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References:

Minimising Trade-offs and Conflicts in Nature-based Solutions: An Investigation of Value Pluralism in Nature Credit Markets

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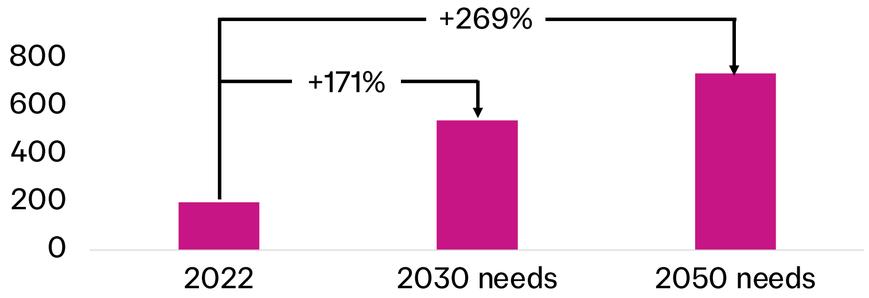
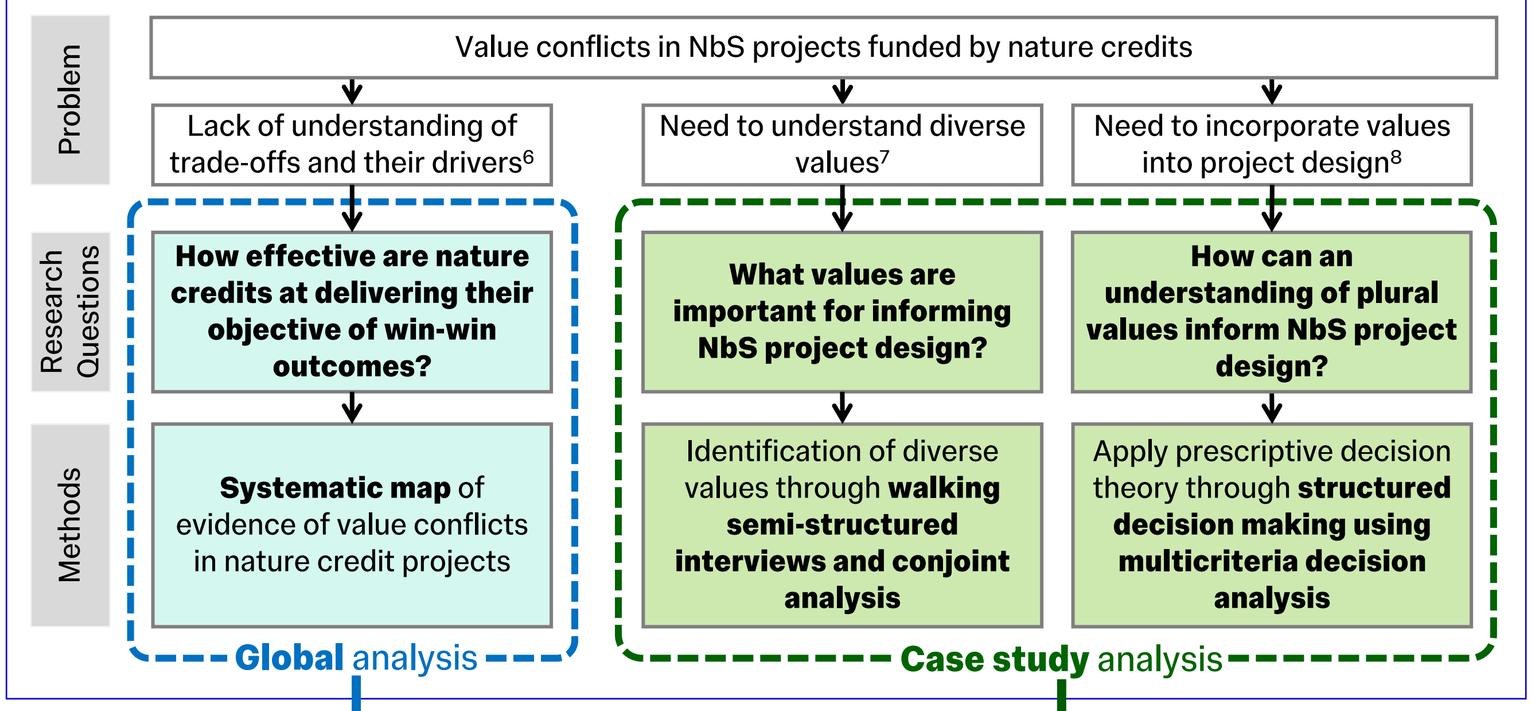
1. Introduction

