

Living on landslides: land use on unstable slopes in a rural environment of the Rift flank west of Lake Kivu (DR Congo)

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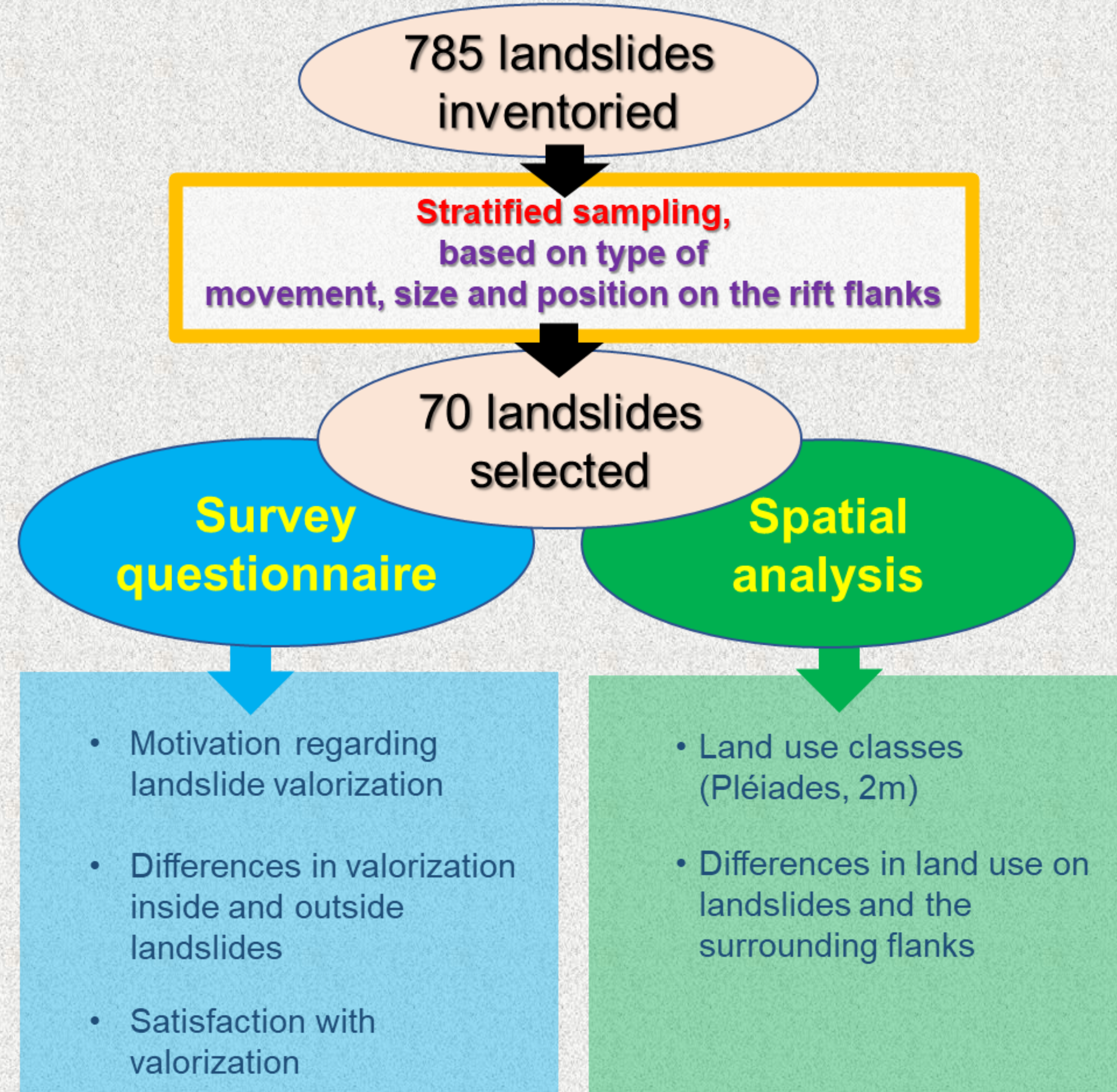
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Introduction

- Landslides: widely studied because of the threat they represent for people, infrastructure, and land degradation
- Landslides may also be a source of opportunities: human settlements, agriculture or mining
- Yet, little is known about factors that influence landslide valorization

