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AGRICULTURAL TRANSFORMATION IN WAYANAD (SOUTH INDIA) – HOW DOES IT AFFECT SPIDER DIVERSITY?

INTRODUCTION

Changes in agricultural practices & land-use

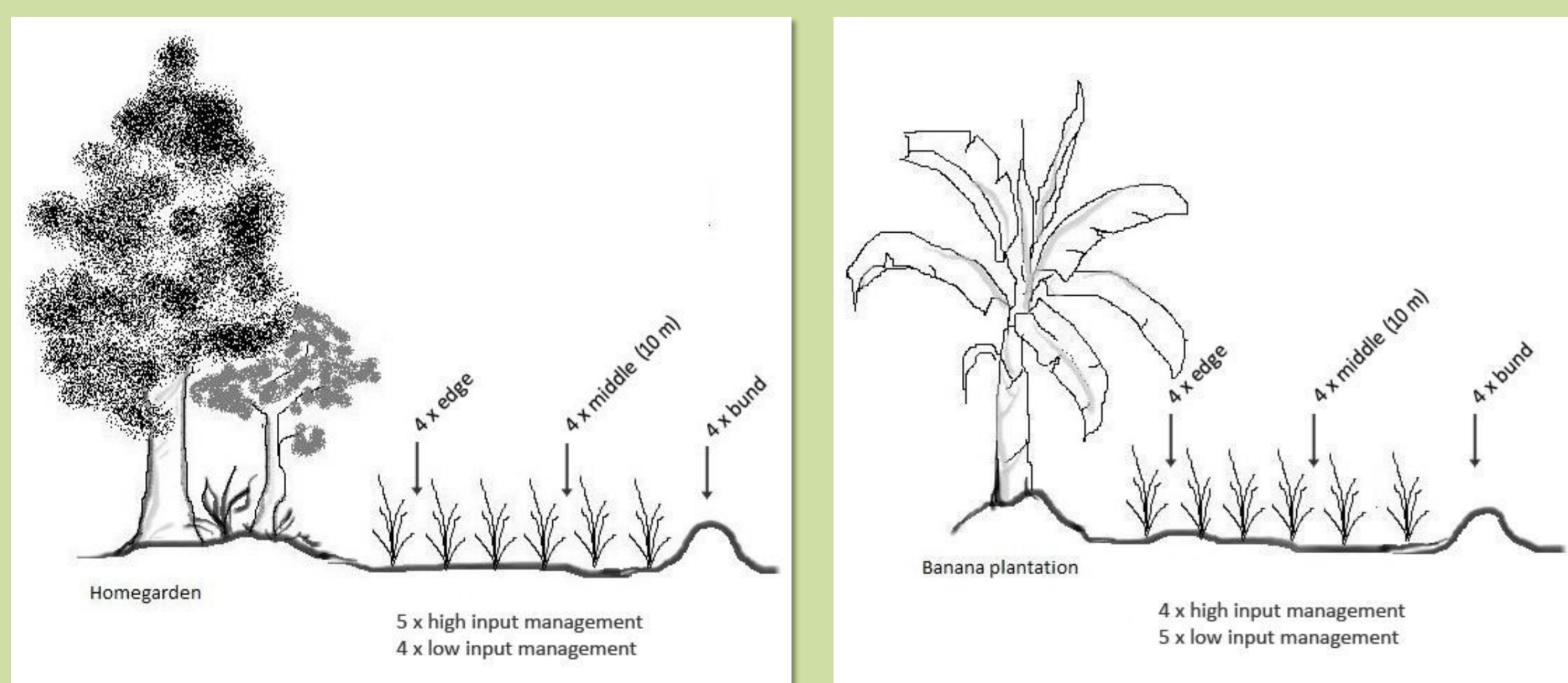
In Wayanad District, South India paddy is one of the most important crops, primarily cultivated for self-sufficiency. However, agricultural intensification and land-use change are current trends which affect small scale agriculture in Wayanad. Manifold factors changed cultivation towards intensified agriculture and cash crops. Traditional rice varieties, which are adapted to local environmental conditions, are often replaced by high yielding varieties whose successful cultivation requires intensified management. The shift from rice to cash crops like banana entails the drainage of fields and high application of fertiliser and pesticides. Increased pest attacks, soil degradation, and decreasing water quality are some consequences described by the local farmers.

This study seeks to assess the impact of local effects (management) and landscape effects on rice field related spider diversity.



METHODS

Sampling design



RESULTS

In total **14,887 individuals** were collected, thereof **892 spiders** belonging to **13 families** and **26 genera**. **19 species** could be identified. Tetragnathidae, Oxyopidae and Salticidae are the most abundant families.



Tetragnatha



Oxyopes javanus



Carrothus viduus



Neoscona yptinika

CONCLUSION

The results indicates that **homegardens support beneficial animals** like spiders in adjacent rice fields. However, spider **abundance declines towards the middle** of the fields. **Management could be more important in fields beside homegardens** than next to banana plantations with respect to faunal diversity. These hypotheses will be tested in further analysis.

ACKNOWLEDGEMENTS

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Data collection

Spiders were collected by sweep netting from September till November 2011. Information about management practices were collected during questionnaires with the farmers.