

Socio-economic Tools for Integrated Conservation Planning in the Multi-Ethnic South Caucasus

Caucasus Virtual Institute of
Conservation Science and Education (CIVICS)

International Perspective on Agriculture-Conservation Conflicts: Capital and Market Influences

Jan Barkmann
Heiko Faust
Sebastian Koch
Stefan Schwarze

Georg-August-Universität Göttingen

13 March 2012, Tbilisi, Georgia



Overview

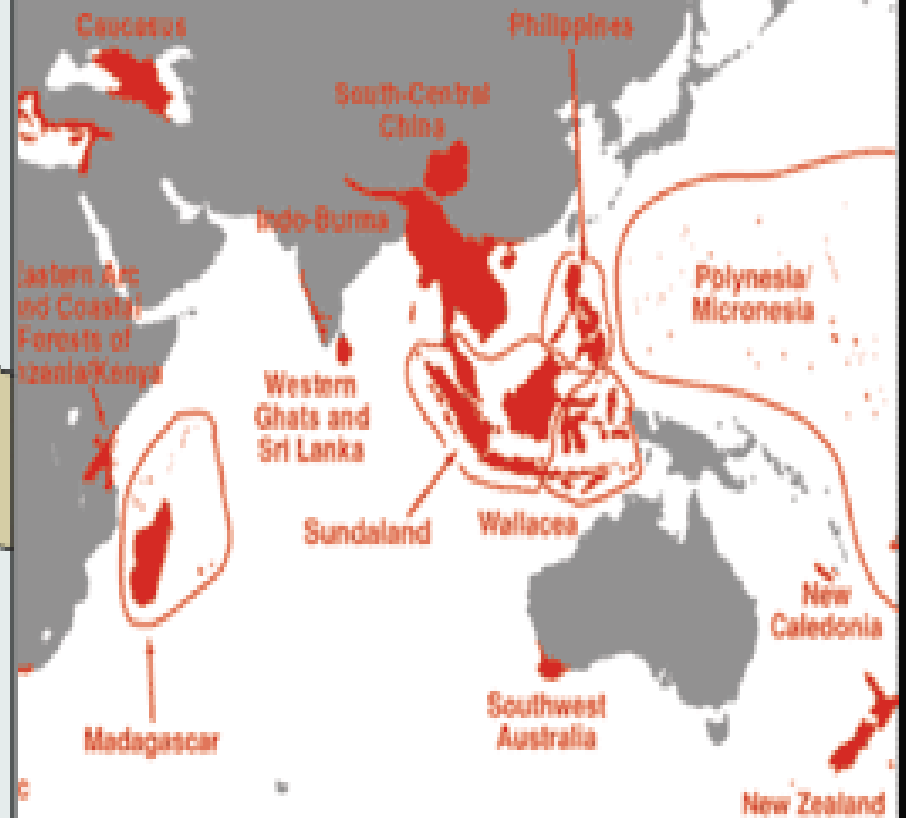
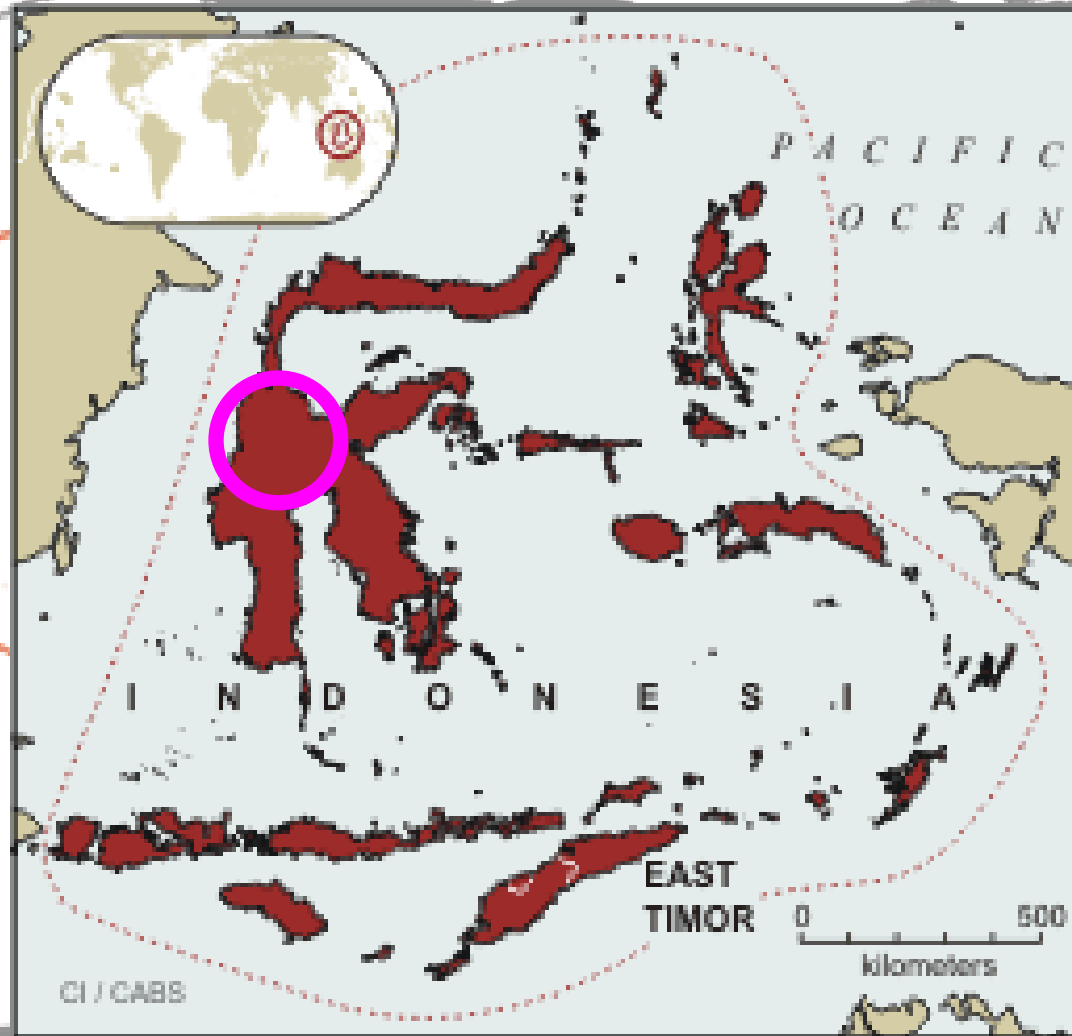
- Introduction
- Study Area
- Data Sources
- Results
- Conclusion