NbS investment needs to meet Rio targets[1]
(USD billion per annum)



- Nature-based Solutions (NbS) are **underfunded**[1]
- Voluntary nature credits are a key mechanism to increase **private finance**,[2] which represents ~20% of NbS finance[1]
- **Voluntary nature credits are controversial** and have faced integrity issues, resulting in decreased finance for NbS[3]
- A key issue for nature credits is **conflicting values**,[4] resulting in inequitable trade-offs[5]

2. Problem identification and methods



3. Global analysis: Systematic map

Inclusion criteria (PICO framework):

- Population: NbS projects
- Intervention: Financing through voluntary nature credits
- Comparator: Private vs. public funding
- Outcome: Win-win or trade-off outcome

Identification

Academic Record Search (N=4,503)	
Google Scholar	300
SCOPUS	2,352
Web of Science	1,851
Duplicates	-1,581
Total remaining	***2,922***

Screening

Title-Stage (N=2,922)	***Total remaining*** ***1,618***	Records Excluded N=1,304 Kappa = 0.61
Abstract-Stage (N=1,618)	***Total remaining*** ***249***	Records Excluded N=1,369

Eligibility

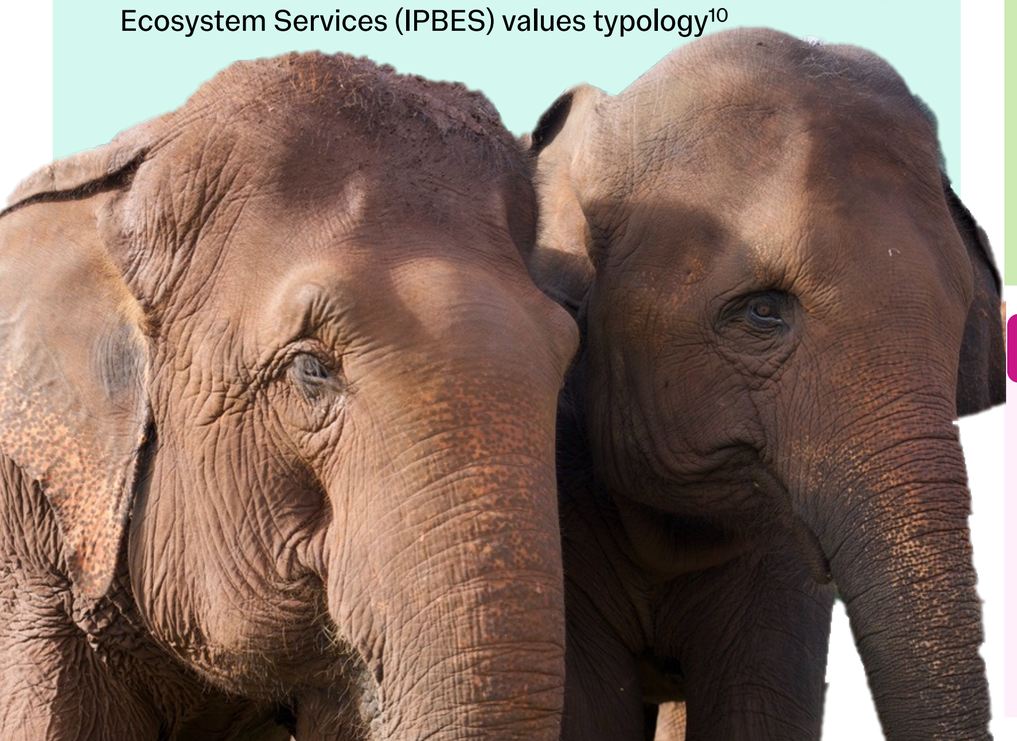
Texts for Retrieval (N=249)		Not Retrieved N=30
Full Texts Assessed for Eligibility (N=219)	***Texts included*** ***119***	Excluded (N=100)

Excluded (N=100)	
Not a credit	36
Wrong scale	26
No outcomes	23
Too high level	11
Not in English	4
Total	***100***

Case Studies Identified N=102

Data coding (in progress):

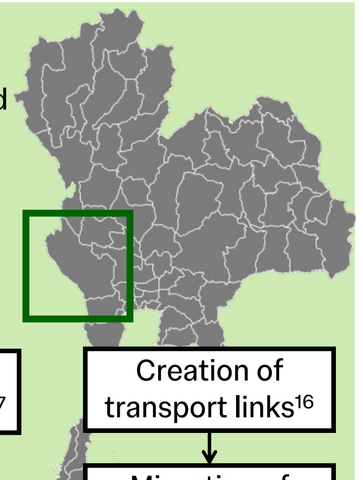
- Meta-data: bibliographic information, project attributes (e.g., location, funding, intervention type)
- International Union for Conservation of Nature (IUCN) NbS Standard societal challenges[9]
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) values typology[10]



