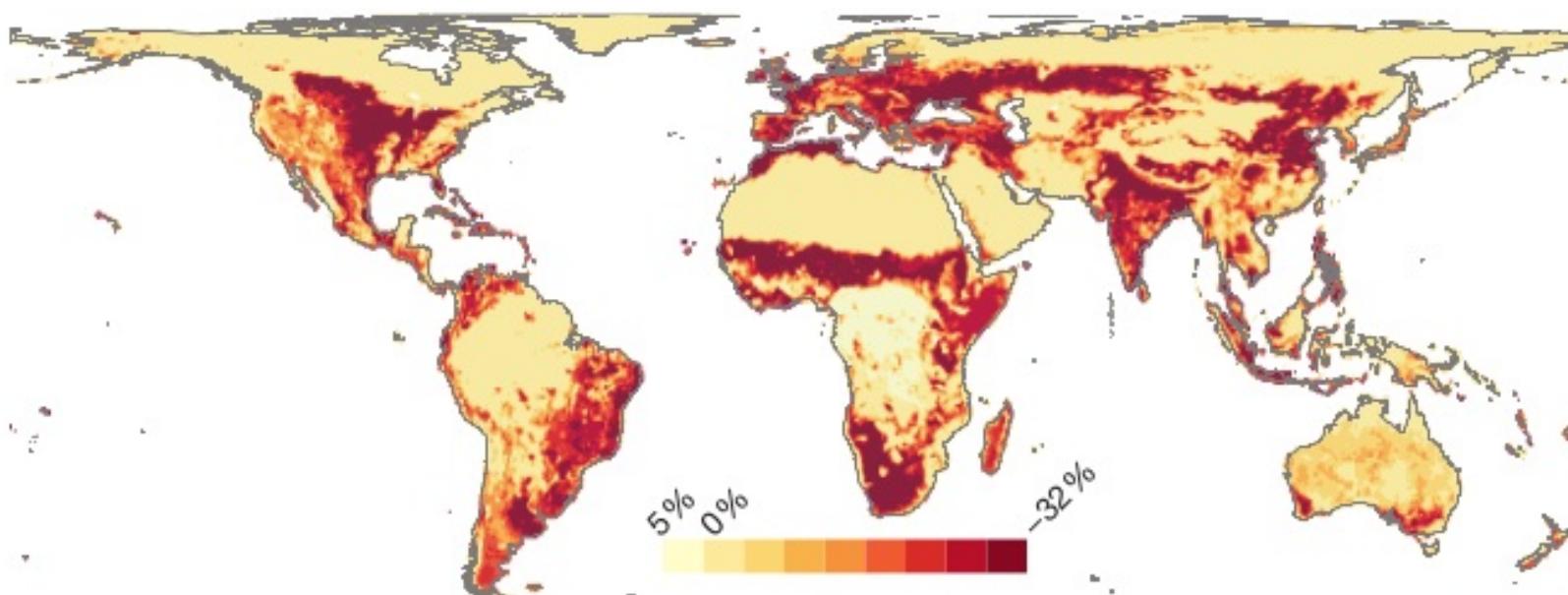




Recommendations for broad-scale diversity models from an independent study

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BIODIVERSITY MODELS



Predicted change in species richness from Newbold et al. (2015)

POTENTIAL PROBLEMS

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- Many broad-scale models generalize over a wide range of variables