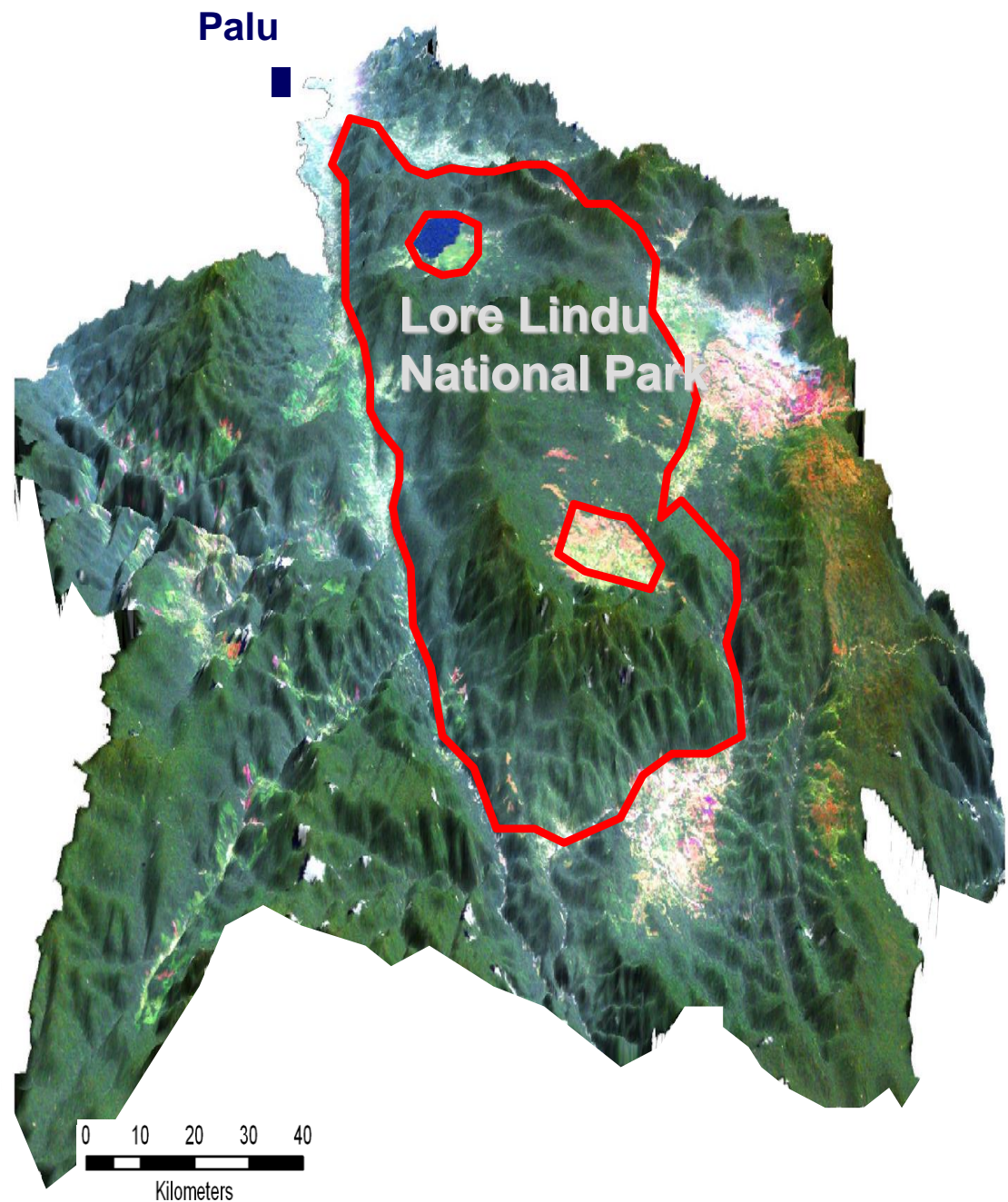
Introduction

- rainforest ecosystems → agricultural land use
- relative role of poverty vs. capital ('market forces') for deforestation in the tropics
 - individual smallholder encroachment
 - logging operations, palm oil plantations
- lowland - upland dichotomy in SEA
 - uplands: degradation-deforestation cycles
- immigration, land rights, intensification...

