

# **Field work on cultural ecology in Brazilian Amazon**

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IN BRAZILIAN AMAZON

Field work on cultural ecology

# Purpose of this study

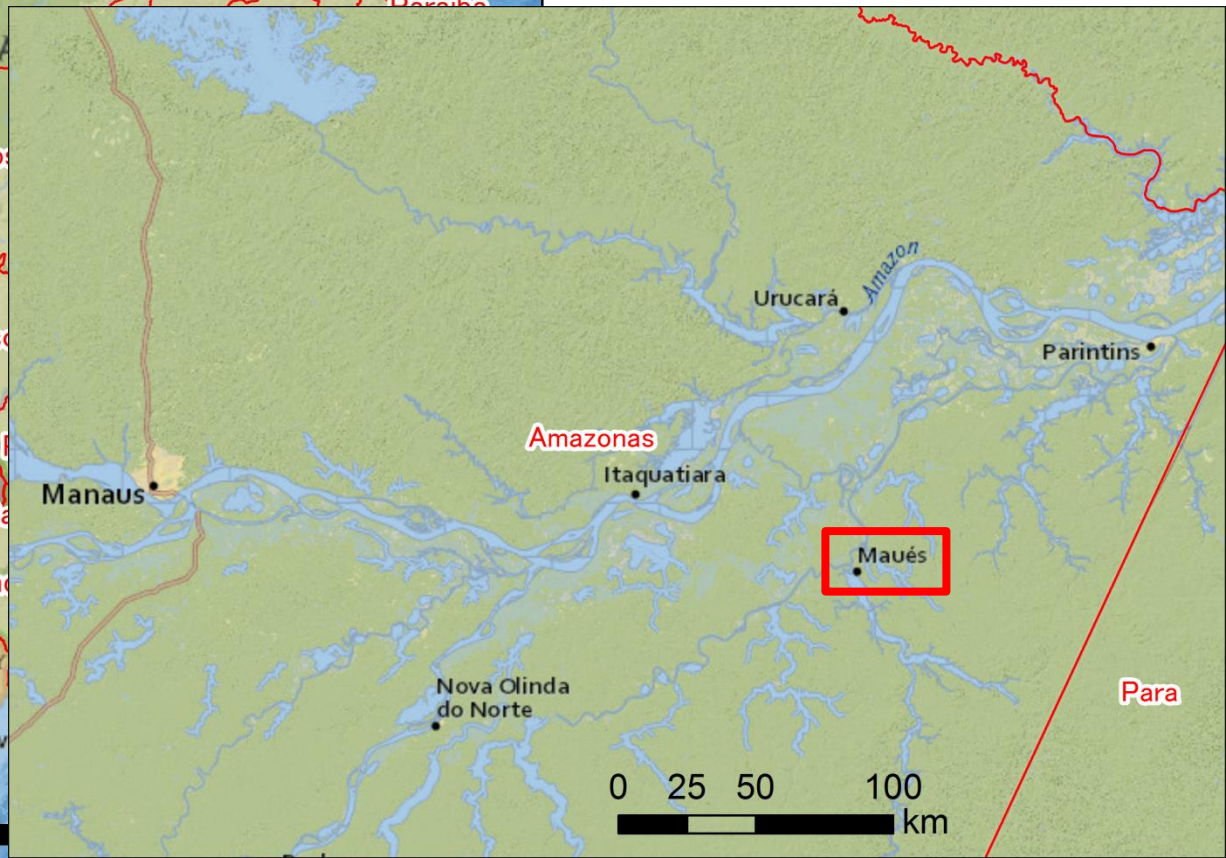
Developing maps using existing digital data and satellite images  
→to grasp large-scale natural conditions  
and for a base map for detailed field survey

Mapping the result of qualitative hearing investigation  
→to understand land use and lifestyle of the residents

The purpose of this study is to find out how the residents effectively use spatial differences in natural environment such as the landform and flora and fauna in terms of cultural ecology through the fabrication of the maps.



