

Contextualization of a biodiversity monitoring exercise in Lore Lindu National Park, Indonesia



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Introduction

Well-designed biodiversity monitoring programs:

- ❖ deepen our scientific understanding of the natural environment
- ❖ detect critical changes in species populations or target ecosystems¹

→ RQ1: *How do they benefit those who implement the monitoring activities?*



Figure 1a-c: Teammates from the Remeasurement of tree diversity plots monitoring campaign.

International development cooperation (IDC):

- ❖ aims to fight poverty, maintain peace, and improve education
- ❖ is increasingly connected to climate and biodiversity targets²

→ RQ2: *Can biodiversity monitoring (1) benefit local people and (2) contribute to nature and environmental protection when incorporated in IDC?*

Background & Methods

The *Remeasurement of tree diversity plots* monitoring campaign:

- ❖ Part of an IDC program (FP/II) between the German Development Bank KfW and the Indonesian Ministry of Environment and Forestry
- ❖ FP/II aims to strengthen research collaboration and capacity in Lore Lindu National Park (LLNP) for biodiversity and climate management

Biodiversity monitoring:

- ❖ Feb. 2023 – Feb. 2024
- ❖ 13 0.24-ha plots est. in 2011
- ❖ optimize the plots into a long-term monitoring system
- ❖ 44 teammates, only 1 non-Indonesian (*locally-driven*)
 - ❖ 25 local workers
 - ❖ 10 LLNP staff
 - ❖ 8 students
 - ❖ 1 botanist