The objectives are to assess, based on the characteristics of landslides and risk perception of land users, the extent and modes of valorization and the degree of satisfaction in exploiting landslides

Materials and methods



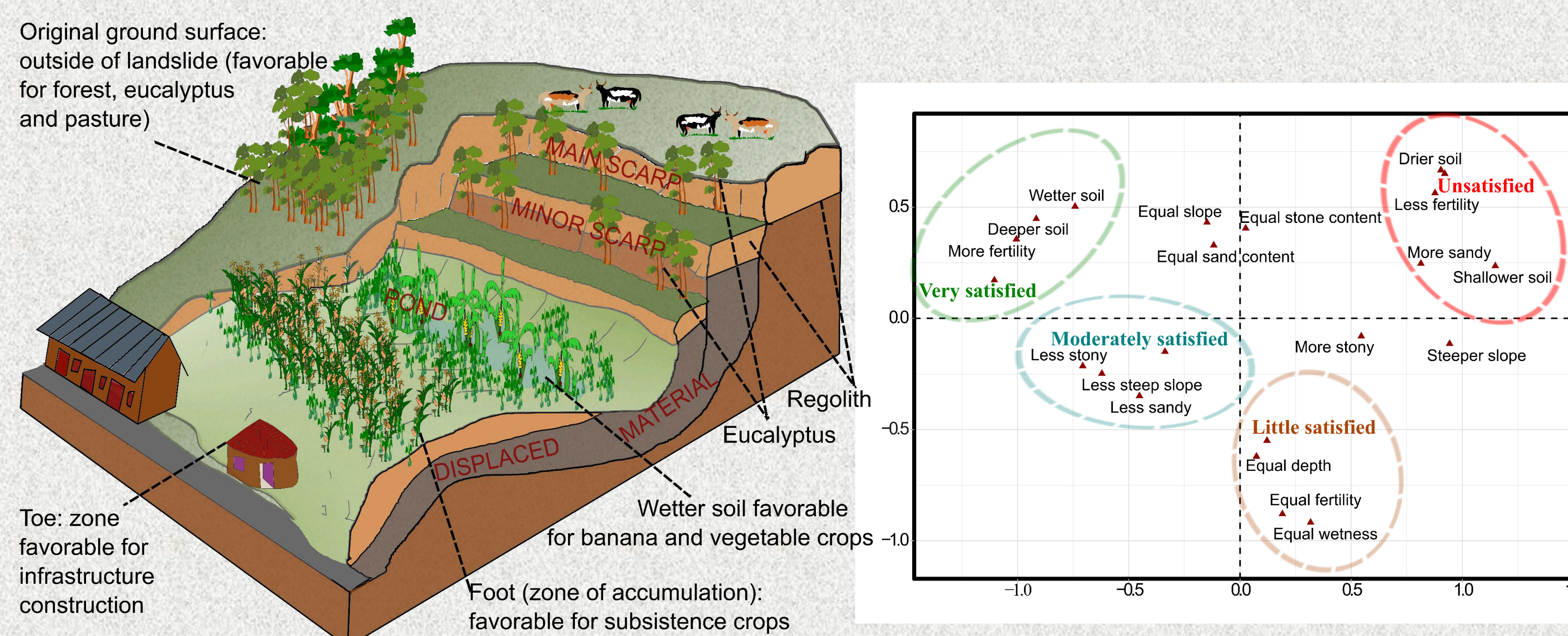
- Data analysis: chi-square tests, multi linear regression and Multi correspondence analysis (MCA)

Results

❖ Knowledge about landslide and risk perception

- ❖ All farmers know what a landslide is
- ❖ 74% of respondents live on an active landslide
- ❖ Heavy rain, earthquake and deforestation are mentioned with landslide occurrence.
- ❖ Farmers perceived higher risk for recent landslides and those with flow movement