POTENTIAL PROBLEMS

- Often only single factor (land use) models

POTENTIAL PROBLEMS

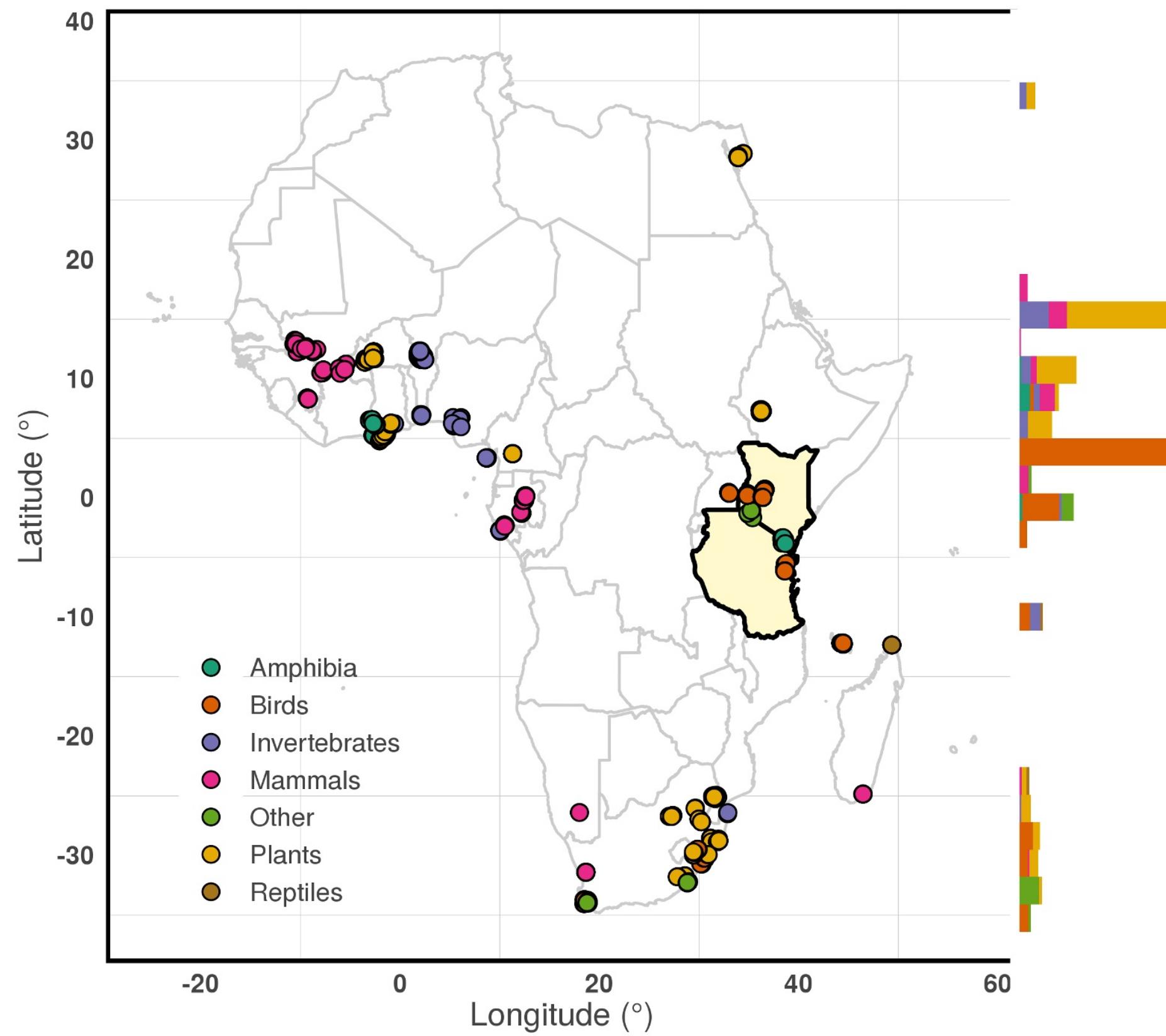
- Based on available (biased ?) data

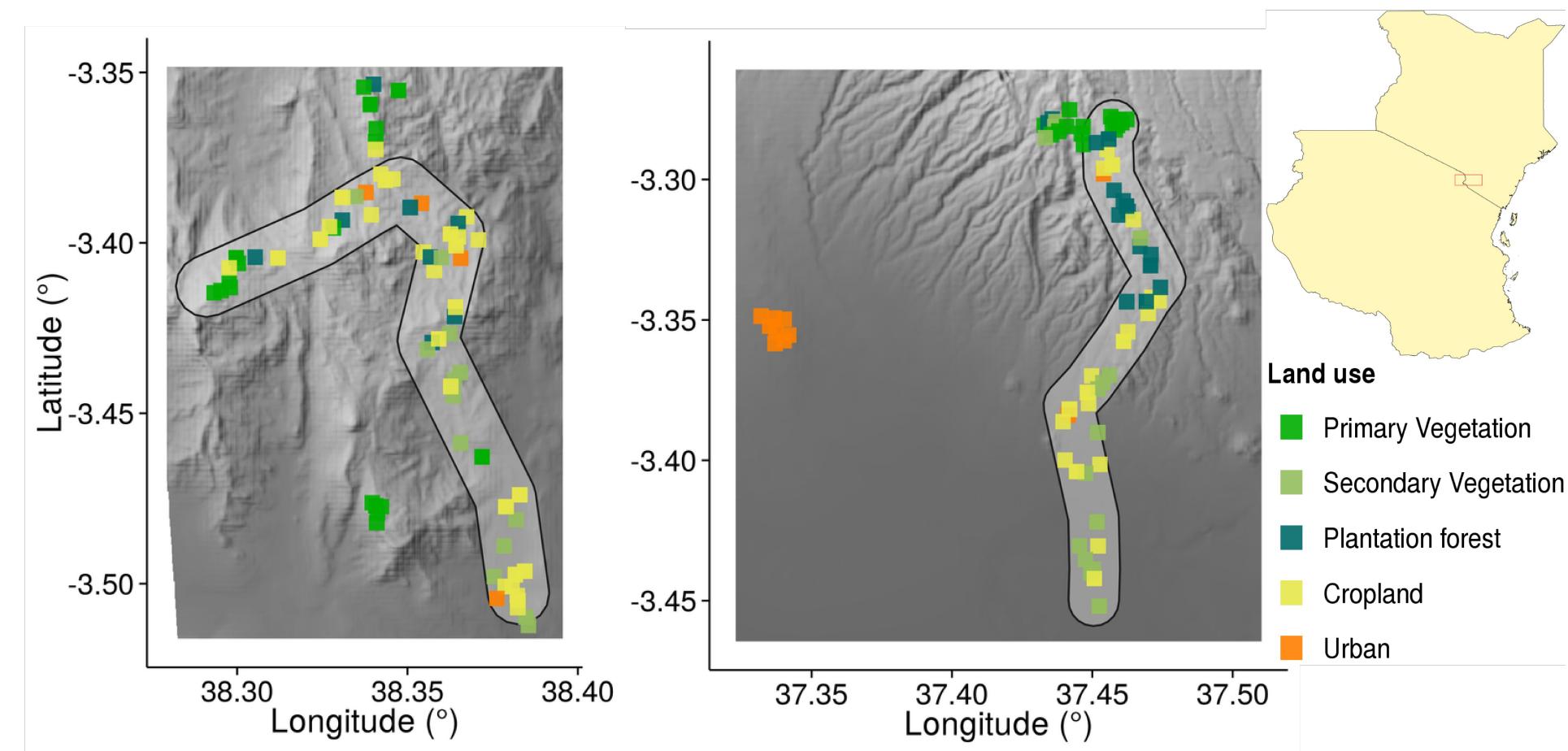
QUESTION :

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How well does an African-wide model reflect species diversity and abundance on a local land-use gradient where local conditions are known?

METHODS





PV

SV

PL

CL

UR

- Timed point counts

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- Total 147 sites: 172 species, 2700 individual counts