# Location of Maués





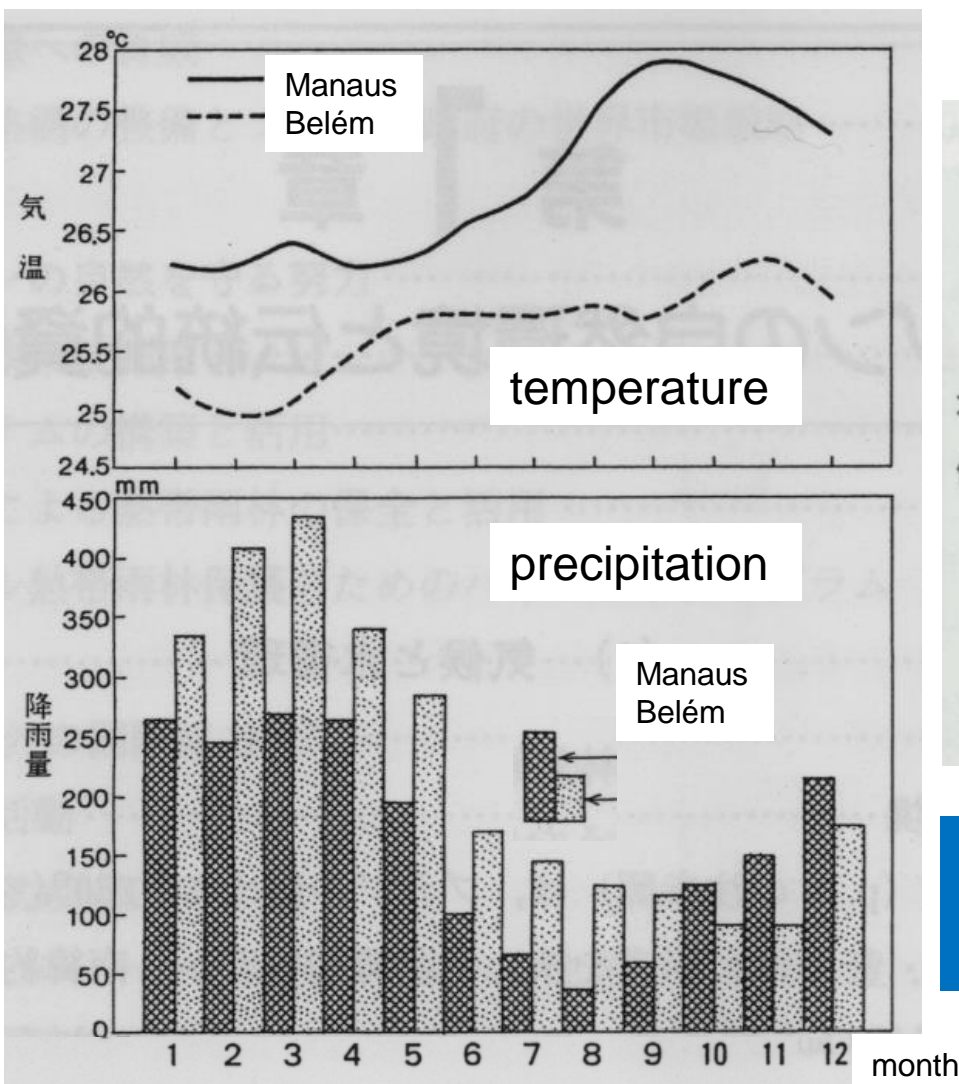


# Population characteristics in the major cities in Amazonas state

	Manaus	Itacoatiara	Parintins	Maués
population (2010)	1,802,014	86,839	102,033	52,236
population density (persons/km <sup>2</sup> ) (2010)	158.06	9.77	17.14	1.31
increase rate of population (%) (1980-2010)	184.5	64.2	98.6	74.0

