



can paying 4 global ecosystem  
services reduce poverty?

les paiements pour les services écosystémiques globaux peuvent-ils  
réduire la pauvreté?

[www.p4ges.org](http://www.p4ges.org)

## Context for today's talk

Bruno Ramamonjisoa



PRIFYSGOL  
BANGOR  
UNIVERSITY



KING'S  
College  
LONDON





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Ultimate aim is to explore how international payment for  
global ecosystem services (focusing on REDD+) can best  
contribute to poverty alleviation



p4ges is funded by espa (UK government)

# Ecosystem Services for Poverty Alleviation





WP 6: To estimate the magnitude and distribution of net welfare impacts of alternative PES approaches at local scales (including evaluation of impacts of the existing Corridor Ankeniheny-Zahamena 'CAZ' REDD+ scheme).

This part of WP6:



Because of the sensitivity of the topic we didn't use large teams of enumerators but all data was collected by core members of the research team (with two additional assistants)



Topics covered by this research are highly sensitive (e.g. tavy *within* a protected area)

Therefore developing trust with local informants was vital for data quality. Upholding that trust is a vital ethical consideration.





# WARNING!

- All the analyses we present today are preliminary. This data collection finished in September and data entry was finalised only in mid-October.
- We are presenting to you at an early stage in the interest of being open and getting your views but please note this is not a final analysis.
- Data collection is ongoing.

Preliminary analysis only



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# The identification of 'Persons Affected by the Project' in the corridor Ankeniheny-Zahamena pilot REDD+ project

Mahesh Poudyal, Bruno Ramamonjisoa, Alex Rasoamanana, Rina Raberosata, James Gibbons, Sarobidy Rakotonarivo, Neal Hockley, Julia Jones



A research programme co-funded by DFID, NERC & ESRC and accredited by LWEC





# Outline

1. Context of World Bank social safeguard payments in CAZ
2. What are the characteristics of communities identified as eligible for safeguards? (desk-based analysis)
3. What are the characteristics of households identified as eligible for safeguards? (field work)
4. Next steps for WP6





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# 1. Context of World Bank social safeguard payments

- 
- A collage of 18 small images arranged in a 3x6 grid. The images depict various themes related to sustainable development and community well-being: a woman in a purple headscarf, wind turbines, a person carrying a child on their back, two penguins, a woman in a pink shirt and hat, a butterfly, a person working with a tool, two women in school uniforms, a man and a woman looking at each other, a person holding a large fan, a person on a yellow vehicle, a group of people standing together, the word 'Safeguards' in large blue letters, a man in a white shirt, a person working in a field, a large green tree, solar panels, a man in a hat, a green field, a group of people, and a person in a white shirt and hat.



# Environmental & Social Standard 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

“When land acquisition or restrictions on land use cannot be avoided, the Borrower will offer affected persons compensation at replacement cost, and other assistance as may be necessary to help them improve or at least restore their standards of living or livelihoods”



CAZ REDD+ project aims to generate carbon credits by reducing deforestation-main driver of which is *tavy*

Therefore project success depends on economic displacement of people from livelihoods based on *tavy*



Plan to ensure social safeguards are met in CAZ project was published in 2012

The criteria used for identification of Persons Affected by the Project was:

- 1) Live around the proposed protected area
- 2) Directly use natural resources
- 3) Use natural resources within the 'core' of the protected area

2500 PAP households in 25 fokontany identified as eligible

*RESERVE DE RESSOURCES NATURELLES  
ANKENIHENY ZAHAMENA  
Tahirin-karena voajanahary Ankeniheny -Zahamena*

**PLAN DE GESTION ENVIRONNEMENTALE ET  
DE SAUVEGARDE SOCIALE**

Mars 2012



CONSERVATION  
INTERNATIONAL  
Madagascar





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2. What are the characteristics of communities identified as eligible to receive social safeguards or not? (desk-based analysis)

CAZ is a large area, identifying those areas likely to contain PAPs is difficult. Given that the REDD+ project aims to stop *tavy*, deforestation (2005-2010) is a proxy (not perfect) for areas where livelihoods are likely to be impacted by the project