Study Area: Central Sulawesi



- mountain rainforest
- 136,000 citizens,
agricultural smallholders
- 19 villages, 7,220 km²
- LLNP: 2,290 km², BR
- rice & cocoa cropping;
no industrial development
projects
- regional immigration from
South Sulawesi
- violent occupation of
LLNP land (Poso!)



Uphill Battle Hypothesis

- Deforestation is driven by a two-stage process:
 - (1) Migrants with intensified production of cocoa (*Bugis*) are large scale buyers of high quality agricultural lowlands outside LLNP.
 - (2) After selling lowlands plots to regional migrants, land-stripped autochthonous farmers prepare new agricultural plots in mountainous uplands outside and inside of LLNP.

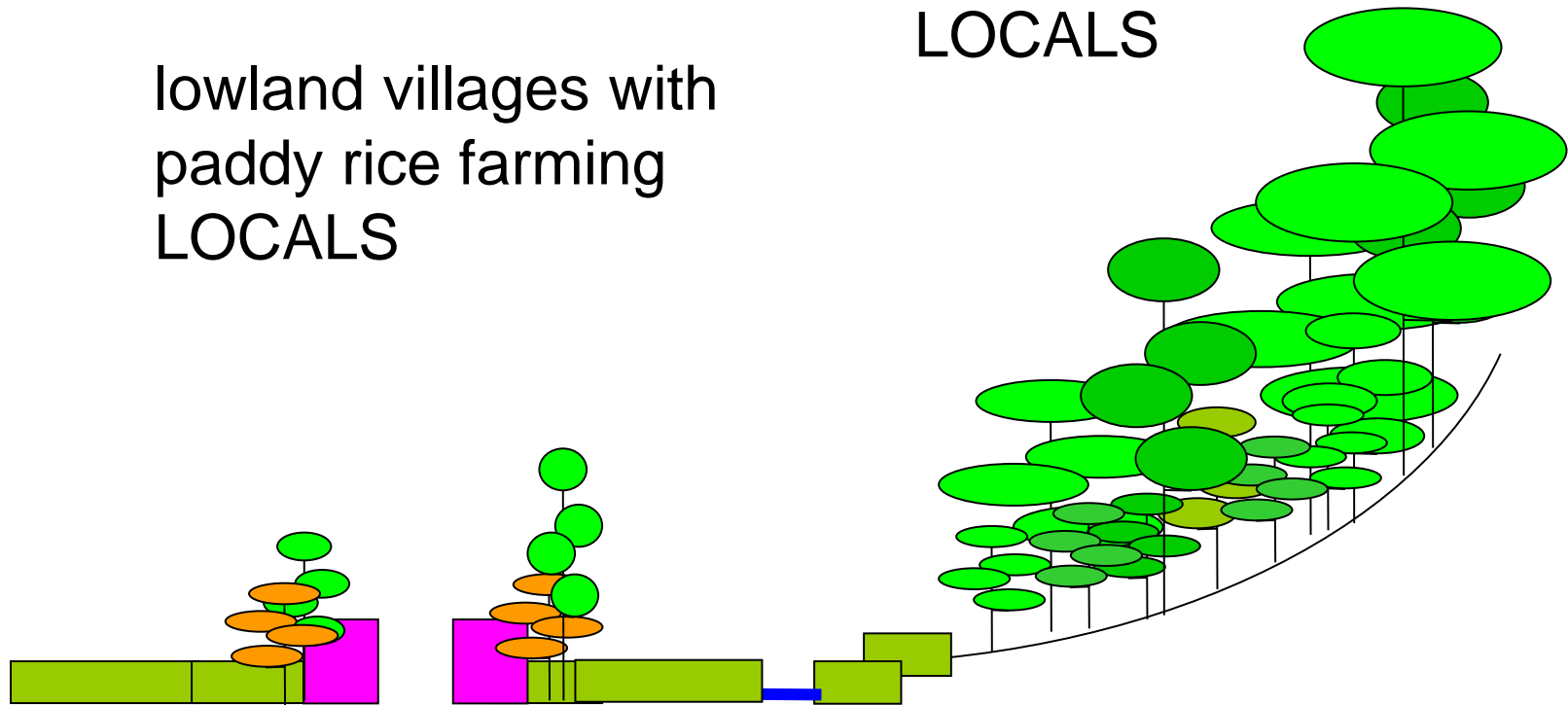


24 9:22

Start Situation

lowland villages with
paddy rice farming
LOCALS

upland national park
some forest use by
LOCALS

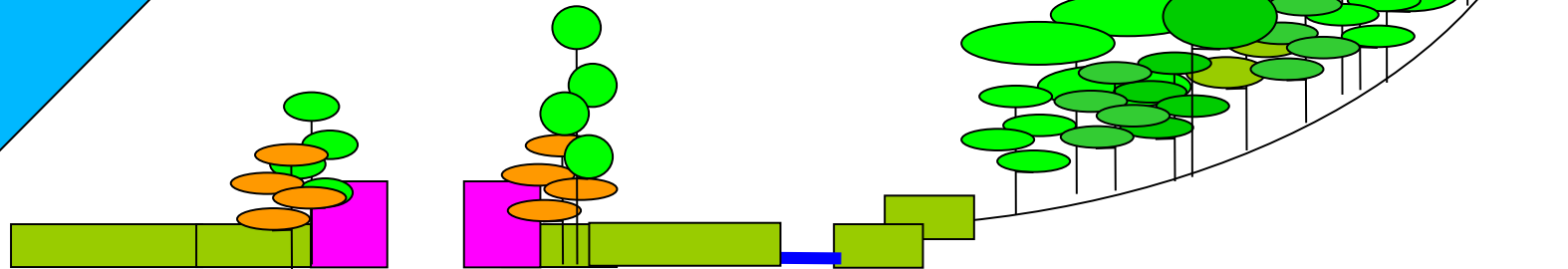
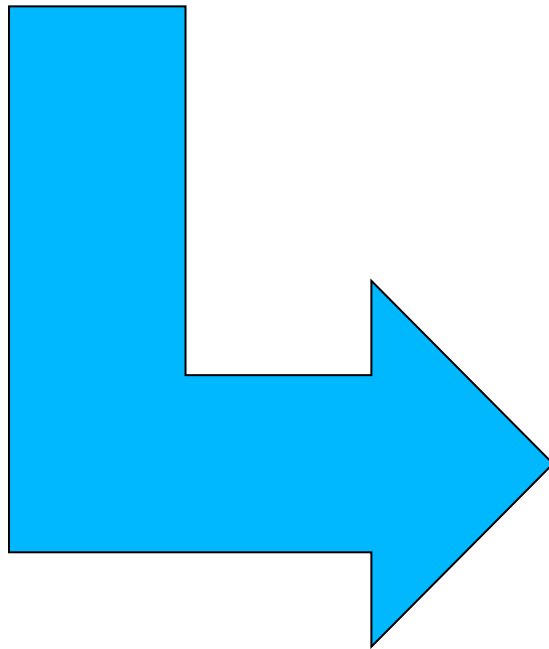


