

The number we want to see:

Reporting bias in community-based mangrove restoration in Indonesia

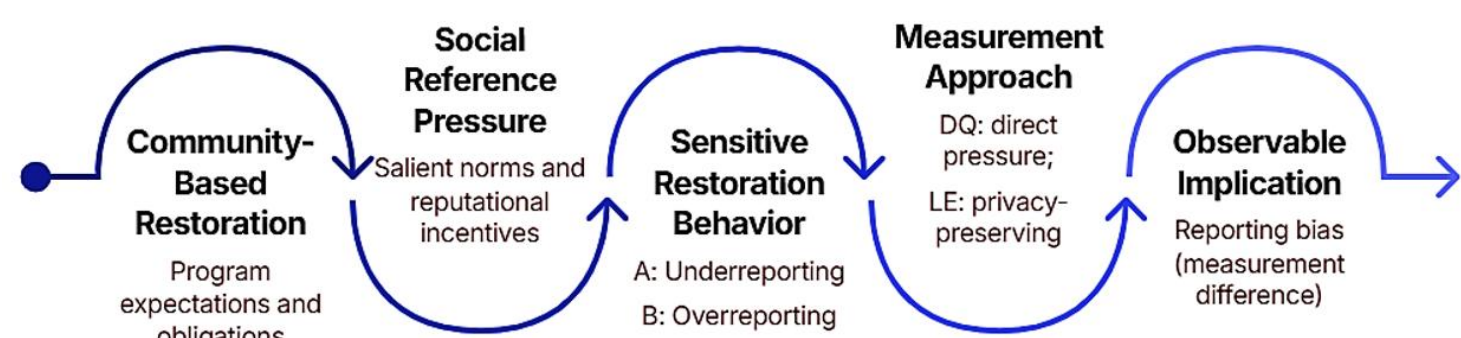
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Introduction

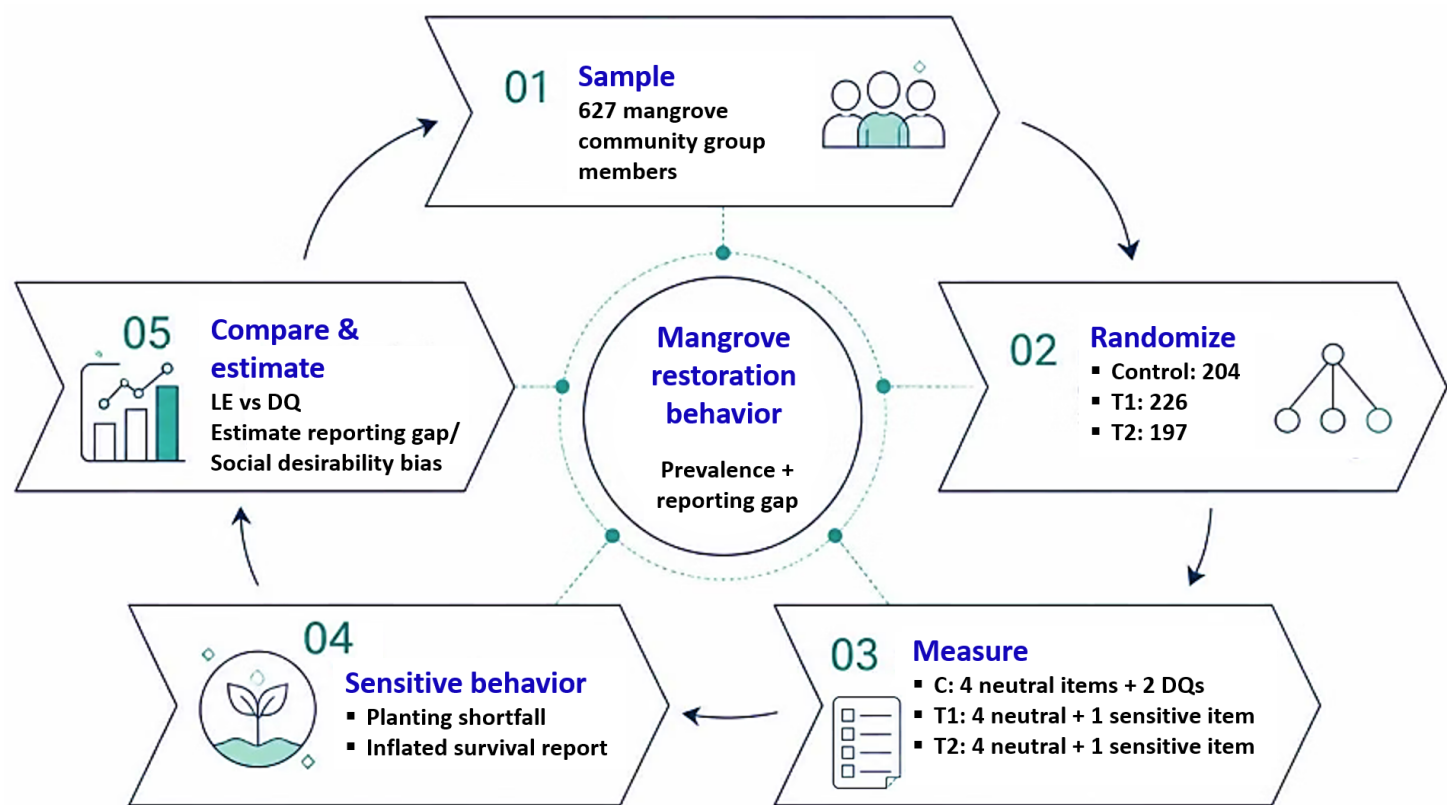
- Mangrove restoration requires community involvement, but participation does not guarantee compliance
- Self-reported restoration behavior and outcomes are vulnerable to social desirability bias, potentially undermining monitoring accuracy.
- Evidence remains limited on direct–indirect reporting gaps, behavior-specific differences, and variation in prevalence across participant characteristics.