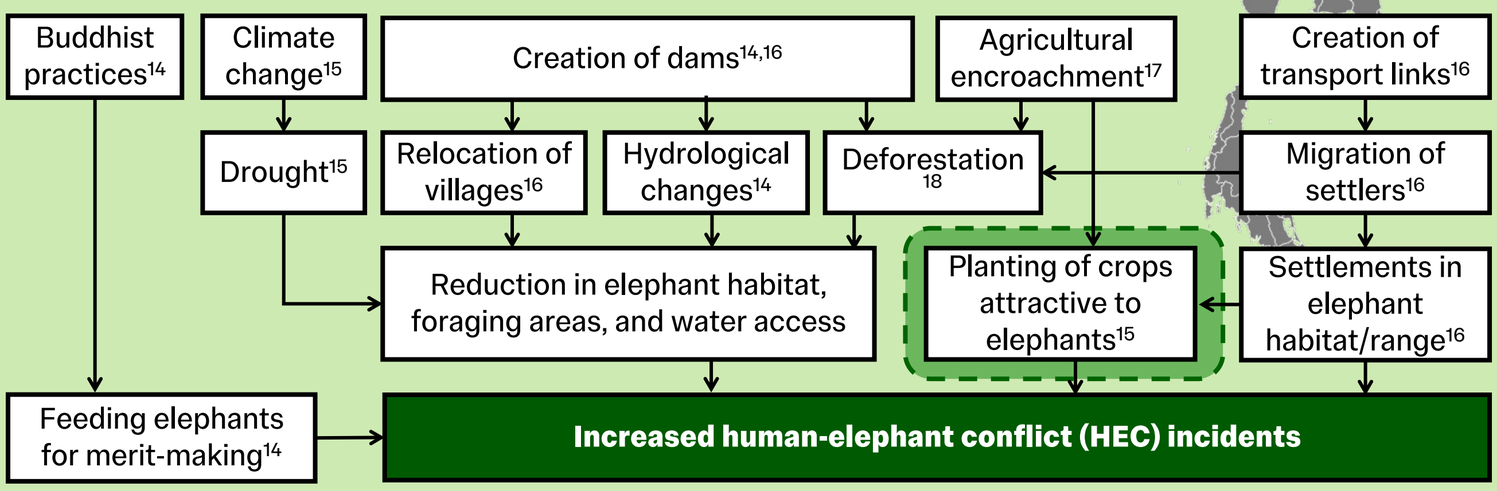
4. Local analysis: Fieldwork

Context: Human-elephant conflict in the Western Forest Complex (WEFCOM), Thailand

- WEFCOM = 18,000 km², the largest remaining forest track in mainland SE Asia[11]
- ~250-300+ elephants in southern WEFCOM, ~20% of the total Thai population[12]
- 195 human deaths and 167 injuries due to wild elephants in Thailand since 2018[13]



Insights from scoping visit, conducted in January 2025



Early-stage NbS project to tackle HEC: Agroforestry to switch to less palatable crops for elephants

How to design and finance the NbS project? Structured Decision Making (SDM)

Phase 1: Value elicitation

- **Scoping visit** identified diversity of values amongst migrant farmers, Indigenous communities, NGOs, Government, and the private sector
- **Walking semi-structured interviews** to map values
- **Conjoint analysis** to rank and identify which values are most important for NbS

Phase 2: Spatial multicriteria decision analysis (illustrative)

- Identifying relative importance weighting of criteria
- Modelling performance of criteria for all alternatives
- Aggregating importance + performance = preference

	Criteria	BAU	Carbon Credits	Biodiversity Credits
Finance	Increase farmer income	●	▨	▨
Finance	Meet investors' hurdle rate	●	●	▨
Biodiv.	Reduce human-elephant conflict	●	●	●
Biodiv.	Increase biodiversity	●	●	●
Climate	Increase carbon sequestration	●	●	●
Climate	Increase climate resilience	●	●	●

● *Likely* ● *Medium probability* ● *Low probability* ▨ *Unknown*

5. Research contributions

Develop **unbiased summary** of the evidence

Demonstrate **value pluralism in practice**

Inform the design of a real-world NbS project

Develop recommendations to improve NbS design

Apply **nexus governance** approaches