Step 1

Buginese
with knowledge,
capital and work
ethics buy land

upland national park
some forest use by
LOCALS

lowland villages with
paddy rice farming
LOCALS

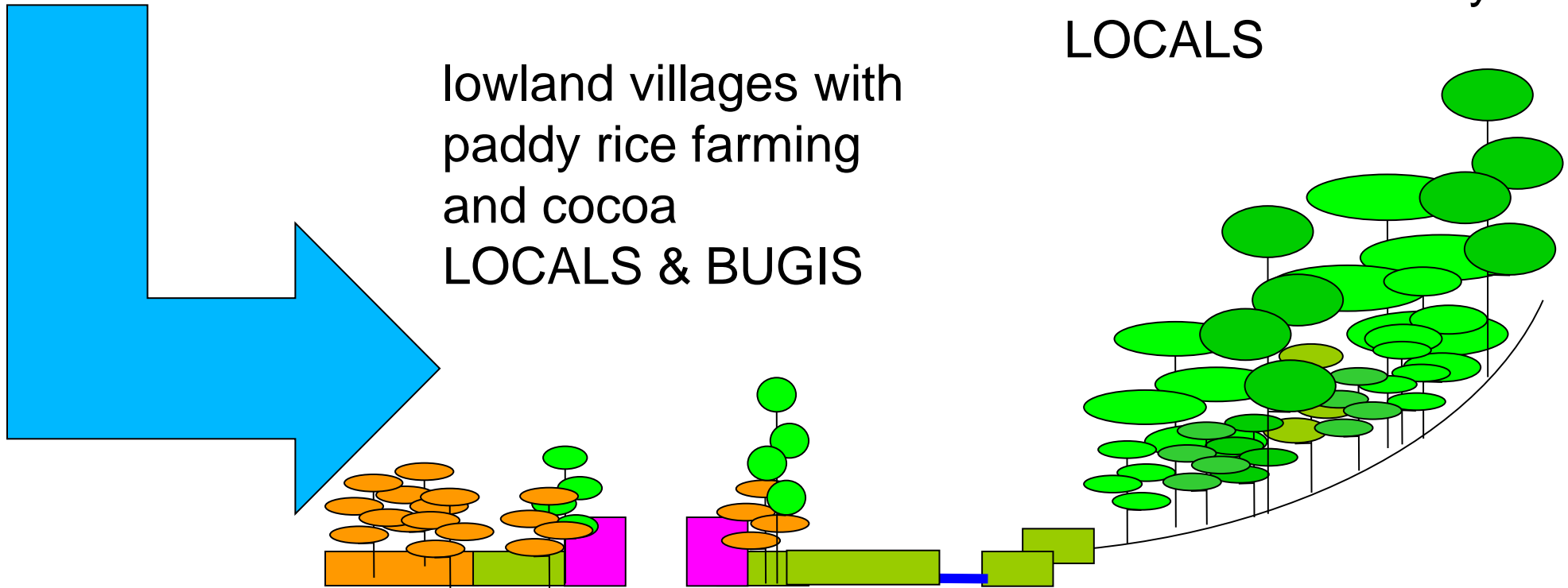


Step 1

Buginese
with knowledge,
capital and work