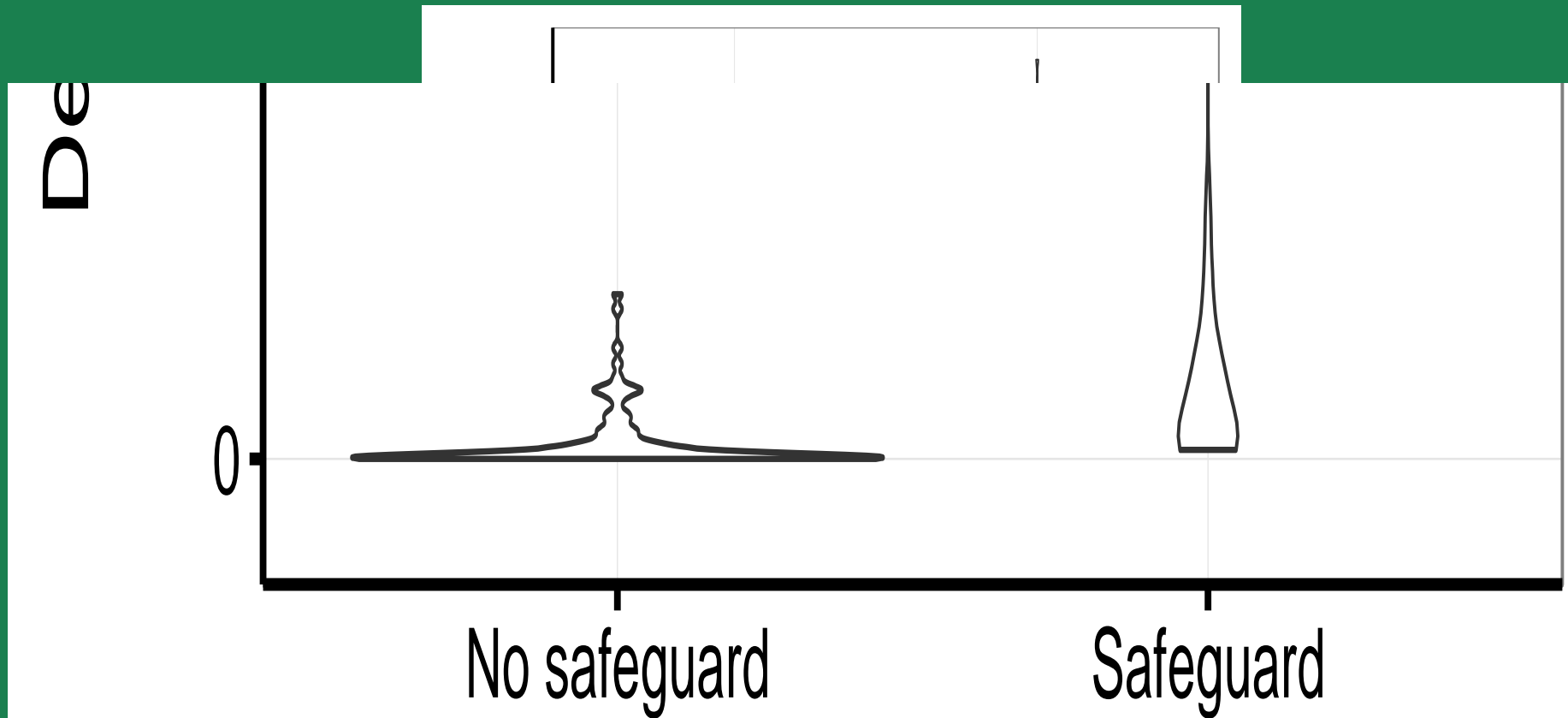


Expectation: Fokontany identified as eligible for safeguards would be more forested and have had greater deforestation between 2005-2010 (ie more people dependent on forest clearance) than those not identified.