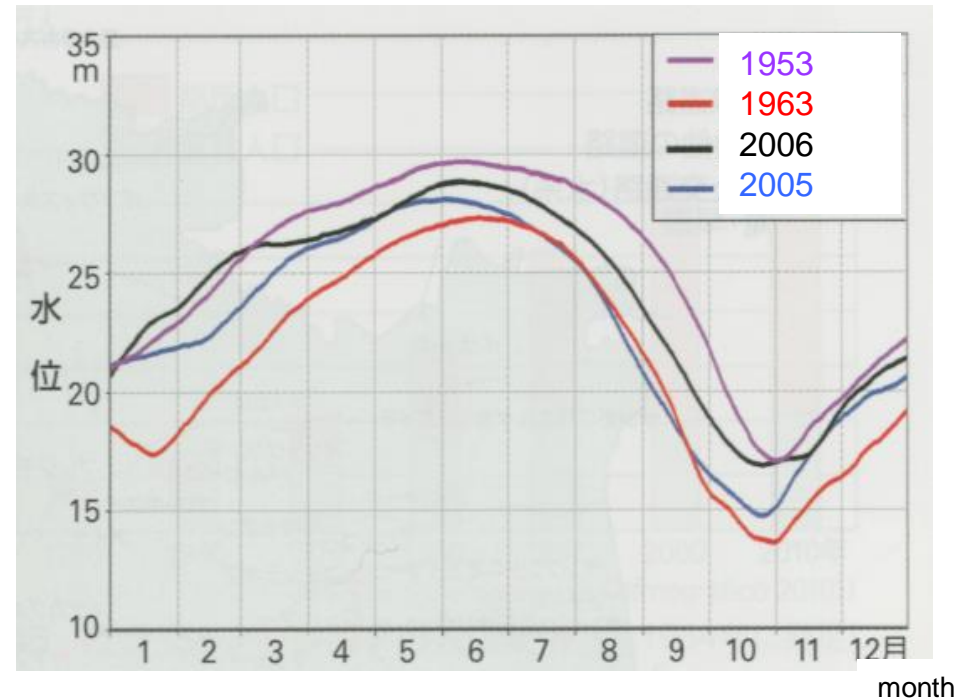
source: data from IBGE





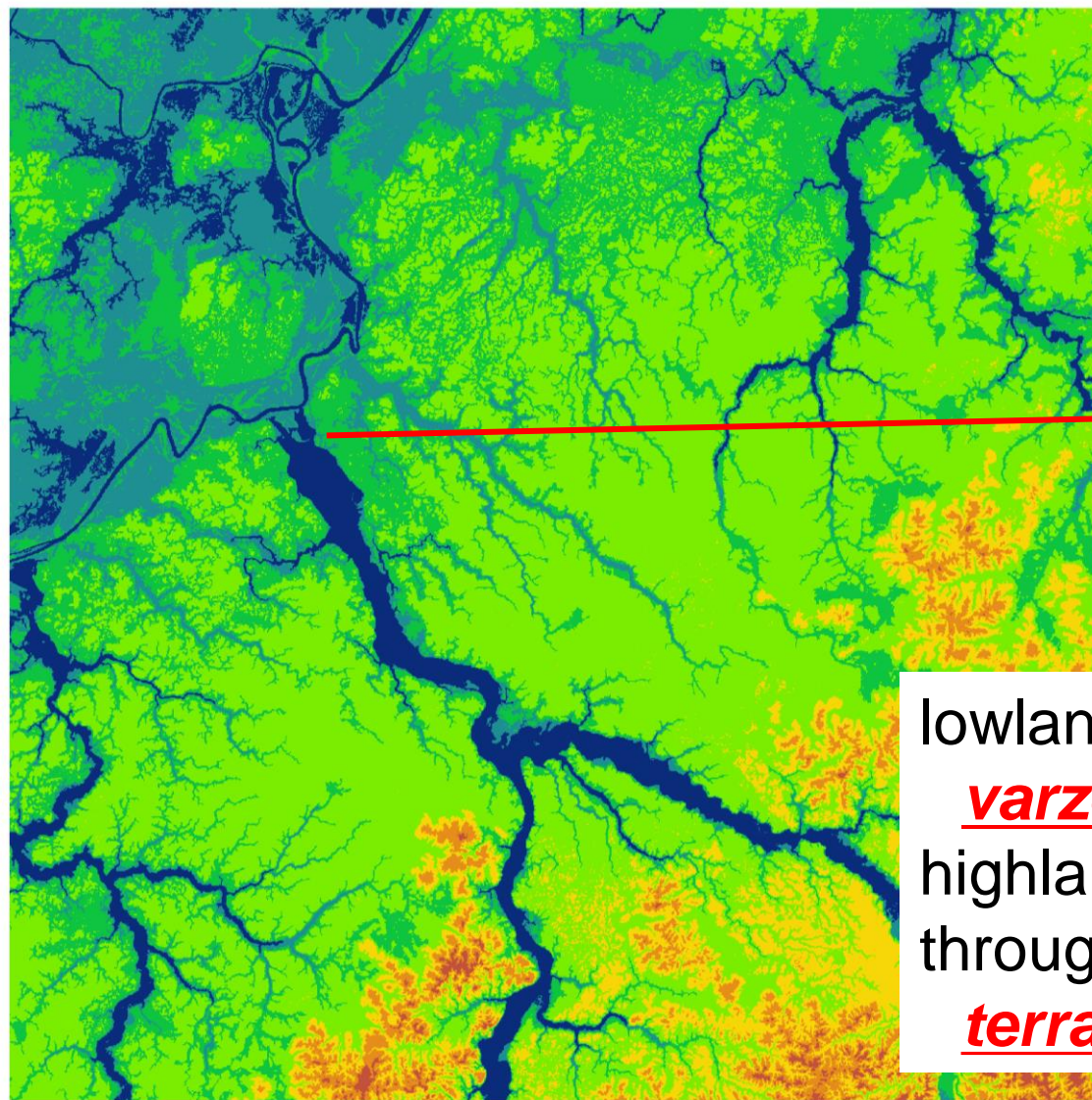
## Annual change of temperature and precipitation

source: Nishizawa et al. (2005)



## Annual water level fluctuation of the Amazon River

source: Matsumoto (2012)



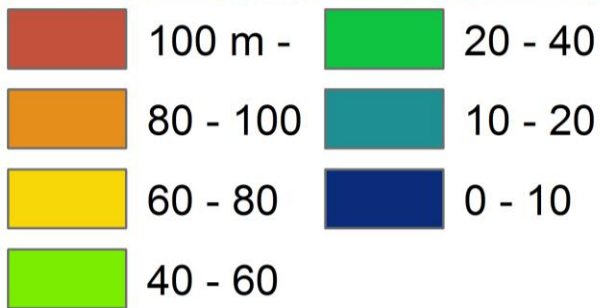
Maués city area

lowland submerged seasonally:

**varzeá**

highland without submergence  
throughout a year:

**terra firme**



0 5 10 20  
km

Elevation relief map around Maués

source: SRTM3 data



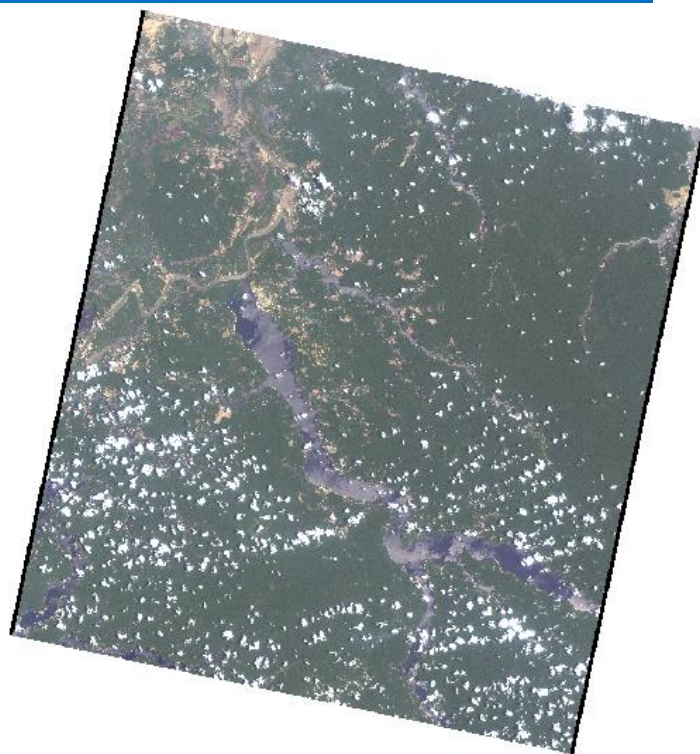




# Satellite images (ALOS AVNIR-2)

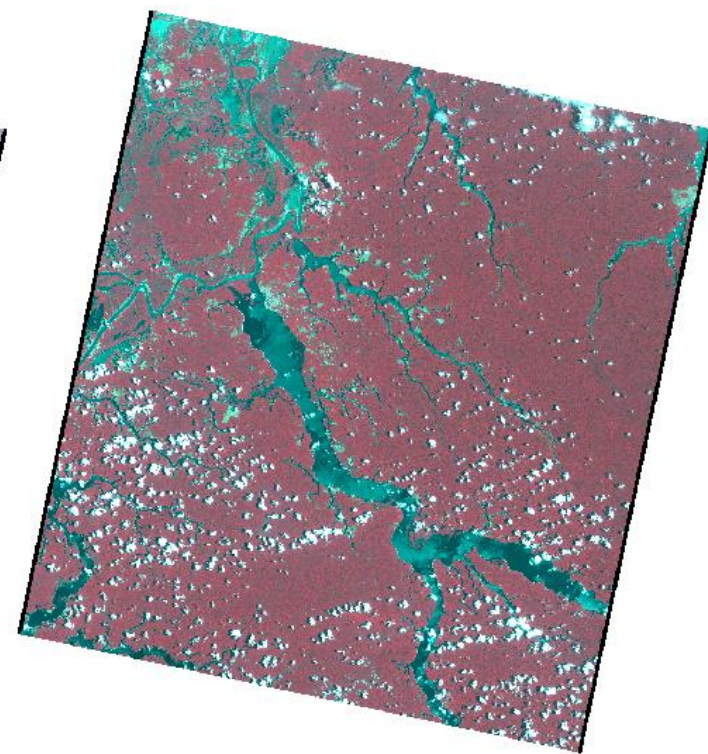
Layers

- ☒ IMG-01-ALAV2A134782730\_O: band 1  
Value High : 255 Low : 0
- ☐ IMG-02-ALAV2A134782730\_O: band 2  
Value High : 255 Low : 0
- ☐ IMG-03-ALAV2A134782730\_O: band 3  
Value High : 255 Low : 0
- ☐ IMG-04-ALAV2A134782730\_O: band 4  
Value High : 255 Low : 0