ethics buy land

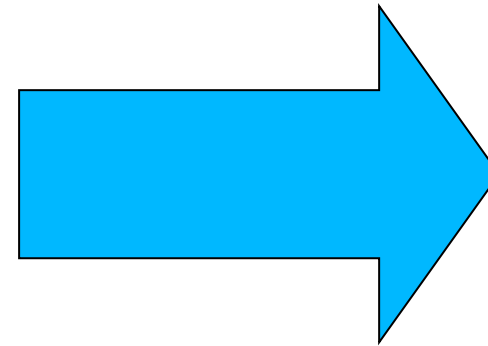
upland national park
some forest use by
LOCALS

lowland villages with
paddy rice farming
and cocoa
LOCALS & BUGIS



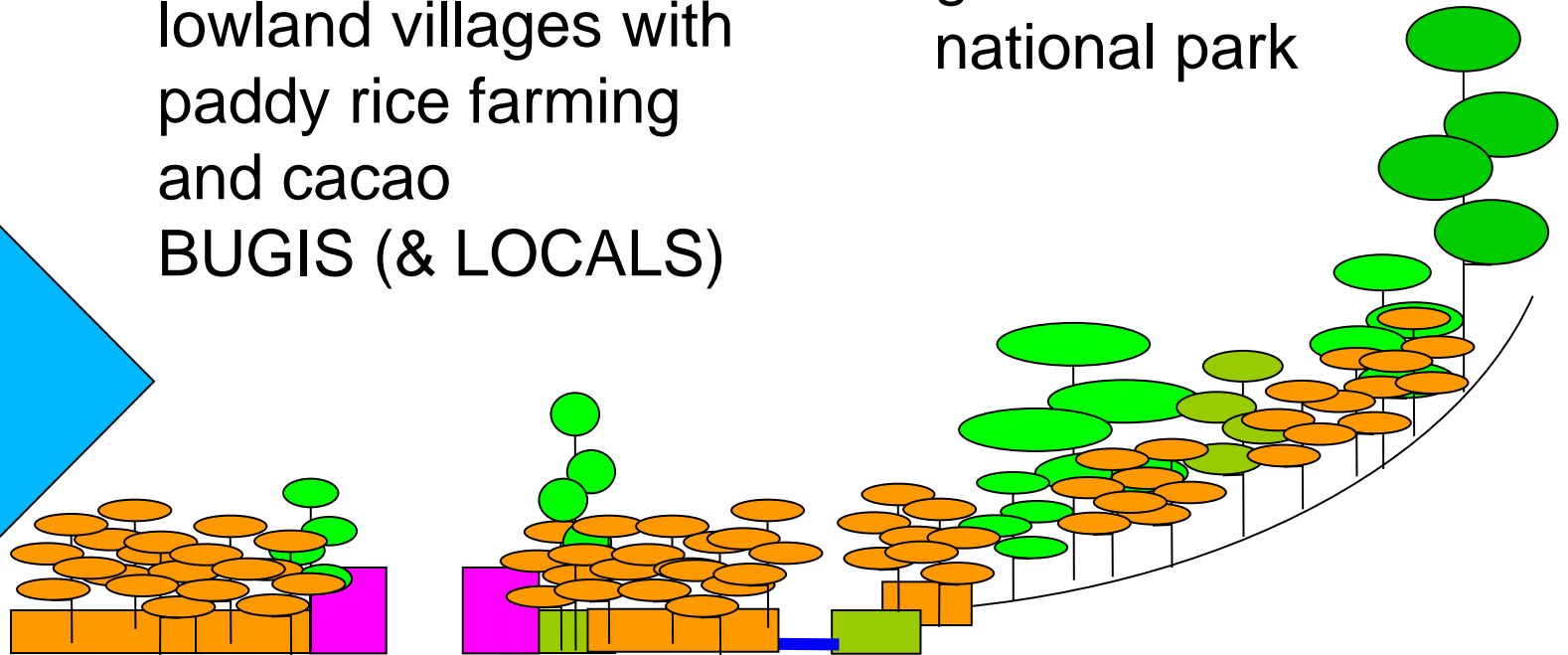
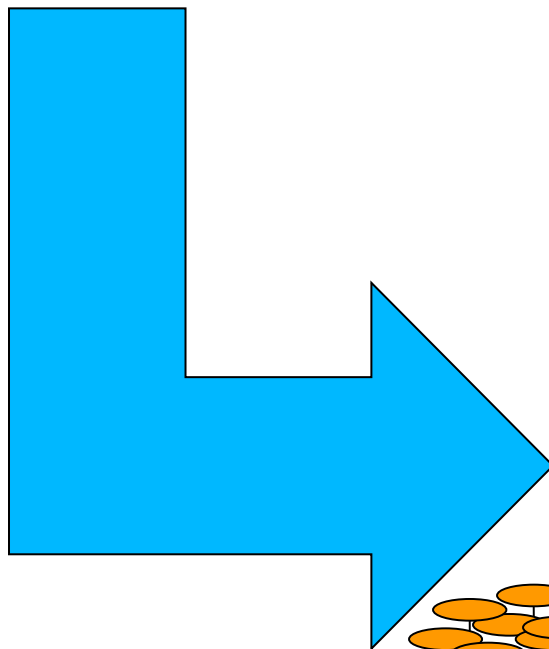
Step 2