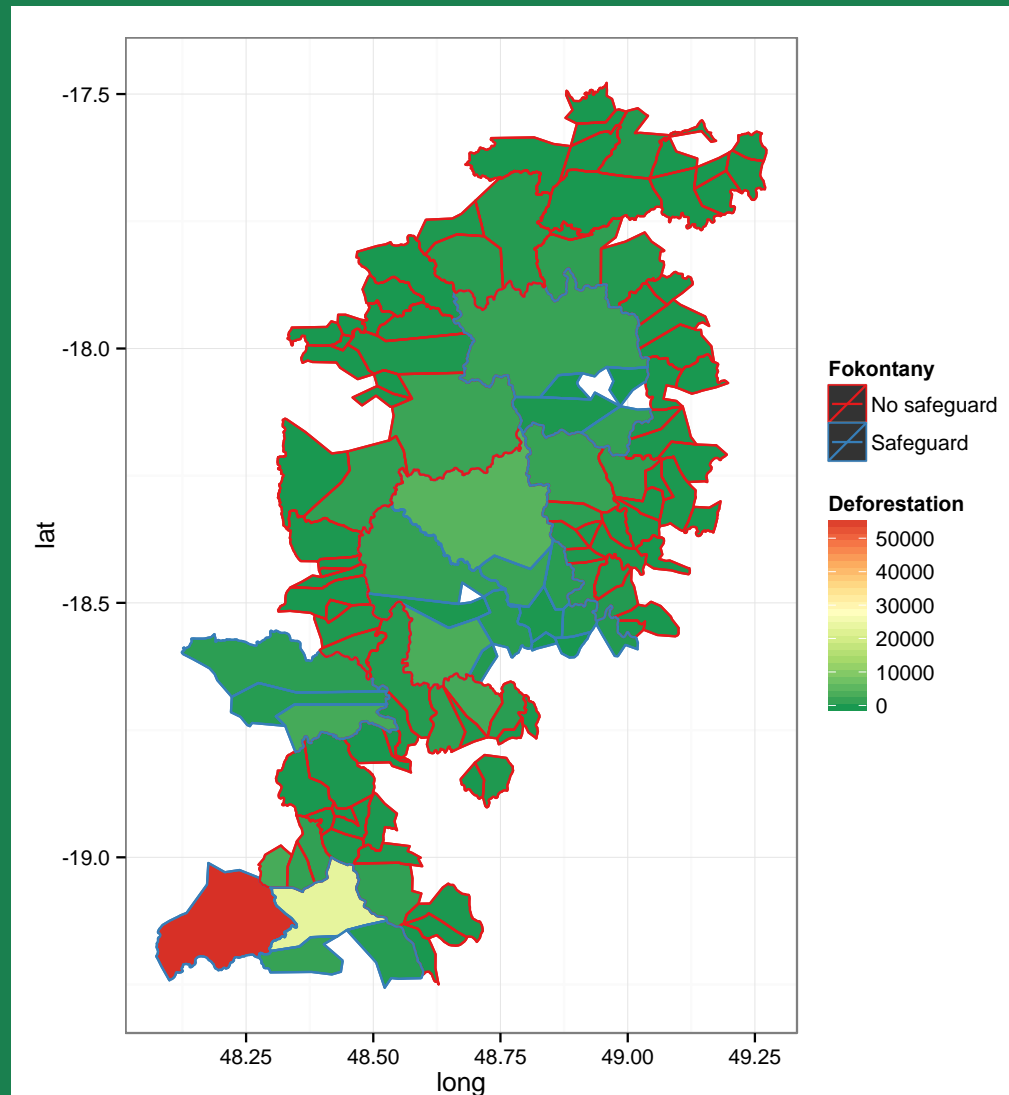




- 25 fokontany were identified as eligible for safeguards (out of 121)
- Safeguard fokontany have on average higher deforestation between 2005-2010 BUT lots of variability

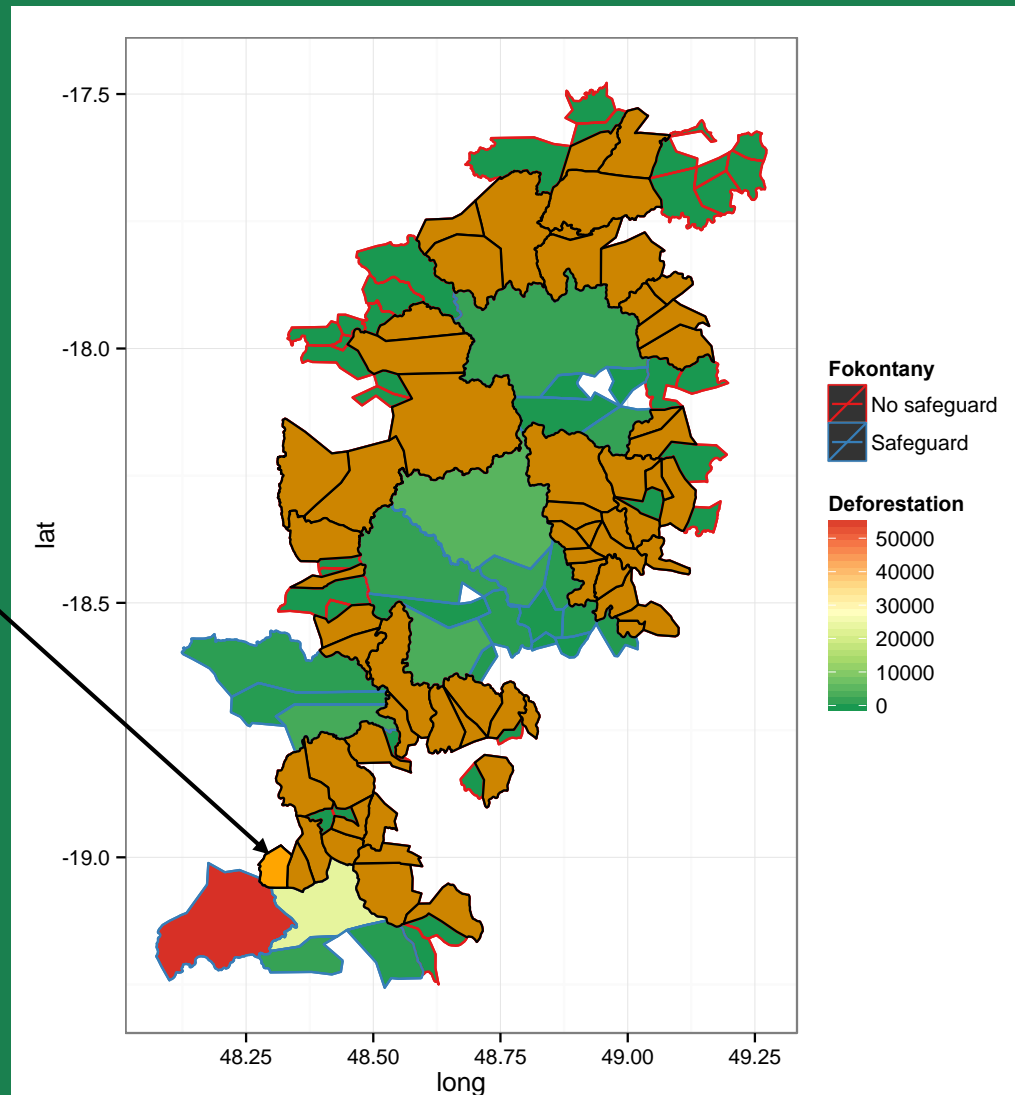


This shows the amount of deforestation (2005-2010) and which fokontany have been identified as having PAPs and those which have not