AUXILIARY DATA FOR THE COMPARISON

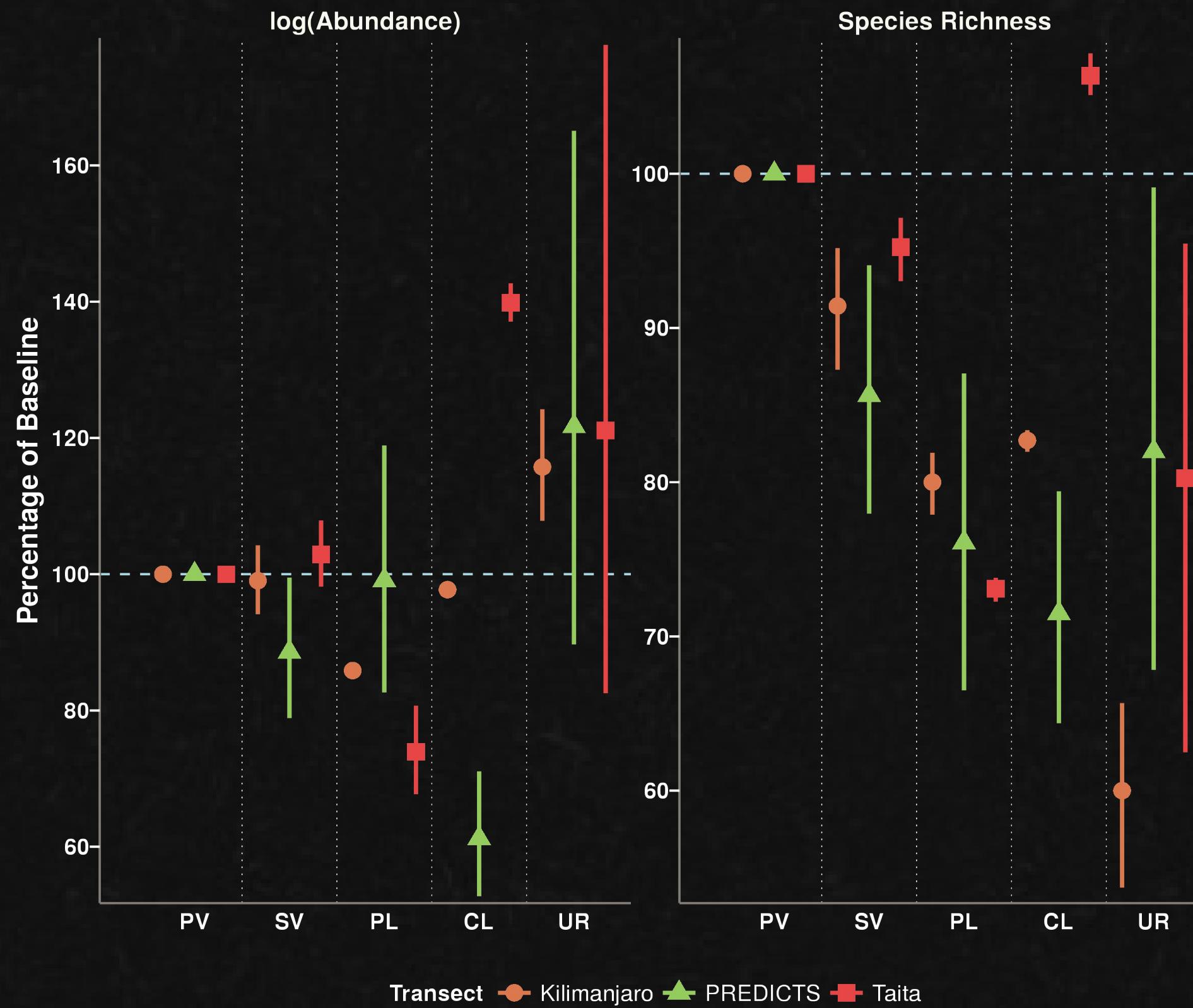
AUXILIARY DATA FOR THE COMPARISON

- Remote-sensing and census data (iNDVI and meanNDVI, HuPoDen, Forest-Cover y2000)