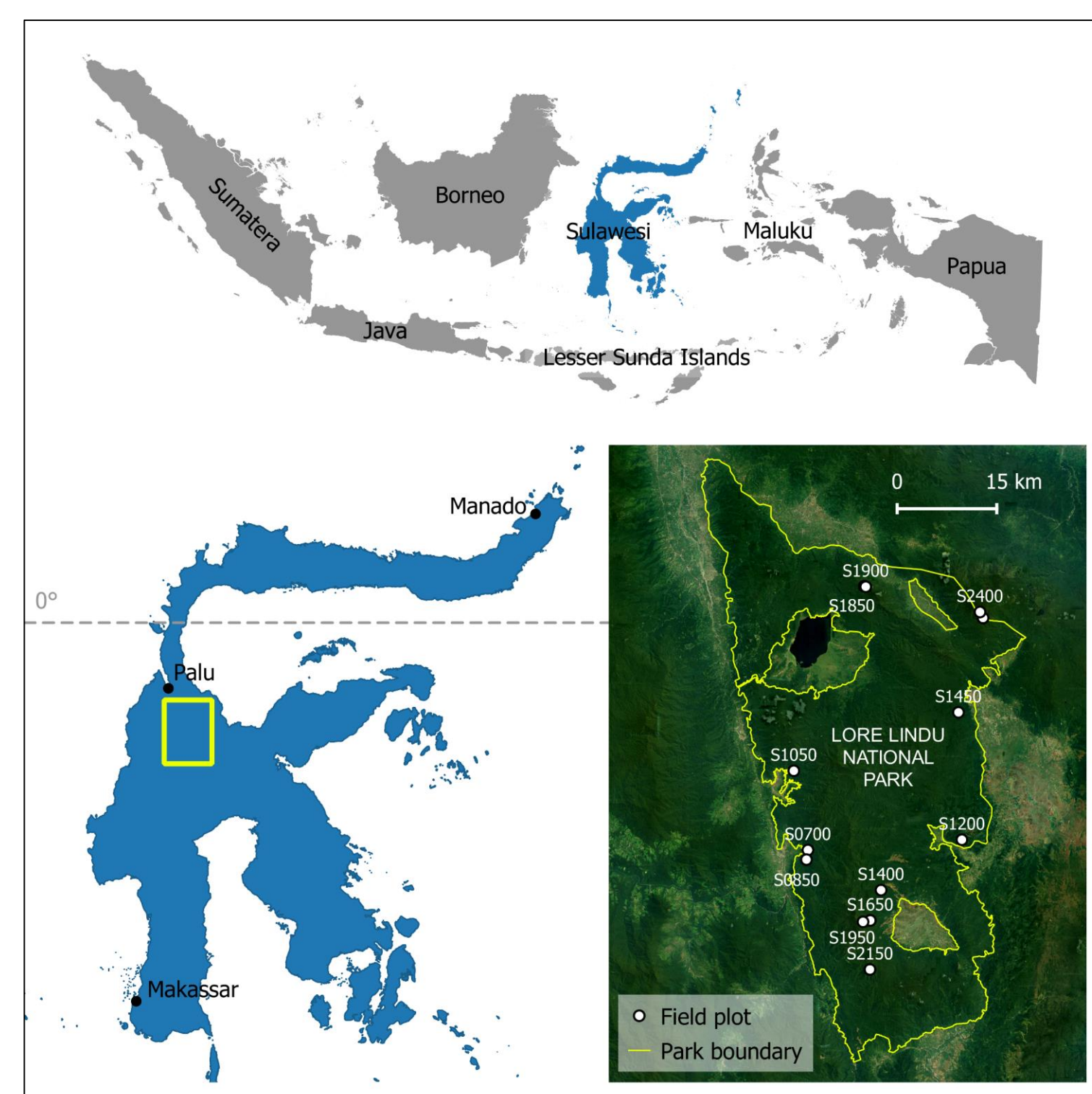


Figure 2: Study site.

Contextualization:

→ Did the monitoring activities impact the teammates?

capacity building + networking + income generation
knowledge sharing + personal fulfillment

→ Did the monitoring exercise change how the teammates value LLNP and nature and the environment?

QUESTIONNAIRE

General questions (6)

How many times did you join in the field/how many plots did you help measure (1-13)?

Likert-style questions (5)

To what extent do you agree with the following statements:

1. This work taught me valuable skills and knowledge.

☐ strongly agree ☐ agree ☐ no impact ☐ disagree ☐ strongly disagree

Open-ended questions (7)

Did this work impact the way that you view Lore Lindu National Park? In what ways?

Results

All respondents (**100%**) from *Remeasurement of tree diversity plots* gained important knowledge, expanded their professional networks, and earned valuable income. **93%** learned useful skills, and **97%** experienced personal fulfillment and a sense of accomplishment.