Bugis
with knowledge,
capital and work
ethics buy land



LOCALS
establish illicit cacao
gardens in the
national park

lowland villages with
paddy rice farming
and cacao
BUGIS (& LOCALS)



Data Sources

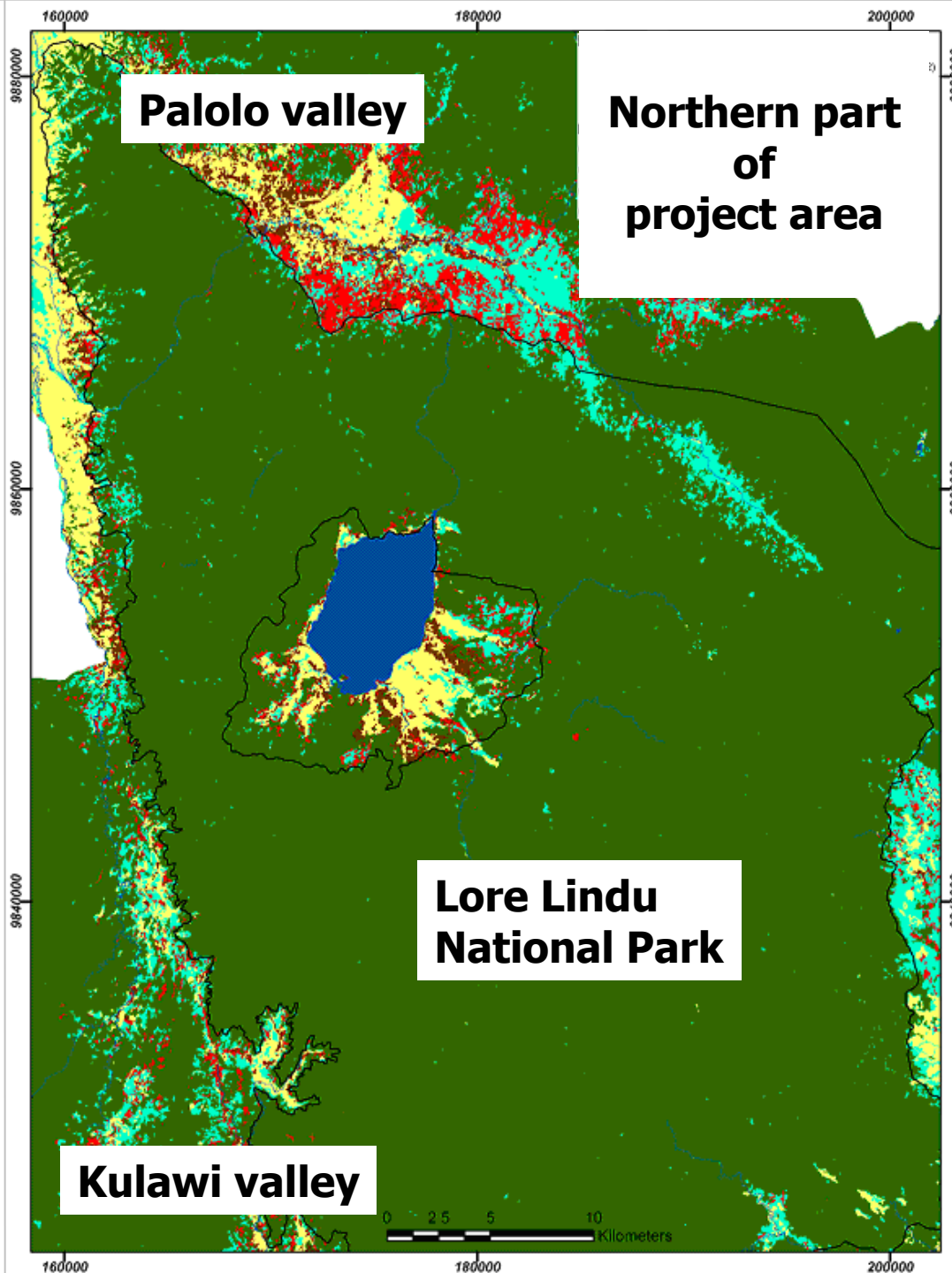
- representative household land use survey (n=301) in 12 villages
- comprehensive village census (n=898) in 3 villages
- problem-centered interviews (n=30) in 3 villages
- published results
 - non-standardized surveys/interviews in several villages (Sitorus, Abdulkadir-Sunito, Burkard & Fremerey),
 - remote sensing data (Erasmi)