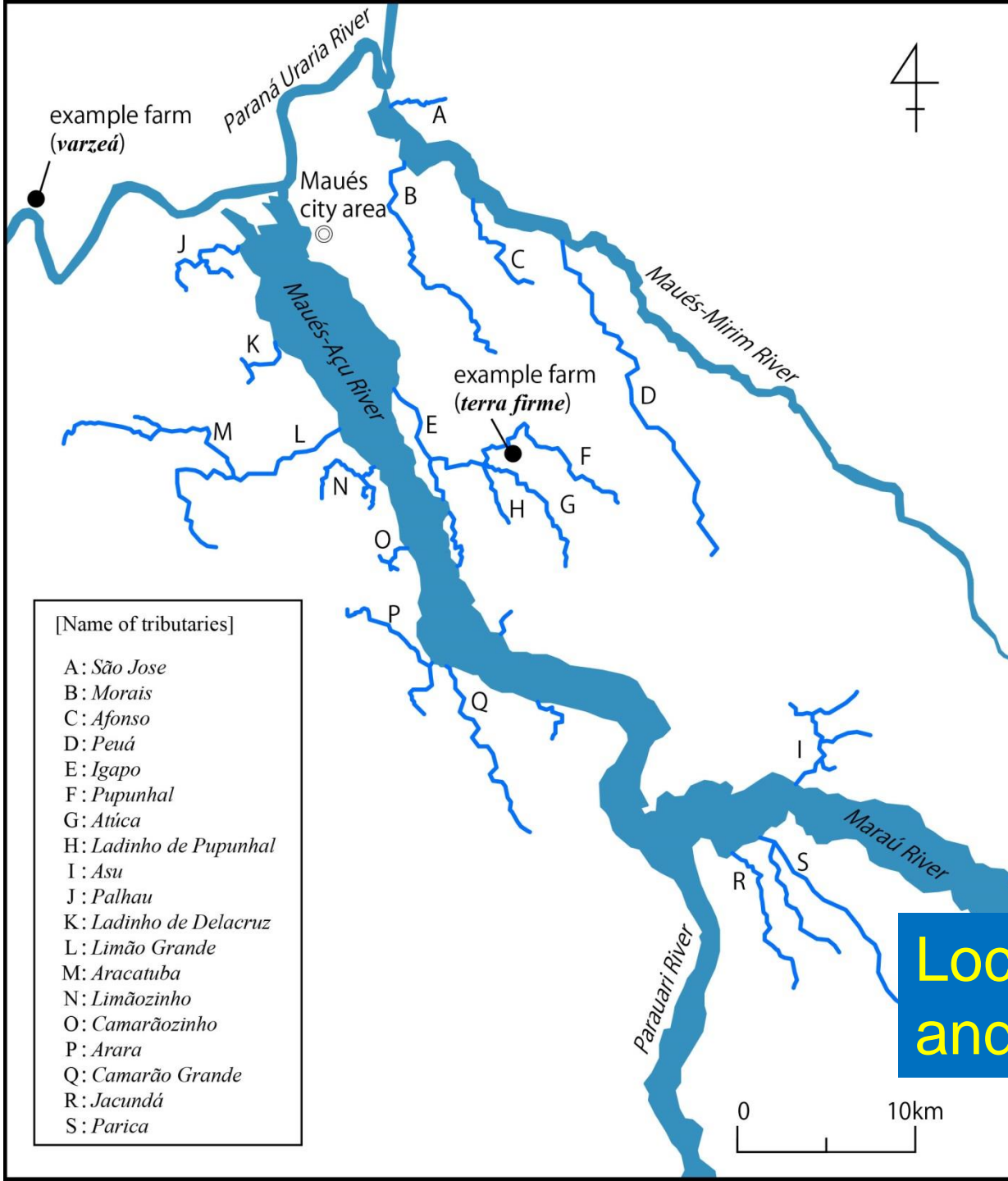
true color image

band 3: Red  
band 2: Green  
band 1: Blue



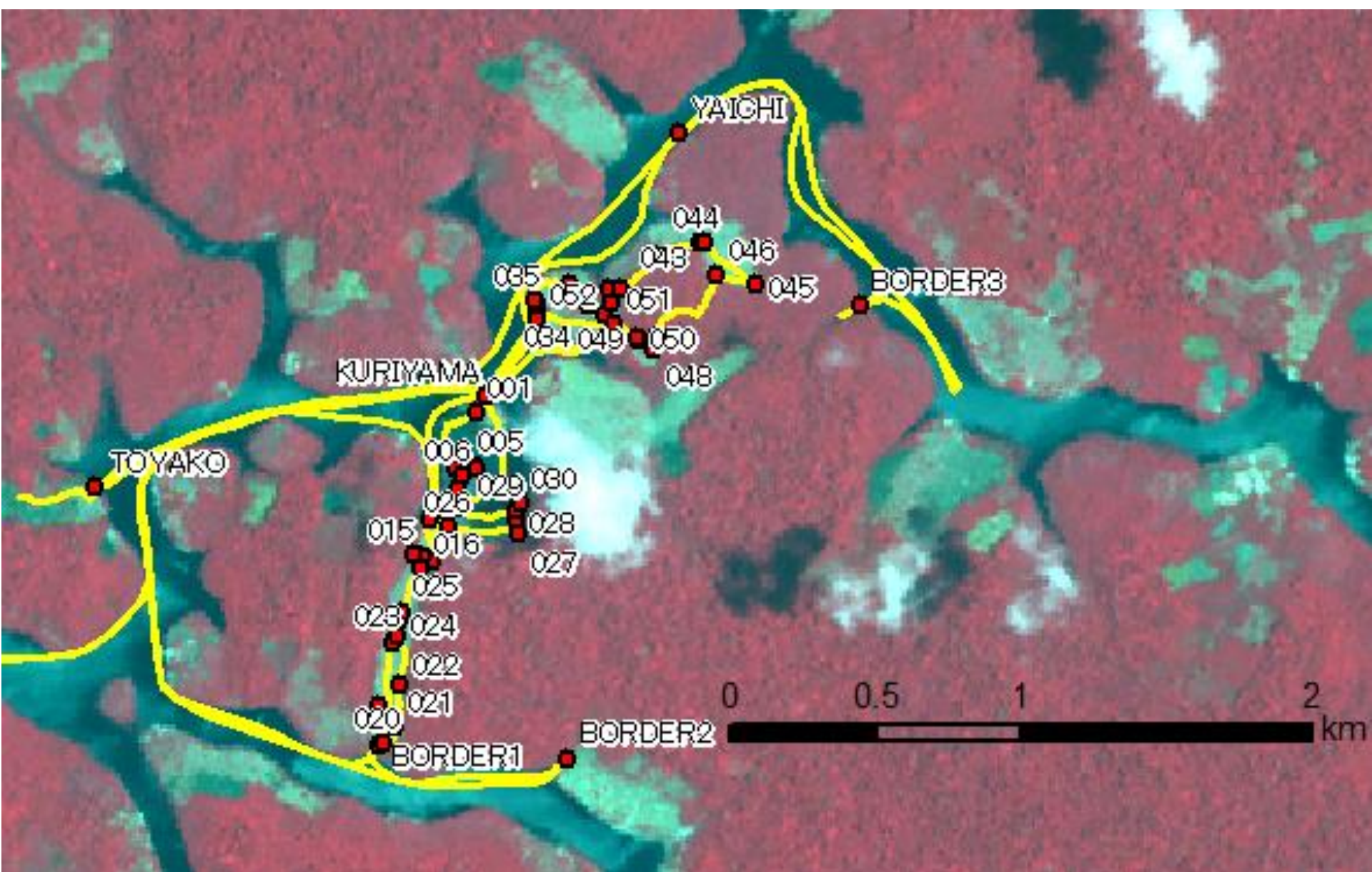
false color image

band 4: Red  
band 3: Green  
band 2: Blue

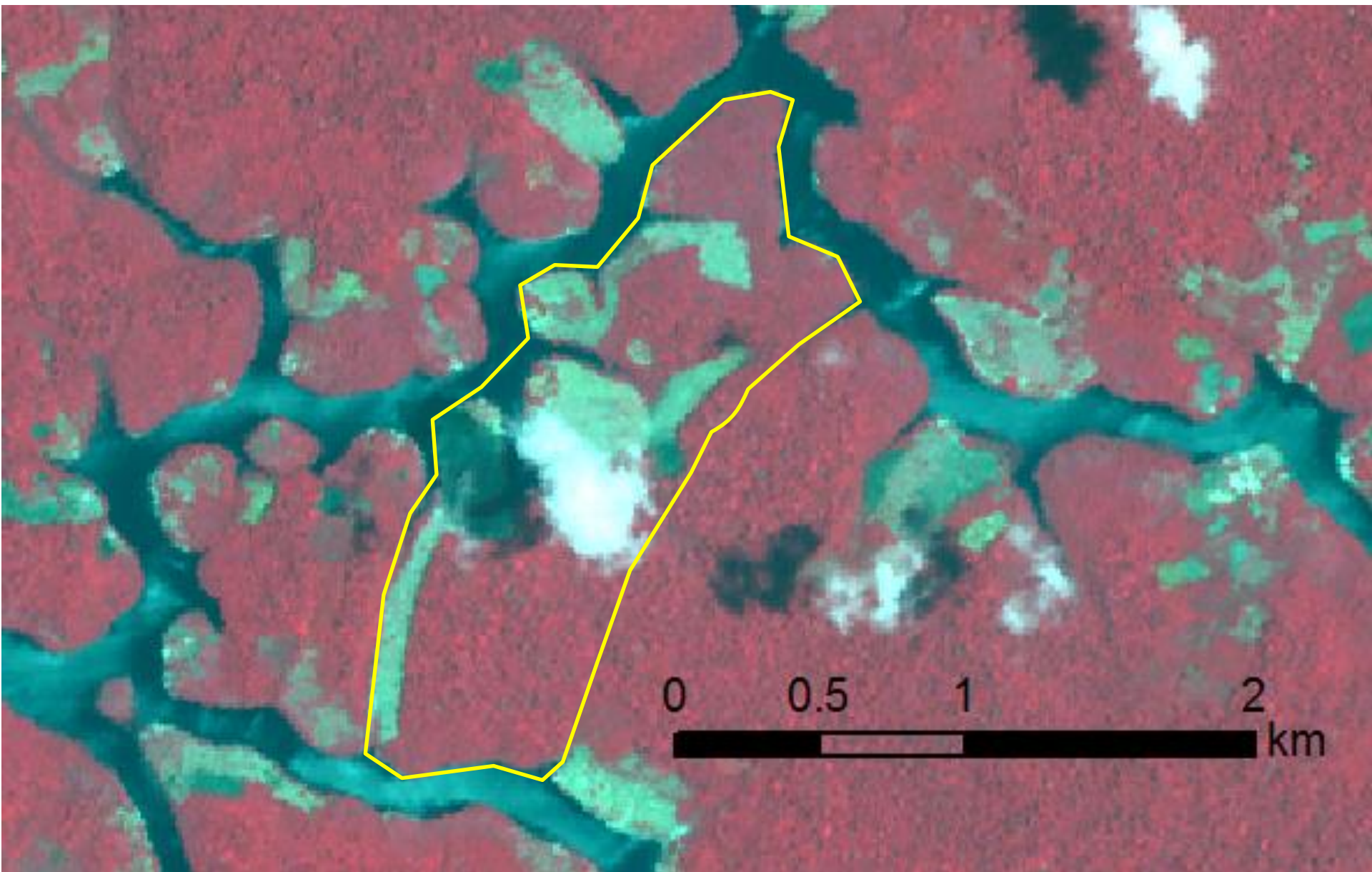


Location of major rivers  