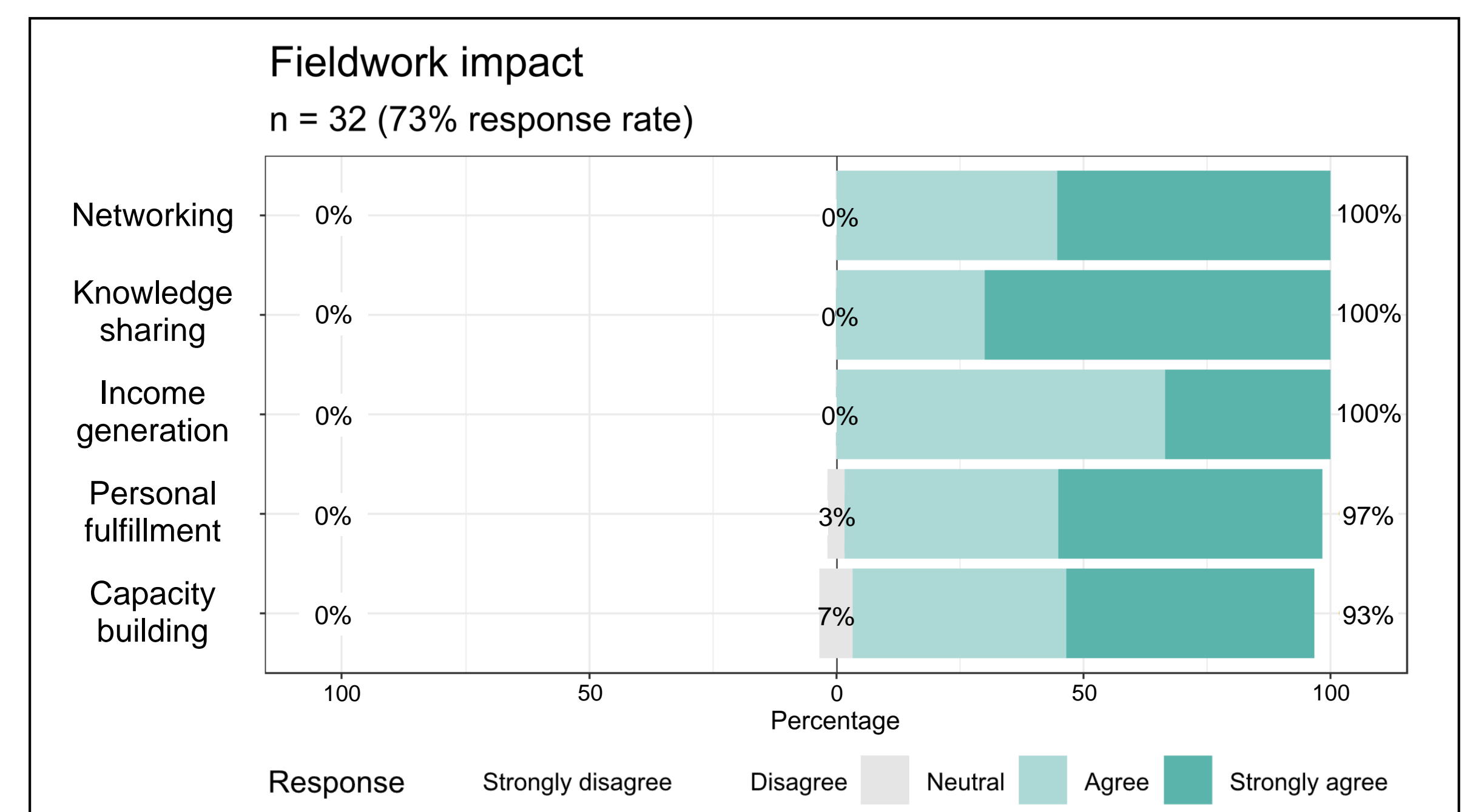