❖ Land value in landslides and farmer satisfaction

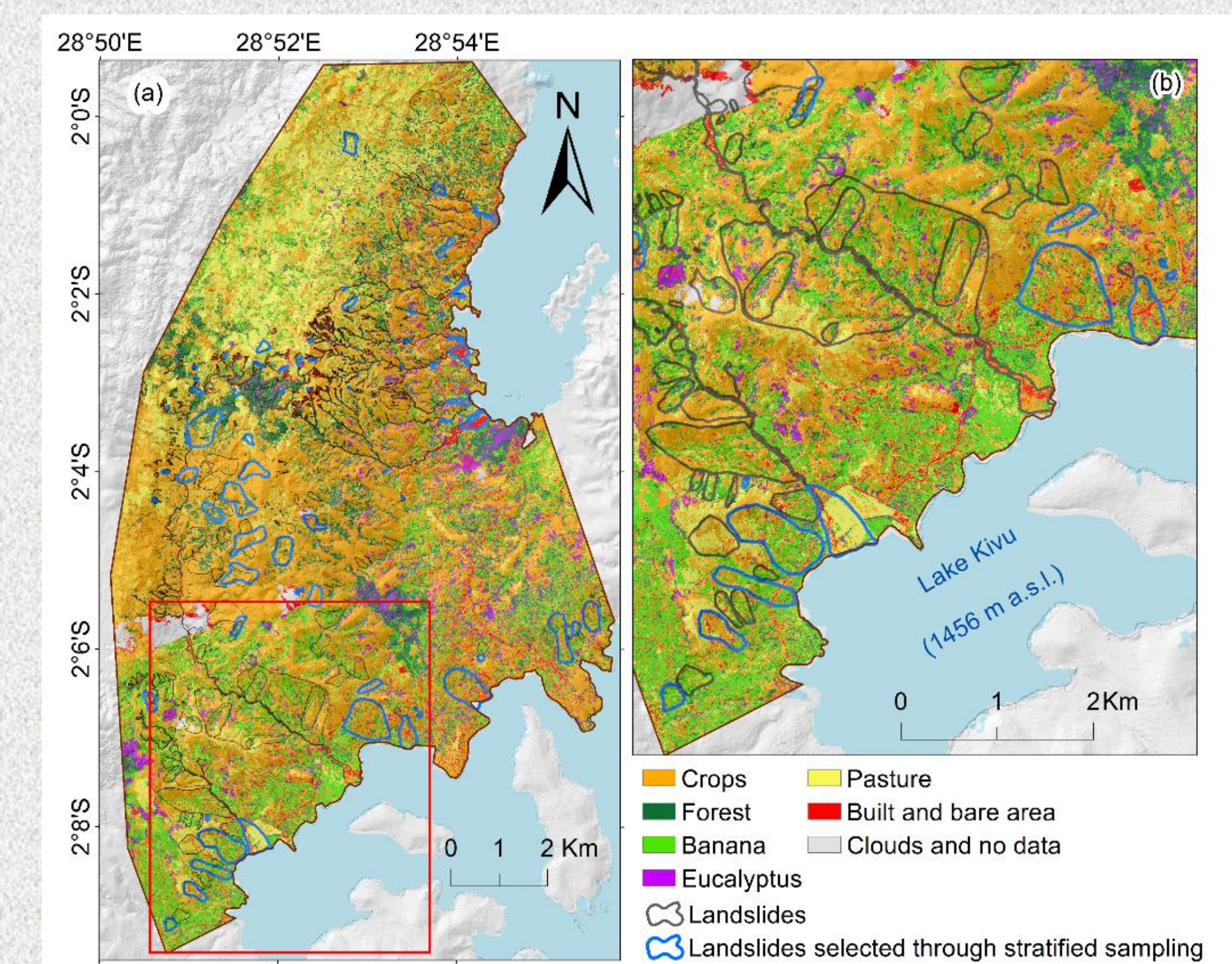


- ❖ High satisfaction results from the exploitation of wetter, deeper and more fertile soil in landslides than the adjacent flanks

Factors that increase the value of a plot on a landslide:

- (1) Soil characteristics: **fertile**, **humid** and **deep soil**
- (2) Lower slope: **less unstable**
- (3) Opportunity to **cultivate all year**
- (4) Soil favorable for **banana cropping**

❖ Landslide valorization



- ❖ Farmers adapt crop choices to the characteristics of landslides
- ❖ Landslide characteristics induce a differentiation in land use

Discussion and conclusion

- ❑ Large old deep-seated landslides are more favorable to valorization than shallow landslides
- ❑ Land use inside and outside landslides is often different and conditioned by landslide characteristics
- ❑ Human settlement on unstable slopes would be justified because any future hazards are outweighed by the immediacy of the benefits
- ❑ Better understanding of the reasons for the settlement of rural populations on unstable hillslopes may help devise better risk mitigation strategies.