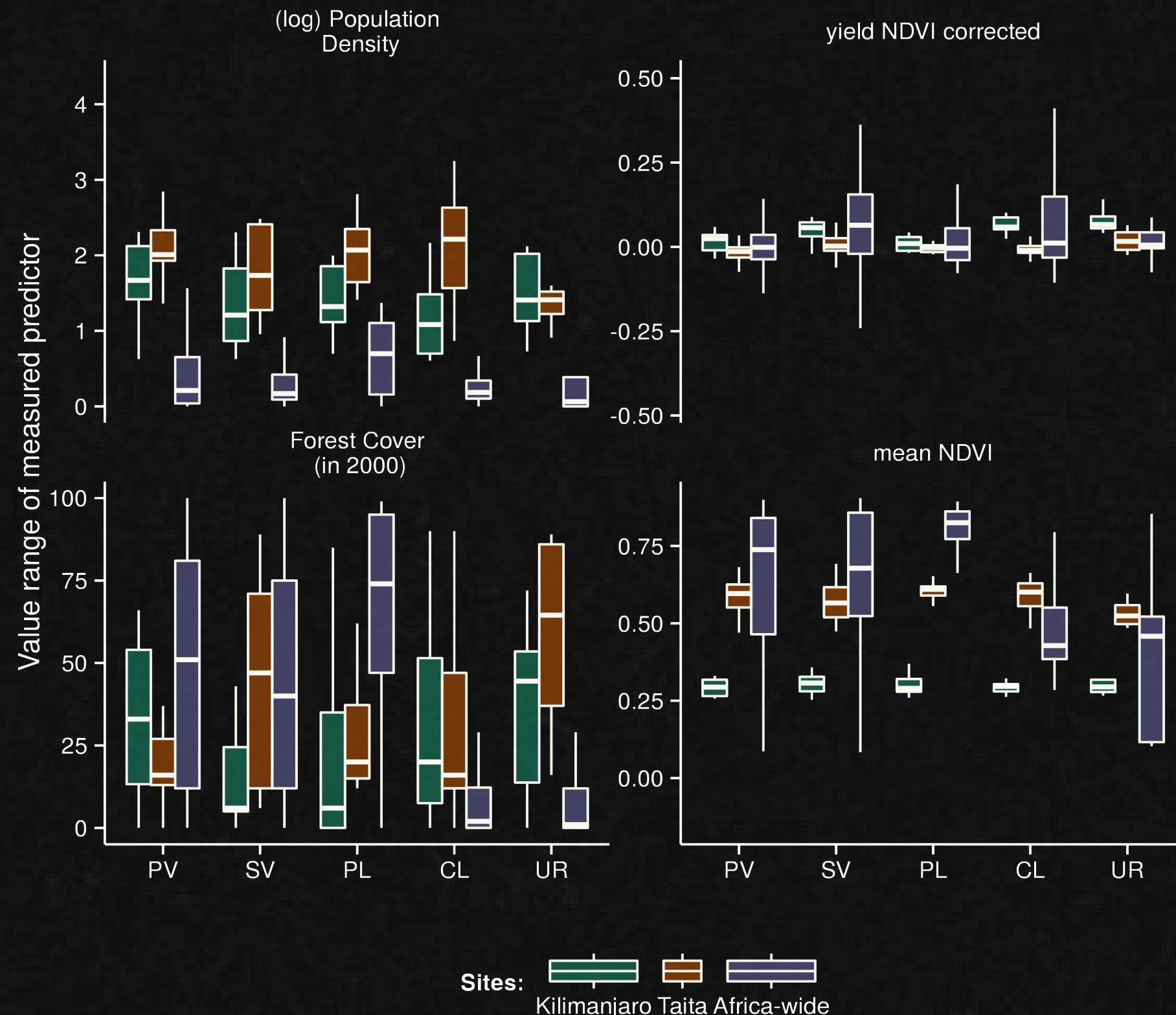
AUXILIARY DATA FOR THE COMPARISON

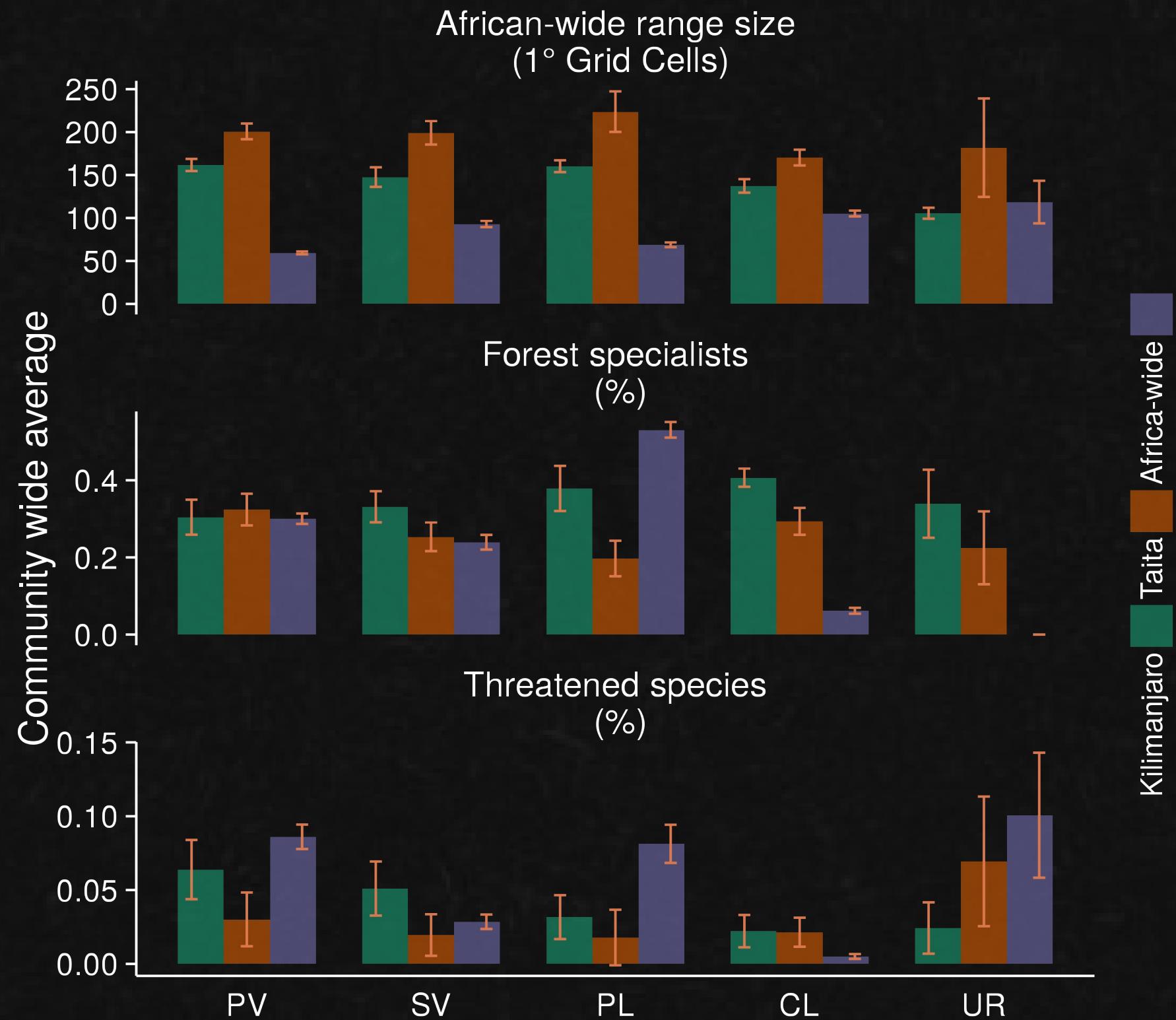
- Remote-sensing and census data (iNDVI and meanNDVI, HuPoDen, Forest-Cover y2000)
- Functional traits (Range size, Threat status, Forest specialization)

RESULTS



Transect ● Kilimanjaro ▲ PREDICTS ■ Taita





A wide-angle photograph of a tropical or subtropical landscape. In the foreground, there is a dense field of tall, green grasses and some shorter plants. Behind the field, there is a mix of green vegetation, including several palm trees and other leafy trees. The background is filled with a dense forest of various trees and foliage, extending towards a hillside. The sky is overcast and grey.

SUMMARY

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- Cropland higher number of species than the average more intense cropland site (Agroforestry)
- More forest-specialists in cropland
- Primary forest likely lower diversity due to size and fragmentation
- Uncertainty in urban habitats

CONCLUSION

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- Large-scale models succeed at detecting overall impacts of land use change.
- However they might lose accuracy if they are used to predict local impacts on biodiversity, if local conditions do not conform
- Policy makers need to look not only at large-scale patterns, but also at local differences, when deciding on conservation actions.

ACKNOWLEDGEMENTS

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Danida Fellowship Centre
- sustaining development through research and learning

**THANKS FOR
LISTENING!**

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