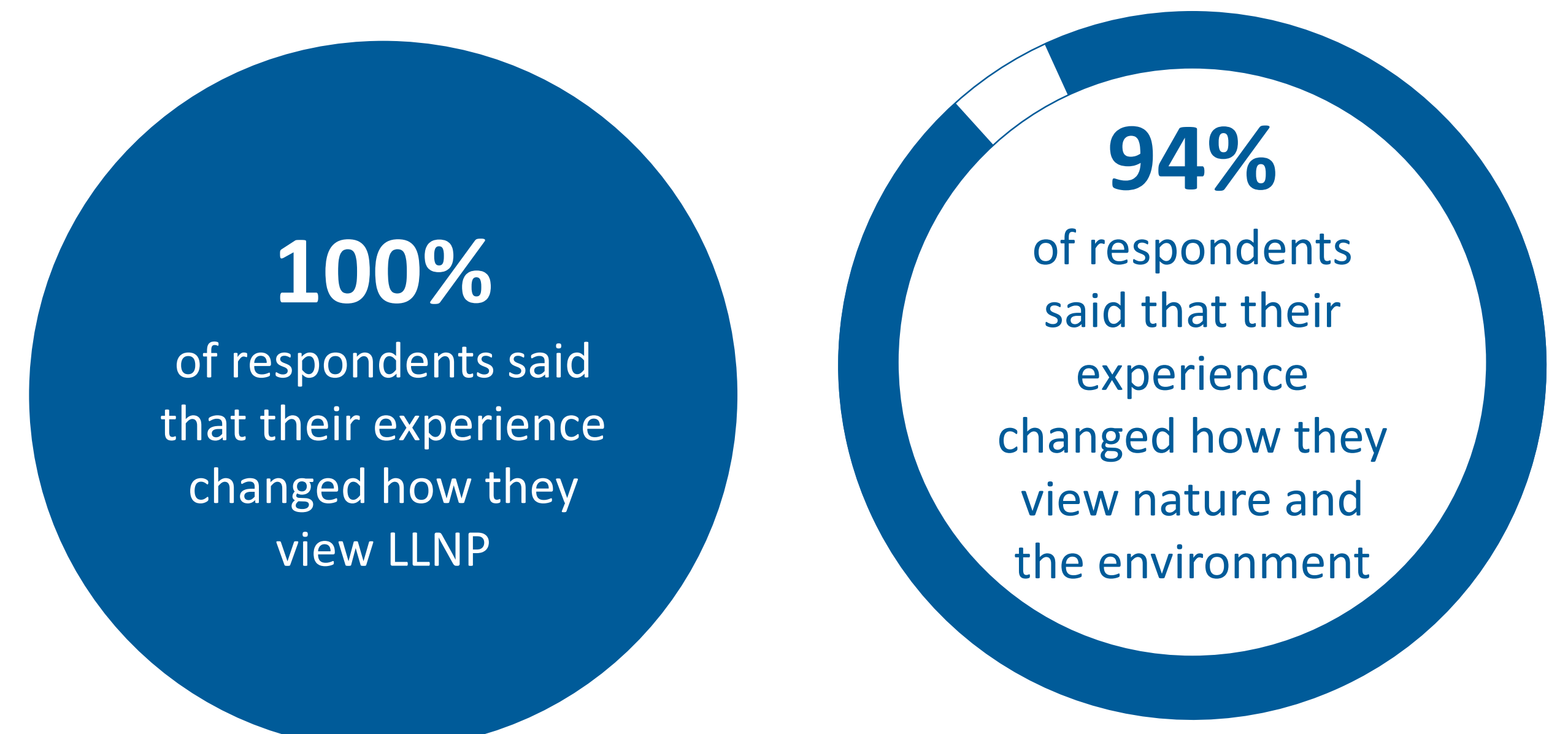