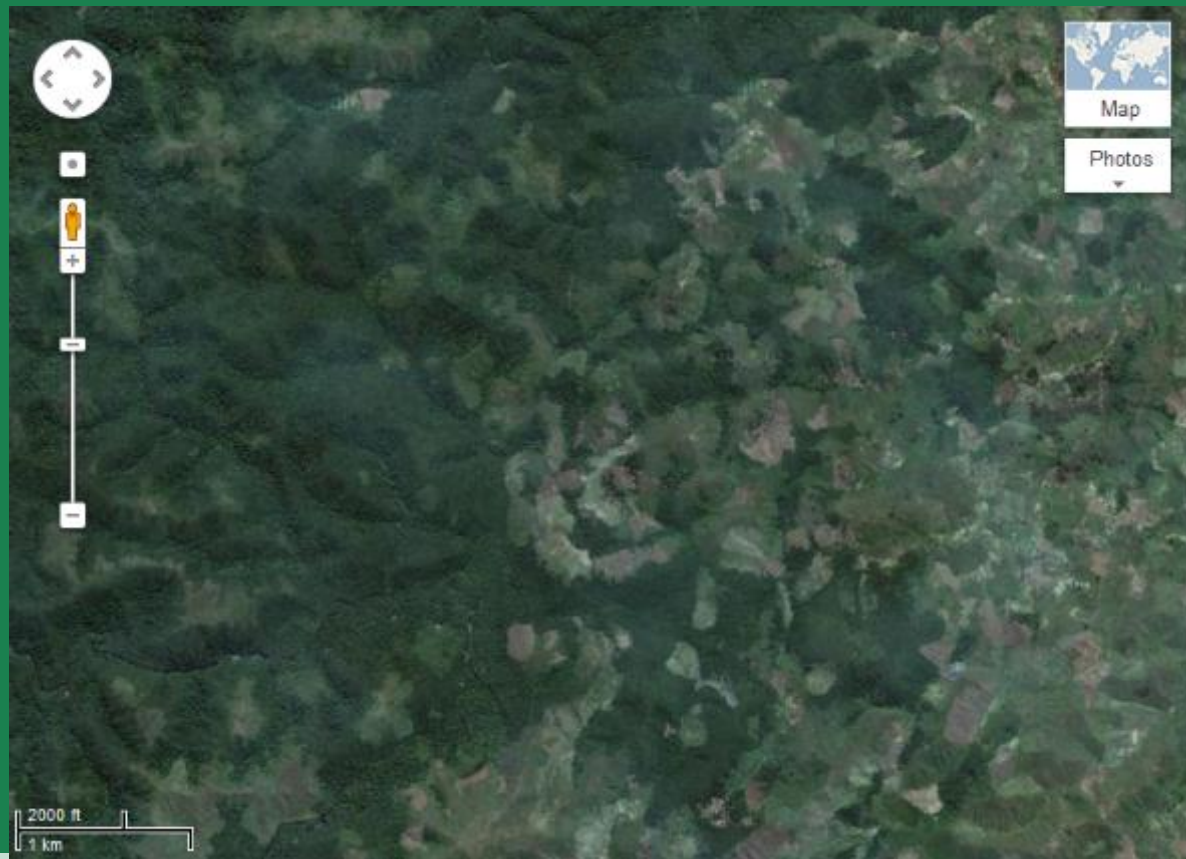
61 of the 96 fokontany  
judged as not  
containing any PAPs  
had non-zero  
deforestation 2005-  
2010

Ambatoharanana





Conclusions: Fokontany with the highest history of deforestation have been identified as eligible for safeguards, however there are some fokontany very likely to contain PAPs which have not been identified (further work needed).



