

Using farmer knowledge to promote suitable shade tree species with ShadeTreeAdvice

Rigal Clément^{1, 2} (clement.rigal@cirad.fr), Wagner Sigrun³, Nguyen Mai Phuong², Jassogne Laurence⁴, Vaast Philippe⁵

¹ UMR Absys, CIRAD, Montpellier, France ; ² Vietnam office, ICRAF, Hanoi, Vietnam ; ³ Manchester Metropolitan University, Ecology and Environment Research Centre, Manchester, United Kingdom ; ⁴ TerraQ Pte. Ltd., Singapore, Singapore ; ⁵ UMR Eco&Sols, CIRAD, Montpellier, France

The promotion of coffee agroforestry systems requires the identification of locally suitable shade tree species tailored to farmers' needs and constraints. ShadeTreeAdvice was developed to facilitate this identification process. This method relies on farmers' knowledge for data collection. The results are subsequently uploaded to an online decision-support tool (www.shadetreeadvice.org). Since 2016, ShadeTreeAdvice was implemented in 9 coffee-growing areas worldwide. We review these studies to derive general insights in order to improve the methodology and strengthen future studies.

The ShadeTreeAdvice database documents 180 tree species and their provision of ecosystem services, offering substantial amount of information to guide the selection of suitable shade tree species in the studied areas. The review shows the importance of trade-offs between economic and environmental issues. It also highlights the need of better considering farming practices and labor requirements, particularly in regions where intensive practices relying on inputs have partially replaced ecosystem services. We anticipate that the database will keep expanding with new studies in the years to come.



Map of ShadeTreeAdvice studies related to coffee.

References:

1. Rigal, C., Wagner, S., Nguyen, M. P., Jassogne, L., & Vaast, P. (2022). ShadeTreeAdvice methodology: Guiding tree-species selection using local knowledge. *People and Nature*. doi:<https://doi.org/10.1002/pan3.10374>