Methodological Approach

- Uphill Battle hypothesis interpretation of qualitative material
 - cultural geography, political ecology
- verify certain steps by results from dedicated problem-centred interviews
- test single steps/implications of the Uphill Battle hypothesis
 - statistical standard procedures

Remote Sensing Evidence

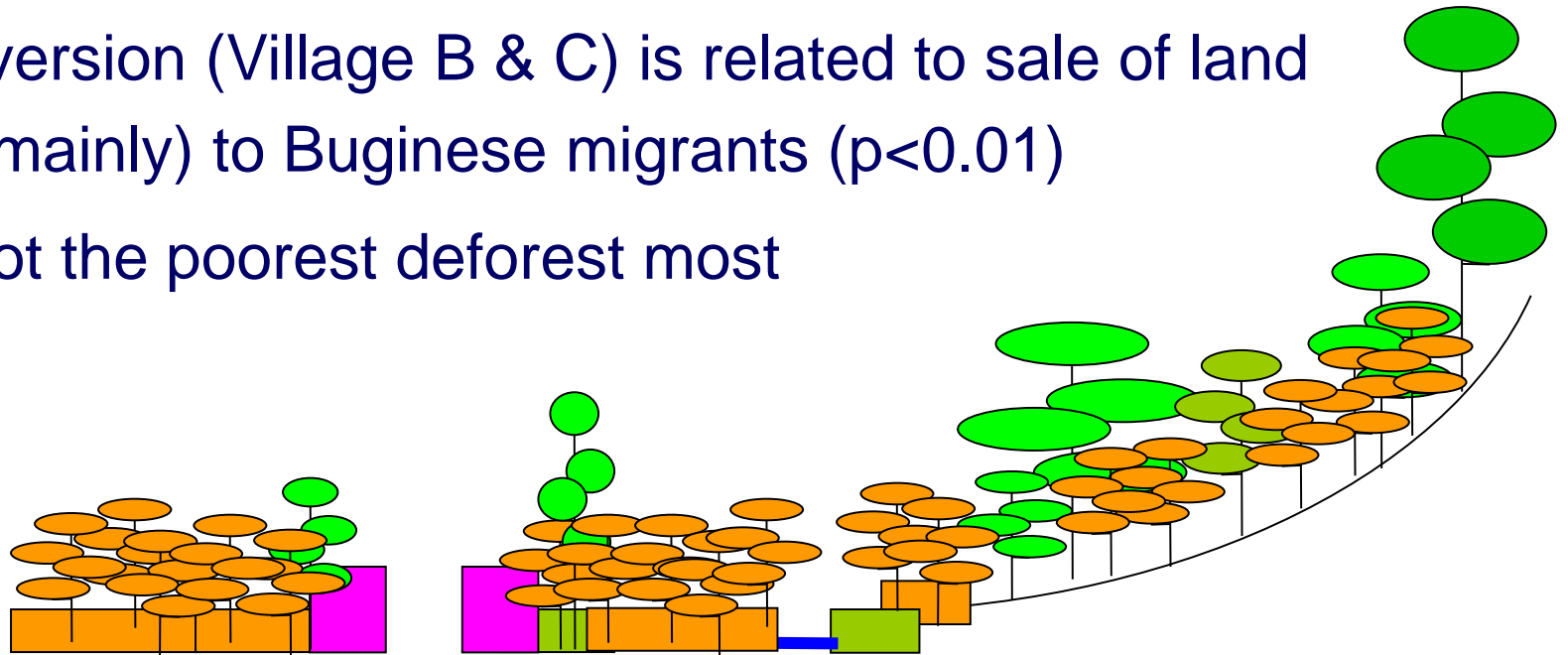
- cacao agroforestry (cash crop) major driving force of deforestation





Quantitative Evidence I

- Buginese migrants are best-off inhabitants ($p=0.002$)
- Buginese migrants occupy better (more flat) land, others steeper uplands ($p<0.001$)
- poorest households cultivate steepest uplands ($p<0.01$)
- forest conversion (Village B & C) is related to sale of land by locals (mainly) to Buginese migrants ($p<0.01$)
- poor but not the poorest deforest most



Reasons for land sales

- Burkard (2008): 60% of land sales by locals in Watumaeta, Rompo and Sintuwu to cover costs of medical treatments.
- Other reasons (Burkard 2008; Sitorus 2002):
 - schooling fees,
 - costs for weddings or funerals for which local customs (“*adat*”) demand substantial efforts .
- Important requirements of similar kind is pilgrimage to Mekkah (*naik haji*; Sitorus, 2002)
 - Bugis pilgrim pawn land to other Bugis in order to get it back later, and not to members of another ethnics.