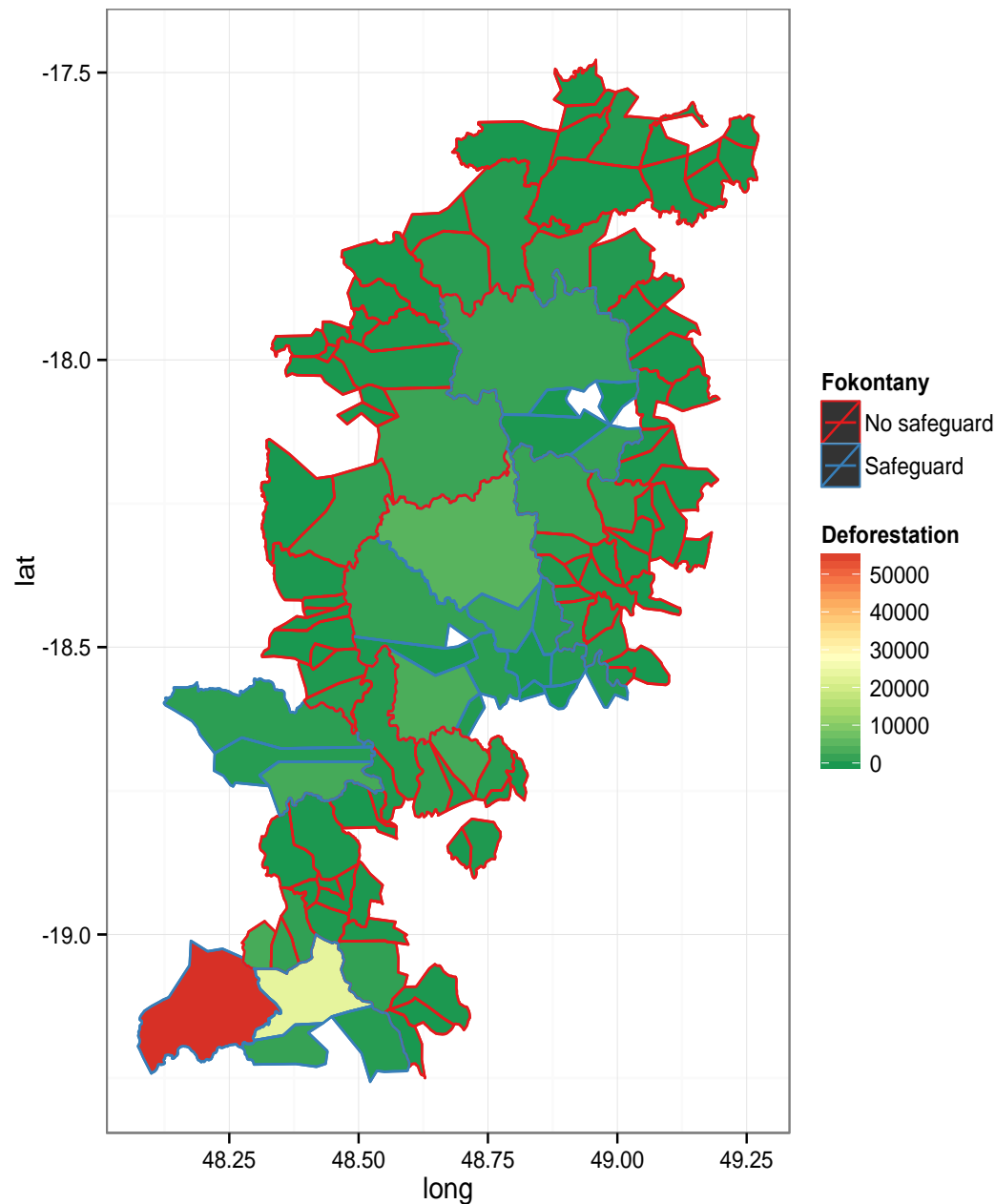


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3. What are the characteristics of households identified as eligible to receive social safeguards or not? (field work)

We worked in  
Ampahitra-very  
high deforestation  
from 2005-2010 .  
77 households  
were identified as  
PAPs





Expectation: HHs identified as PAPs would own more *tavy* land, be more dependant on wild-harvested products, be more recently established, live further from the fokontany centre (proxy for distance to the forest).

BUT if process of identification was affected by elite capture then we might expect PAP households to be closer to the village centre, richer, better connected socially (e.g. part of COBAs).



Sampling: we needed a random sample which properly represented all households in the study area, avoiding bias towards the relatively easily accessible or socially well-connected



→ Required a good sampling frame



## Challenges:

- Poor quality of data (e.g. many villages not on map)
- Many scattered households (shift with season)
- Many households are not registered in any village ('unofficial' households)





# Developing the sampling frame.....

## Fokontany Level

- Collect local available information on villages (sketch map)



## Village Level

- Collect information on households and hamlets (sketch map & GPS)



## Hamlets level

Visited hamlets in person to cross check information (GPS), and map HHs location (sketch map & GPS)

➔ Approximately 33% of total time for survey was constructing the sampling frame









# We mapped 468 households, did household interviews with 203 (stratified by location)

## 39 of this random sample had been identified as PAPs.

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Work Package 6: Fanadihadiana isan-tokantrano

Mahakasika ny fisy fanadihadiana

Asa	Daty	ORA NAMBOHANA	ORA FANADIHADIANA	tompon'andraikitra	FANADIHADIANA
Fanadihadiana					
Famonoana ny fisy					
Marika ny fisy					
Fampidirana ny vokatra ny fanadihadiana					
Fanamaritana fa voadika ny fisy					

Manaiky ve ilay olona hadihadiana/tokantrano hanoany ny fanadihadiana mahakasika ny fambolena? [ ] ENY  
[Fanamarihana: Anontanio amin'ny faram'ny fanadihadiana ary mariko eto ny valiny] [ ] TSIA

A. Famaritana tokantrano sy toerana fomenany

[Fanamarihana: Feno ny mialoha ireto alohan'ny hanombohan'ny fanadihadiana fototra: Anaran'ny olona hadihadiana, toerana-pomenany & GPS, balaviran'ny trano mialoha ary no amin'ny ivon'ny fokontany. Ho an'ireo marika samihafa toy ny VTD, FTD ary/dia jereo ny torilanana mahakasika ny fanadihadiana.]