Conceptual pathway



Experiment design & Methodology

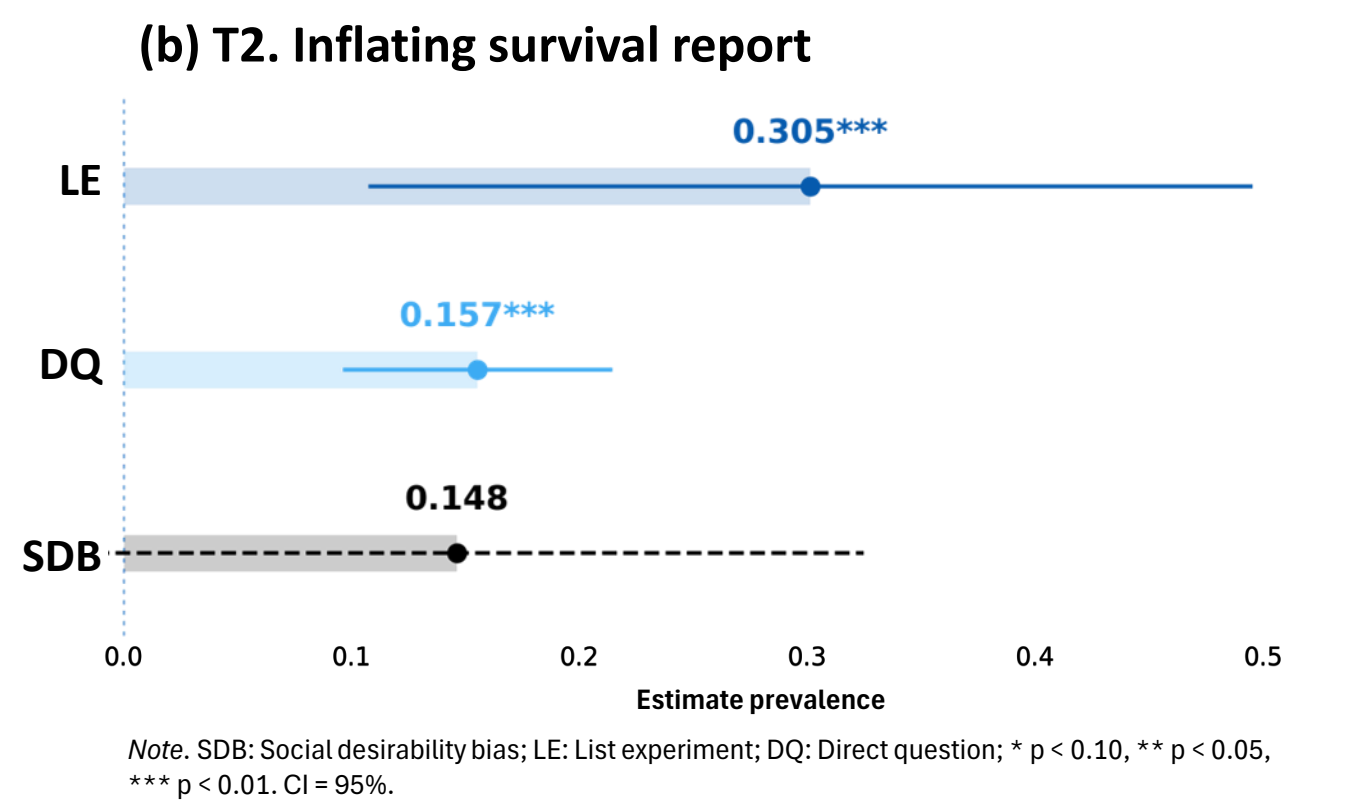