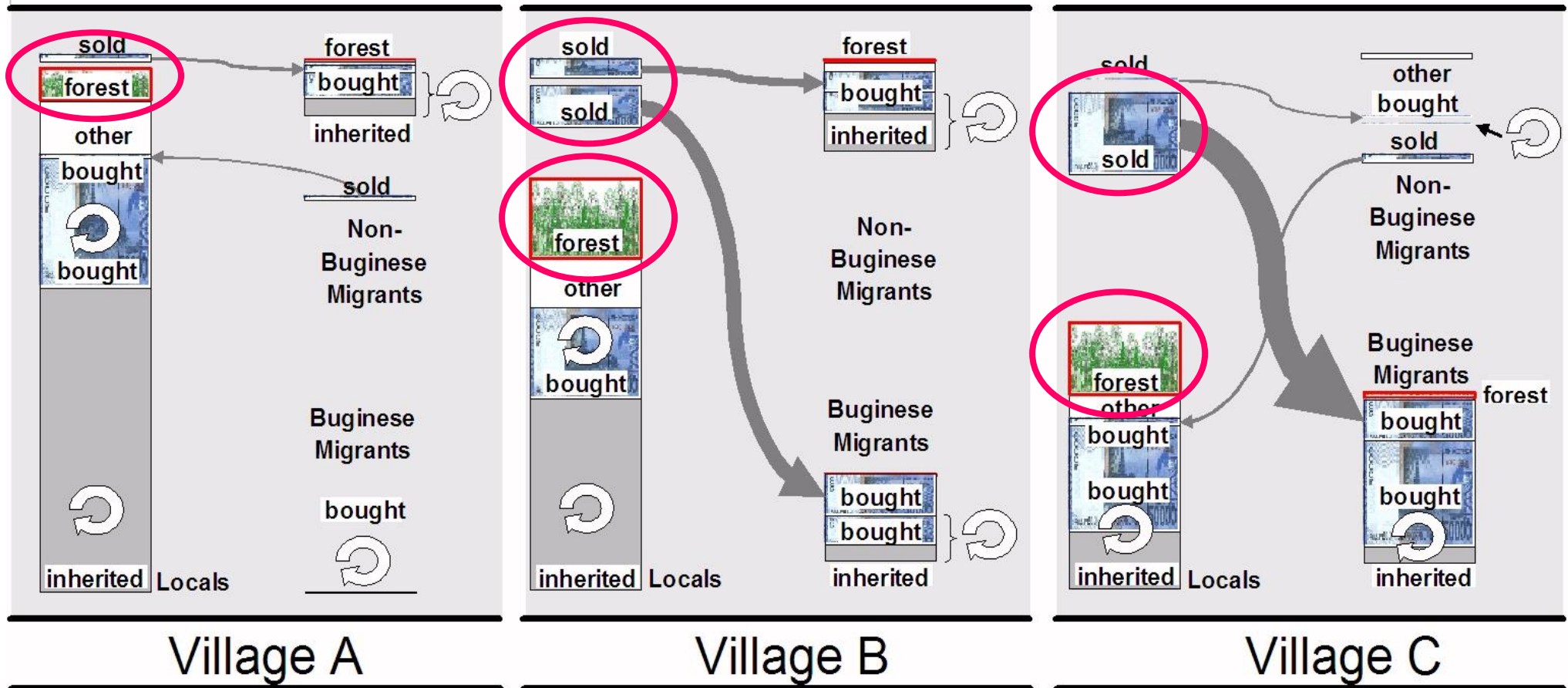
Rice field conversion

- Sintuwu: 72% of the rice fields – mostly after being bought by Bugis – were converted to cocoa plots from 1992-1998.
- In 2001 about 60% of the total village area was in cocoa (Sitorus 2004).
- Conversion of wet rice fields is also reported from Watumaeta in neighboring Napu Valley (Burkard).
- The fact that wet rice fields are converted itself implies that high quality agricultural land is being purchased.

Qualitative Evidence

	Village A	Village B	Village C
Forest conversion	Low Forest Conversion	High Forest Conversion	High Forest Conversion
Financial/ Social Capital/ Power Structures	near feudal (autochthonous) power structures; immigration strictly discouraged	Bugis buy land; some traditional land relations remain; locals convert community forest	Bugis buy land; economic power structures ruling; locals convert land <i>inside</i> LLNP
Land titeling	virtually no fungible land rights	Bugis buy land outside LLNP with land title	Bugis buy land outside LLNP with land title

Quantitative Evidence II



(Own calculation; Data Source: A1-Census 2004)

Discussion

- evidence for two-step Uphill Battle hypothesis
 - iteration of financial capital-driven land purchases, and social capital-enabled deforestation
 - land consolidation as in the Amazon frontier
 - result is *intensified* land use, however
- deforestation theory
 - no evidence for impoverishment hypothesis
 - mixture of
 - strong local power/political ecology dimension
 - strong open economy/financial capital/market influences

Discussion

- land titeling (villages B, C) may facilitate
 - capital-driven land acquisition by externals
 - subsequent forest conversion by locals
 - theoretically unexpected result
- no land titels as solution?
 - no collateral for loans
 - negative ecological effect
 - some positive effects of uphill-battle on overall socio-economic situation

Conclusion

- issues of land titeling/ownership likely to be important also in South Caucasus
 - state owned land
 - community use rights
 - imperfect governance structures
- external influx of humans, capital, and know how can improve economic situation
 - challenge to manage impacts on ecology and social structures