Anaran'ny TF & Marika & Isan-pianakavavy	(Anarana)	-----	(RDT)
Anaran'ny vohitra & Marika	(Anarana)		(VTD)
Anaran'ny fokontany & Marika	Ampahitra	314030011	(PTD)
Anaran'ny kaominina & Marika	Ambohibary	314030	(CTD)
Anaran'ny Distrika & Marika	Moramanga	MDG33314	(RDT)
Anaran'ny olona hadihadiana vaoahany & Marika	(Anarana)		(PTD)
Anaran'ny olona hadihadiana faharoa & Marika	(Anarana)		(PTD)
Toerana-pomenany hadihadiana GPS	(Zat)		(Zat)
GPS Fampitomboany (Precision)			
Alaviran'ny ny Tanana (miala ny fokontany)	(Minitra)		(R)

Behaefa vita ny fanadihadiana dia asorina ity pejy vaoahany ity ary atokana & toerana hafa. Isany dia entina manamarina fa voadika ny vokatra ny mombamomban'ny ity tokantrano iray ity



We built a binomial Generalised Linear Model to explore which variables predict whether a HH is identified as a PAP

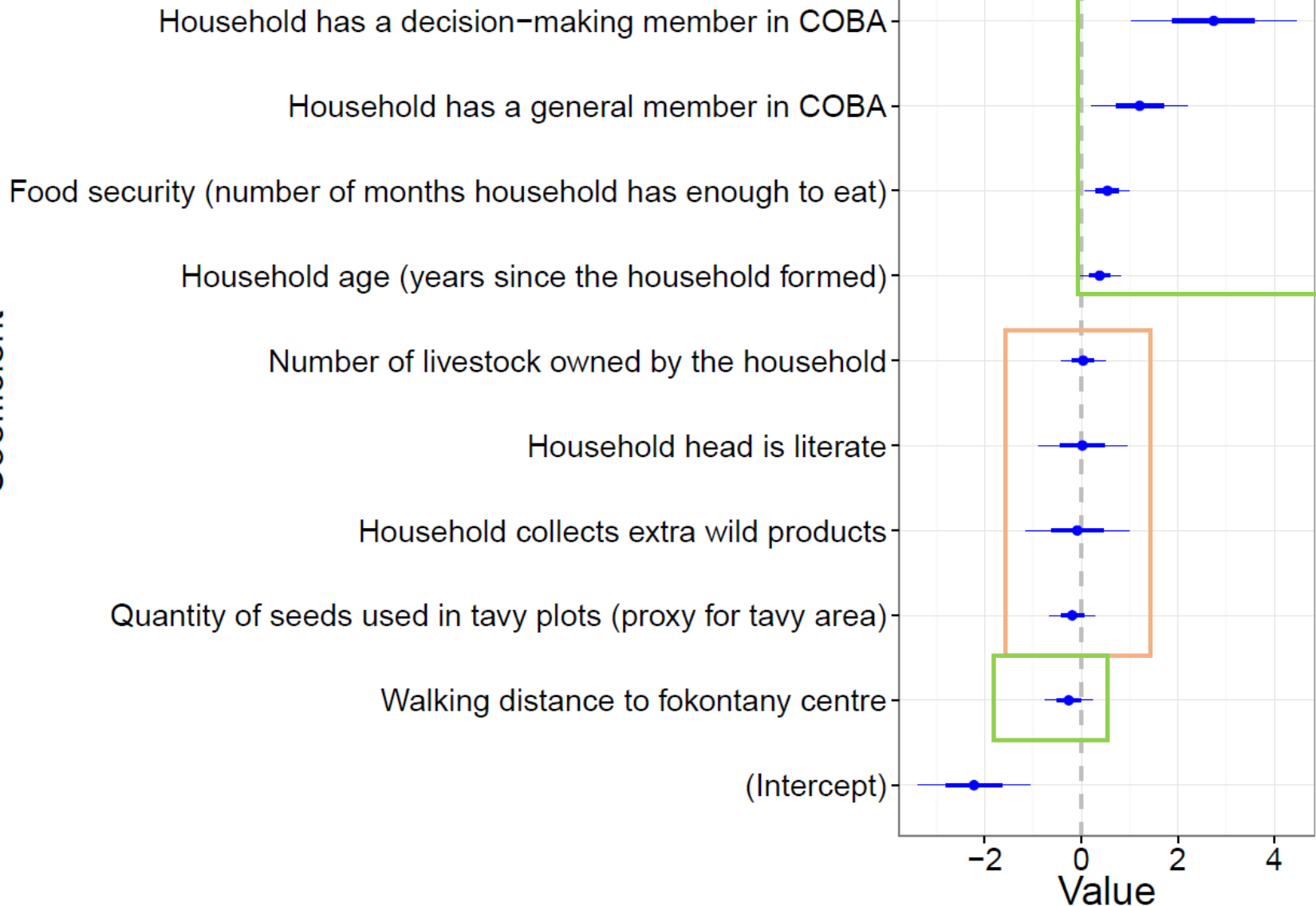
NOTE: We don't have information (yet) on the opportunity cost of conservation restrictions by households, we are just looking at potential indicators of those affected by conservation restrictions