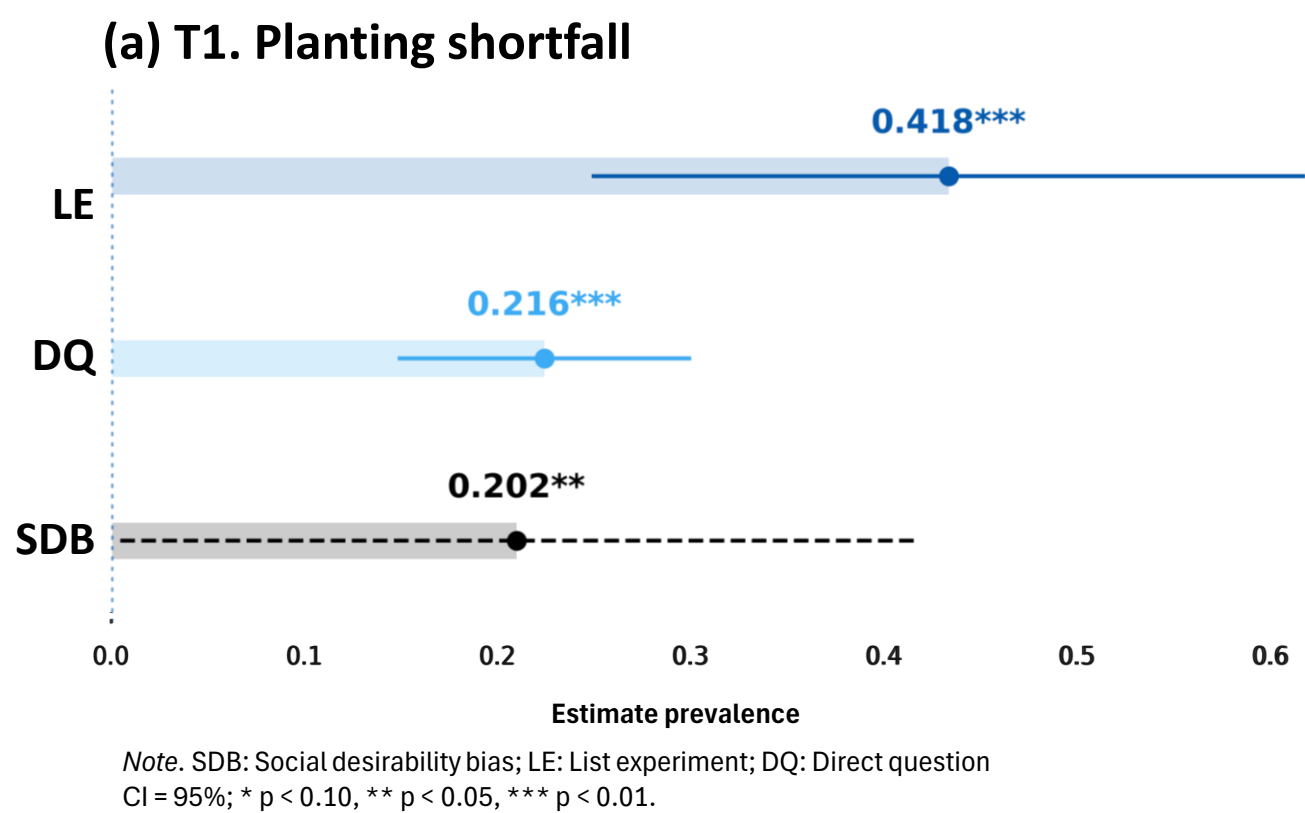
- Estimation strategy: List experiment



