human wellbeing).

KEY OBJECTIVES

I. To explain the theory behind each part of the review process, and provides guidance, tips and advice for those wanting to undertake a full systematic review or map.
II. To impart an in-depth understanding of the activities that are necessary to maximize comprehensiveness, transparency, objectivity and reliability throughout the review process.

PARTICIPANTS AND METHOD

The workshop was organized virtually across four sessions of 3-hour each. The course takes the form of a series of interactive presentations and practical exercises, including examples from recent relevant systematic review and map projects. A total of 41 researchers participated in the course from across 7 CGIAR centres (Fig 1). There was an equal distribution between male and female researchers (Fig 2.). We also assessed the need for this training through a brief understanding of the level of prior knowledge about the methods from registering researchers (Fig 3).

Fig 1. Distribution of Participants by CGIAR centres

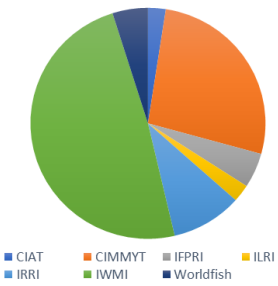
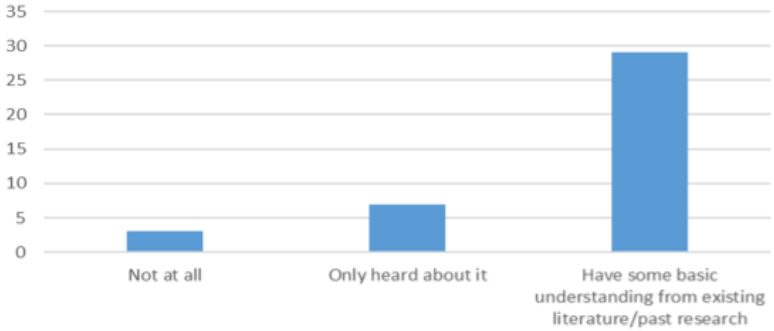


Fig 2. Gender distribution of Participants

Fig 3. Prior knowledge about the subject among participant researcher



BRIEF OF SESSIONS

The training course was designed across 13 sessions:

DAY 1

1. An introduction to systematic reviews and systematic maps - This session introduced systematic review and systematic map methods, including the differences between traditional literature reviews and systematic methods and compared systematic review and systematic map methods.

2. The Collaboration for Environmental Evidence (CEE)- This session briefly introduced the Collaboration for Environmental Evidence (CEE), discussing its remit and activities in relation to establishing and maintaining guidelines in evidence synthesis, raising awareness of and providing training in systematic reviews and systematic maps, and coordinating the peer-review and publishing of systematic reviews and maps in its journal Environmental Evidence.

3. Stakeholder engagement and question formulation: This session introduced the importance of engaging with stakeholders, particularly during the planning stages of a review. It also covered the process of question formulation: going from a typically broad topic to a narrow, focused review question.

4. The protocol: This session covered the importance of having an a priori, detailed protocol. The session highlighted the main content that should appear in a review protocol, explaining the detail necessary for each stage. The peer-review and publishing of a protocol was also covered.

5. Searching for evidence: This session covered aspects of setting up, testing and running searches for evidence including how to build a comprehensive search string, academic resources to search, combining searches of different sources and identifying grey literature.

DAY 2

6. Assembling a library of evidence and review management software: The session taught assembling of a database of potentially relevant evidence, preparing it for screening by reviewers for relevance. The session also introduced review management software and taught its utilization through practical assignment.

7. Screening for relevance: This session covered the process by which potentially relevant search results may be assessed (screened) for relevance against well-defined inclusion criteria. The stages of screening covered were - title screening, abstract screening, retrieval of full text documents, full text screening. The session also discussed the importance assessing consistency between reviewers in the application of the inclusion criteria.

DAY 3

8. Data extraction and coding: This session covered information on extracting descriptive and quantitative data from studies. It also covered coding methods used in systematic mapping.

9. Critical appraisal: The session introduced the importance and method of assessment of how reliable research evidence is and how researchers can weight evidence according to its reliability in any synthesis in terms of the internal validity (relevance) and external validity (generalisability).

DAY 4

10. Synthesis visualisations: This session introduced common ways in which systematic review and map results can be visualized to help display the methods used in the review, the nature of the evidence identified, the results of assessments of relevance and validity, and synthesis of study findings. Specific examples covered included flow diagrams, evidence atlases, heat maps, pivot tables/charts, and forest plots.

11. Synthesis: narrative, quantitative and qualitative methods: The session included comparisons between aggregative and configurative synthetic methods as well as introduction to narrative synthesis, quantitative synthesis, and qualitative synthesis and methods involved in each. Availability and use of relevant software for this purpose was covered.

12. Writing and publishing the final report: This session detailed the processes and directions for the production of final systematic review or map reports. Requirements of CEE and other major organisations and publishers was outlined, along with the sections and level of detail necessary for any report. The session in addition imparted practical advice for ensuring efficient completion of a review report and for ensuring acceptance of the review by stakeholders.

13. Communicating results: Finally, this last session covered communicate the results of their reviews, including how to engage with stakeholders, and how to produce tailored media to describe results.

OUTPUTS

Participants, upon completing all sessions of the course, received course completion certificates endorsed by the Collaboration for Environmental Evidence.

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ABOUT TAFSSA

TAFSSA is a CGIAR regional integrated initiative to support actions that improve equitable access to sustainable healthy diets, improve farmers' livelihoods and resilience, and conserve land, air, and water resources in South Asia.
For more details about the initiative see https://www.cgiar.org/initiative/20-transforming-agrifood-systems-in-south-asia-tafssa/

ABOUT MITIGATE+

Mitigate+ is a CGIAR initiative that aims to reduce annual global food systems emissions by working closely with key actors in the target countries to ensure they are equipped to make evidence-based decisions and address challenges in food systems discourse, policy development, and implementation to reduce greenhouse gas emissions. For more details about the initiative see https://www.cgiar.org/initiative/low-emission-food-systems/

ABOUT CGIAR

CGIAR is a global research partnership for a food secure future. Visit https://www.cgiar.org/research/cgiar-portfolio to learn more about the initiatives in the CGIAR research portfolio

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