and example farms

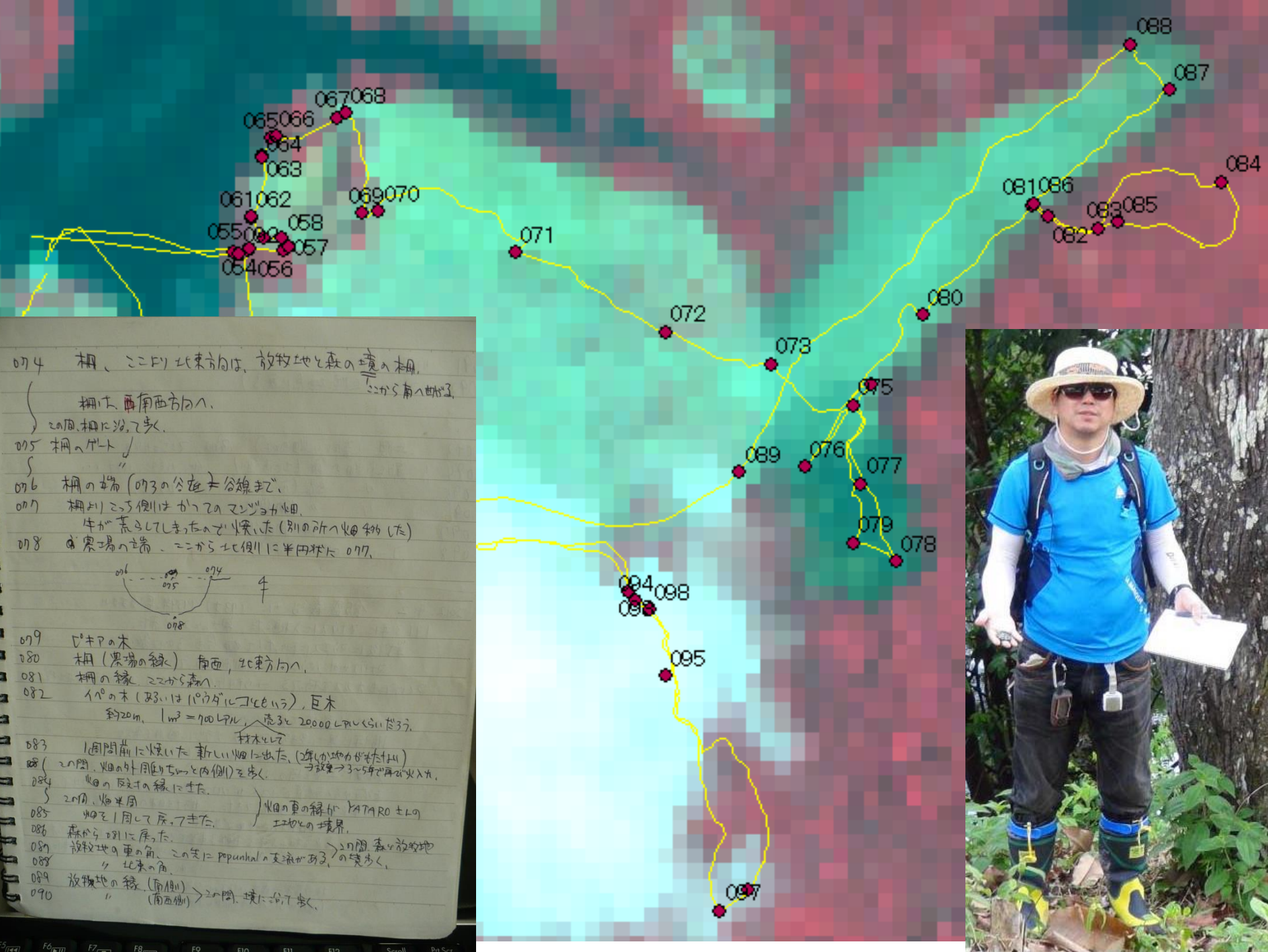


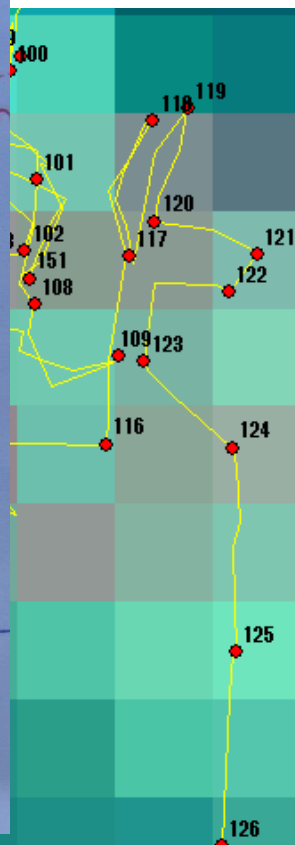
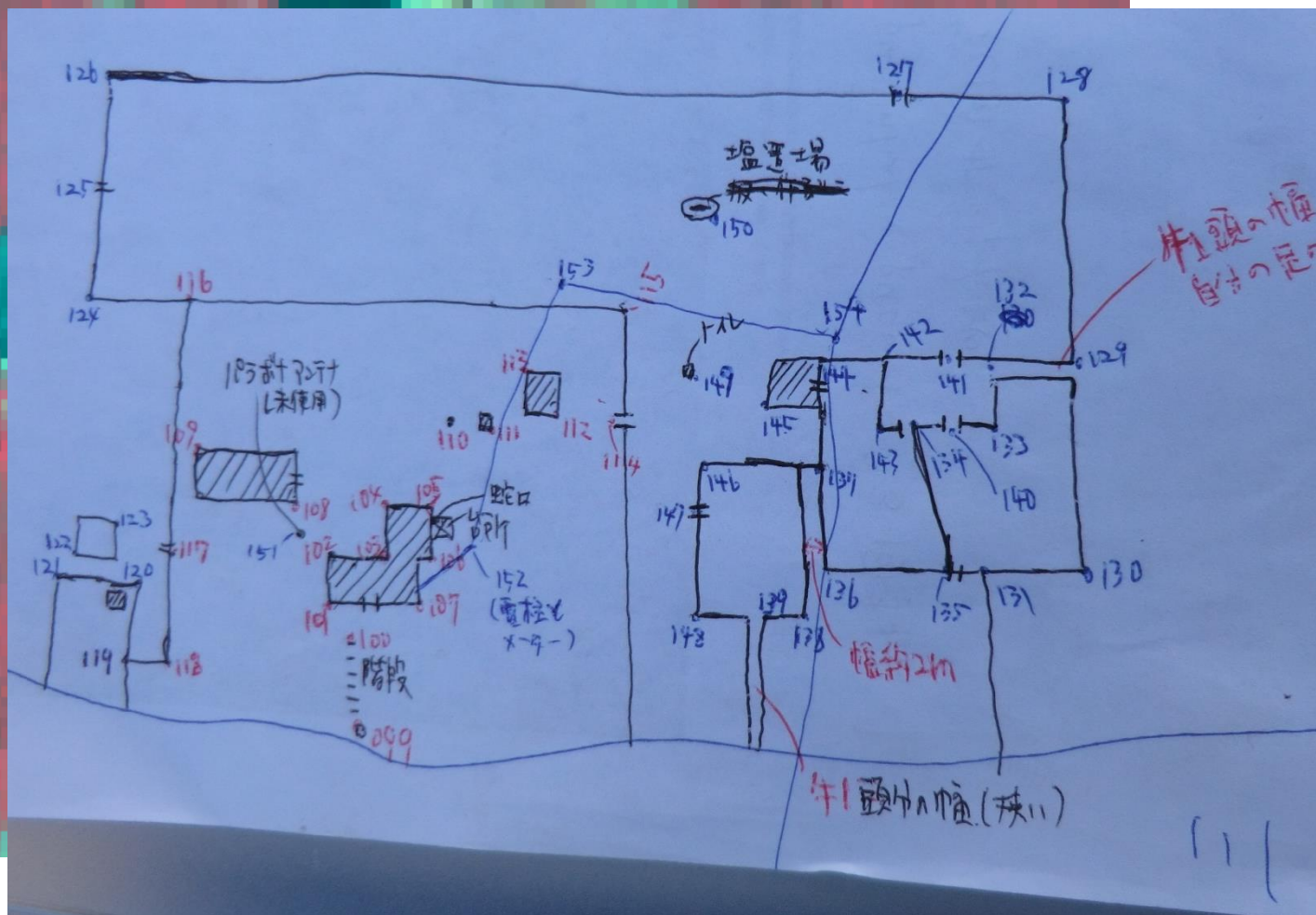














# Conclusion

- The example farm owns lands in both “terra firme” and “varzea” and conduct transhumance, releasing cattle in wild meadows in fertile “varzea” during dry-season and in high land “terra firme” during rainy season.
- The timing of intentional burn to develop meadows is different depending upon the areas. At the intentional burn, more than ten types of trees for foods or medications were saved and left intentionally.
- In the fields in “terra firme” without having flooding through a whole year, subsistence farming such as manioc using traditional burn agriculture and guarana cultivation as cash crops are conducted.