Characteristic makes HH less likely to be identified as PAP

Characteristic makes HH more likely to be identified as PAP

Coefficient



Preliminary analysis only



## Expectation (if PAPs are those most dependent on forest for livelihoods)

## We found

PAPs would own more tavy land

No effect

PAPs would live closer to the forest

Live closer to the fokotany centre

PAPs would be more dependent on forest products

No effect

PAPs would be more recently established

PAPs are longer established

Expectation (if PAP identification suffered some elite capture)	We found
PAPs would be closer to the village centre	True
PAPs would be richer	No difference in livestock ownership but PAPs are more food secure
PAPs would be better connected socially	PAPs are more likely to be in COBA and COBA committee and are longer established households

Conclusions: There is some evidence of elite capture in the identification of the PAPs. This would be very hard (and costly) to avoid due to the very poor background data on populations and their distributions.





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## 4. Next steps for WP6 (net local welfare impacts of PES)



1. Qualitative work to complement quantitative findings
2. Continue field work in 3 other 'in-depth' sites-will allow us to estimate the opportunity cost of conservation restrictions
3. Desk-based work (led by CI) on the transaction costs of different approaches to distributing benefits from carbon payments
4. Field work (led by CI) on the efficacy of different approaches to distributing benefits from carbon payments at reaching the poorest (and avoiding elite capture)

# Thank you!

- CI (especially Ando Rambeloson) and World Bank (especially Paul-Jean Feno) for sharing information on safeguarding
- MEEF, CI and local leaders for permission to carry out the research
- The many people who took part in the research
- Our funders