Figure 3: Results of the Likert-style questions.

LLNP staff, herbarium staff (botanist), and students emphasized that the field activities improved their ability to perform their usual jobs and resulted in Indonesian-led follow-up projects.



“I think there should be more work like this so that we and the community know more about how to preserve the forest and its functions for living things.” – local worker

Conclusions & Outlook

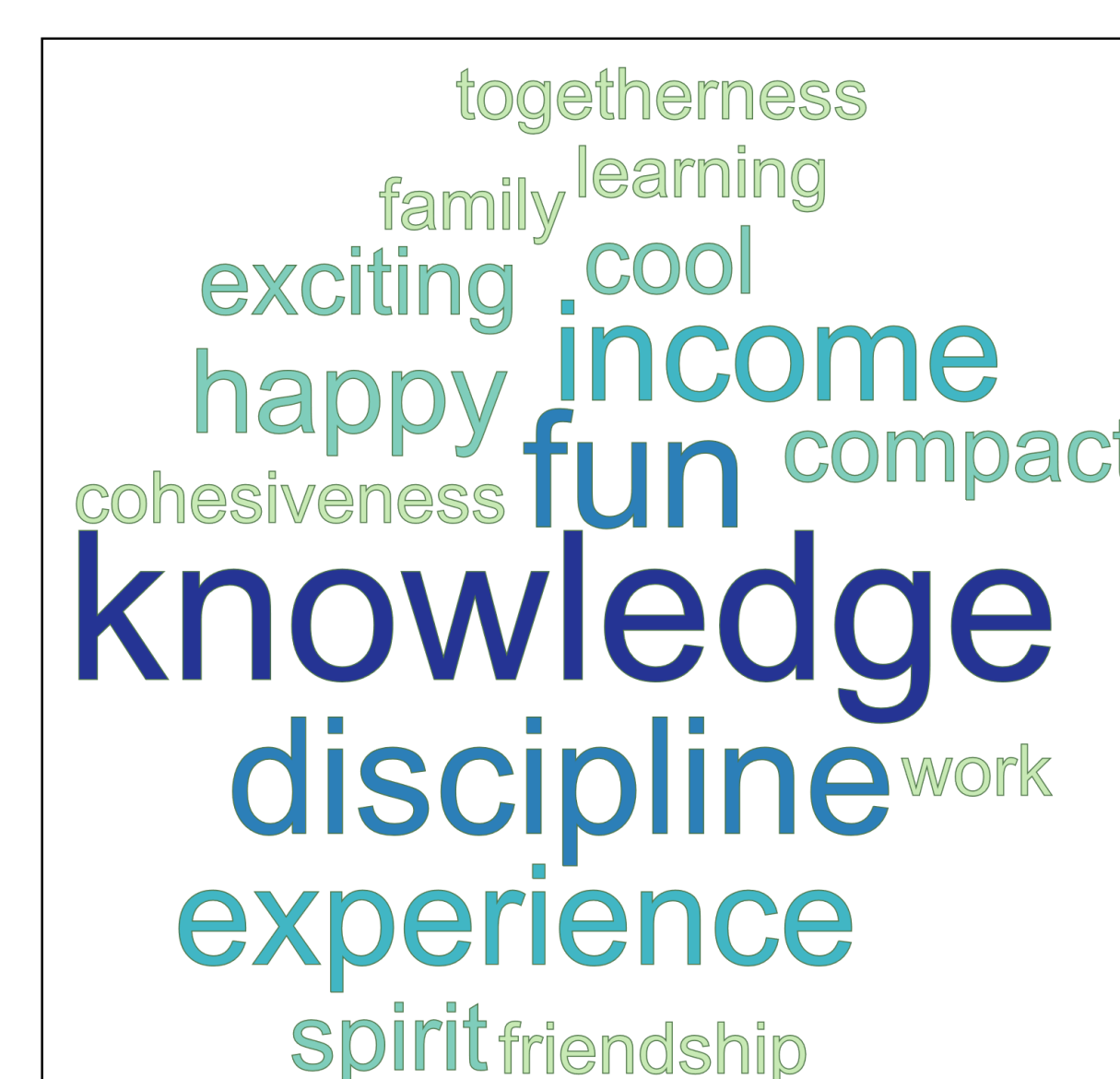
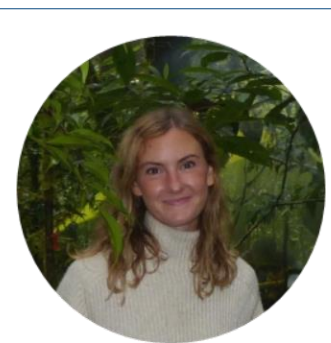


Figure 4: Words used by the teammates to describe the monitoring exercise.

In an indirect and possibly unplanned way, biodiversity monitoring programs **also**:

- ❖ build capacity, community, and fulfillment for those involved
- ❖ engender an appreciation for nature and an impetus to protect it
- ❖ should be integrated into IDC programs

The success of the biodiversity monitoring exercise was largely due to its emphasis on learning from and enhancing local knowledge systems and supporting local research and capacity. We encourage such an approach for future projects to promote more just natural resource governance and protection of nature.



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[1] Lindenmayer, D. B., & Likens, G. E. (2018). *Effective Ecological Monitoring* (2nd ed.). Csiro Publishing.

[2] United Nations, Inter-agency Task Force on Financing for Development. (2024). *Financing for Sustainable Development Report 2024: Financing for Development at a Crossroads. Chapter III.C: International Development Cooperation*. United Nations Publication. Print ISBN: 978-92-1-003098-4. Available from: <https://developmentfinance.un.org/fsdr2024>.