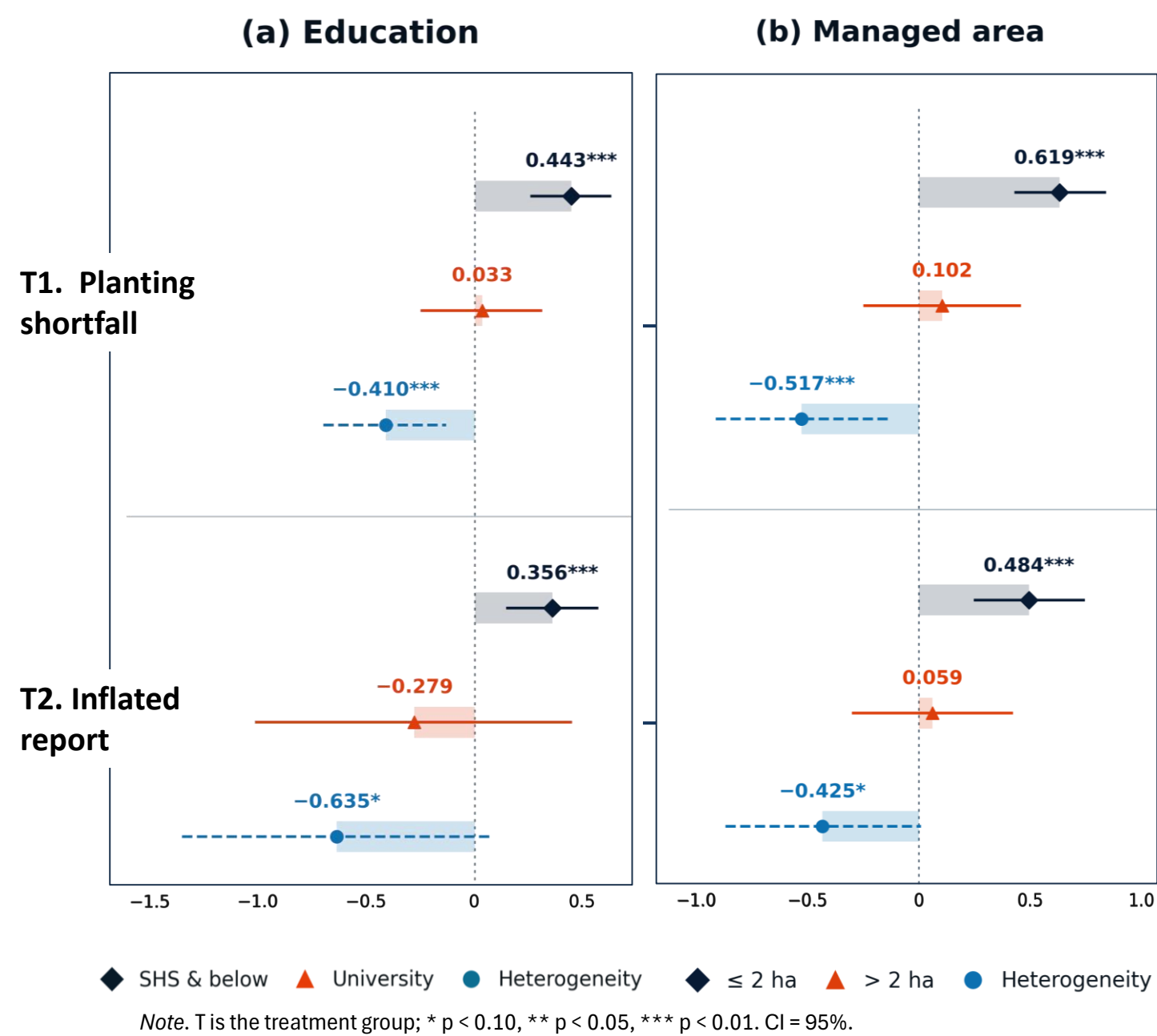
Note. LE for List Experiment; DQ for direct question; C is the control group; T is the treatment group
(a) DQ items are Yes/No responses to the questions for the control group: (1) Have you had a shortfall in the number of plants completed? (2) Have you overreported the survival rate of the plantation?
(b) T1-T2 are required to select the number of items they agree with

Result

(1) Evidence of social desirability bias



(2) Prevalent among the subgroups



Conclusion

- Direct questioning substantially understates planting shortfall, indicating a clear social desirability bias in self-reported restoration behavior.
- Evidence of reporting bias is behavior-specific, with less conclusive divergence for inflated survival reporting.
- Sensitive behaviors vary across respondent characteristics, particularly education and managed area, revealing meaningful heterogeneity in reported non-compliance.

Recommendation

- Complement direct monitoring with indirect reporting methods to better detect sensitive behaviors and reduce underreporting in restoration programs
- Use heterogeneity evidence to better target monitoring and implementation support across participant groups.

Main references

Damastuti, E., & de Groot, R. (2017); Kaine, G., & Wright, V. (2024); Koller, K et al (2023); Moore, H. E., & Rutherford, I. D. (2020); Solomon, J. N. et al (2015). Zhu, O. Y. et al (2024).