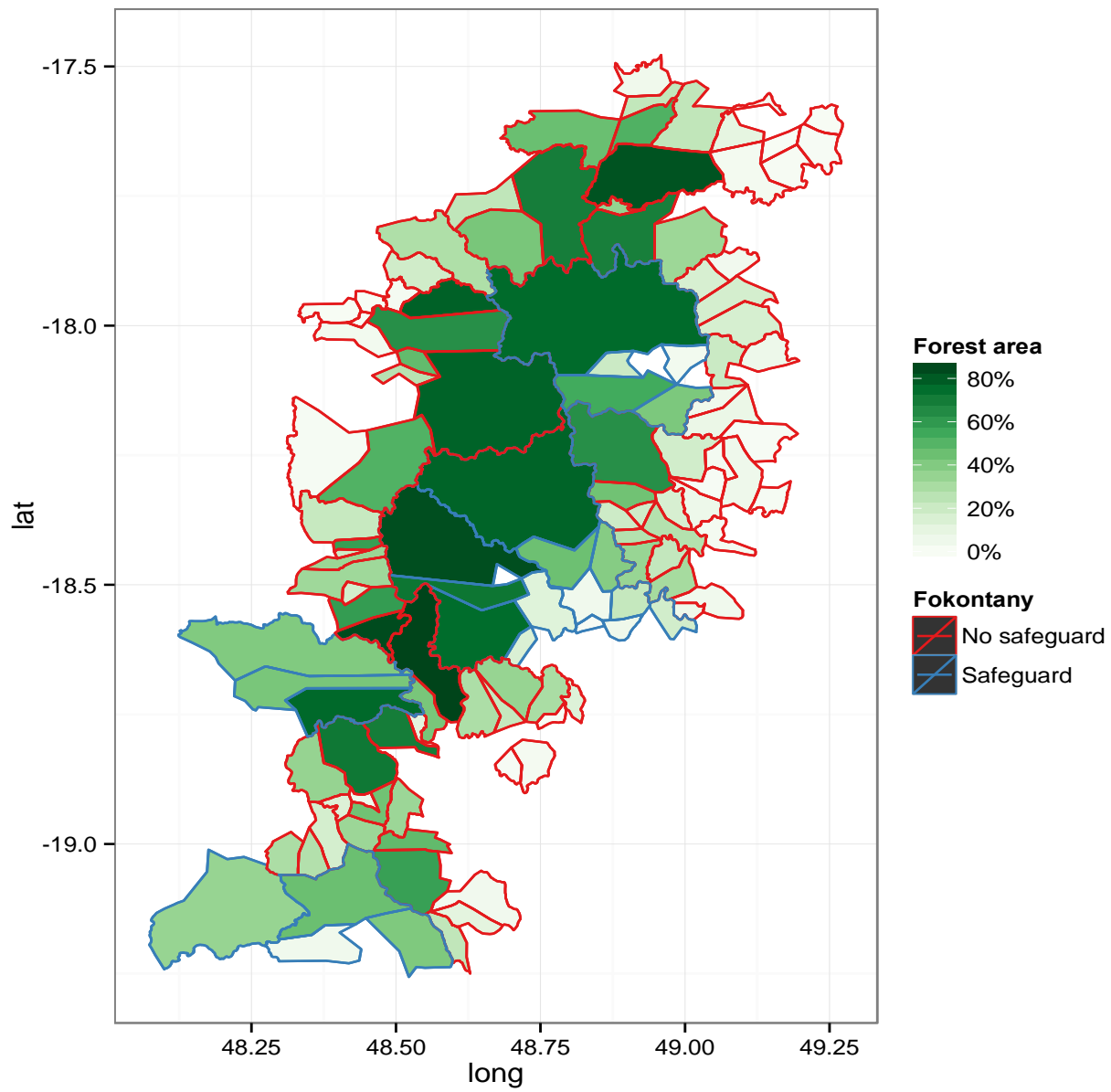
# Extra slides

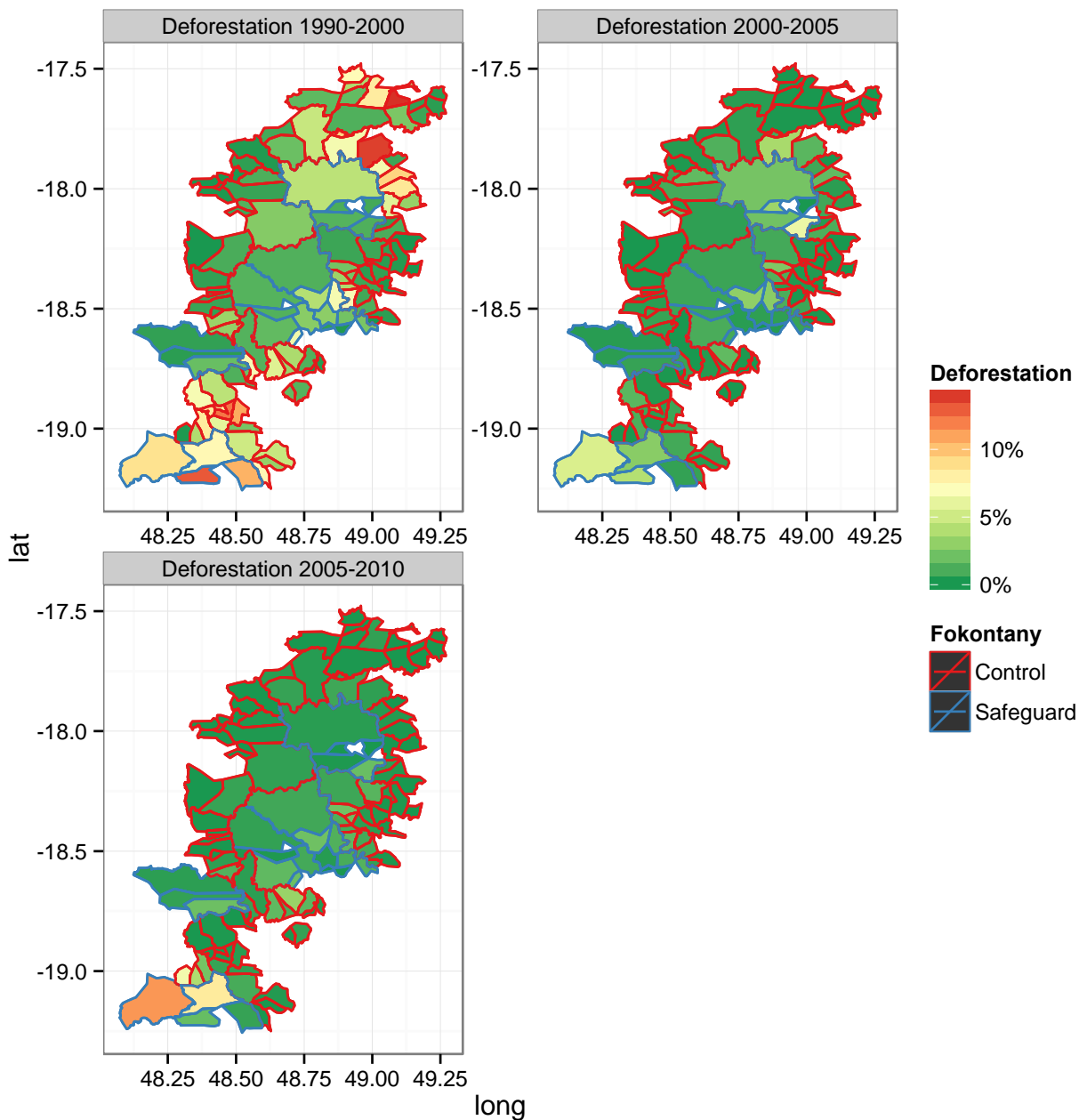


# Ethics: compensation

- We compensated people with thank-you gifts for their time and knowledge sharing
- Limited the value around 3000 Ar (\$1)
- When we needed a full day or half day (and for them to come with us to fields) we pay same rate as guides

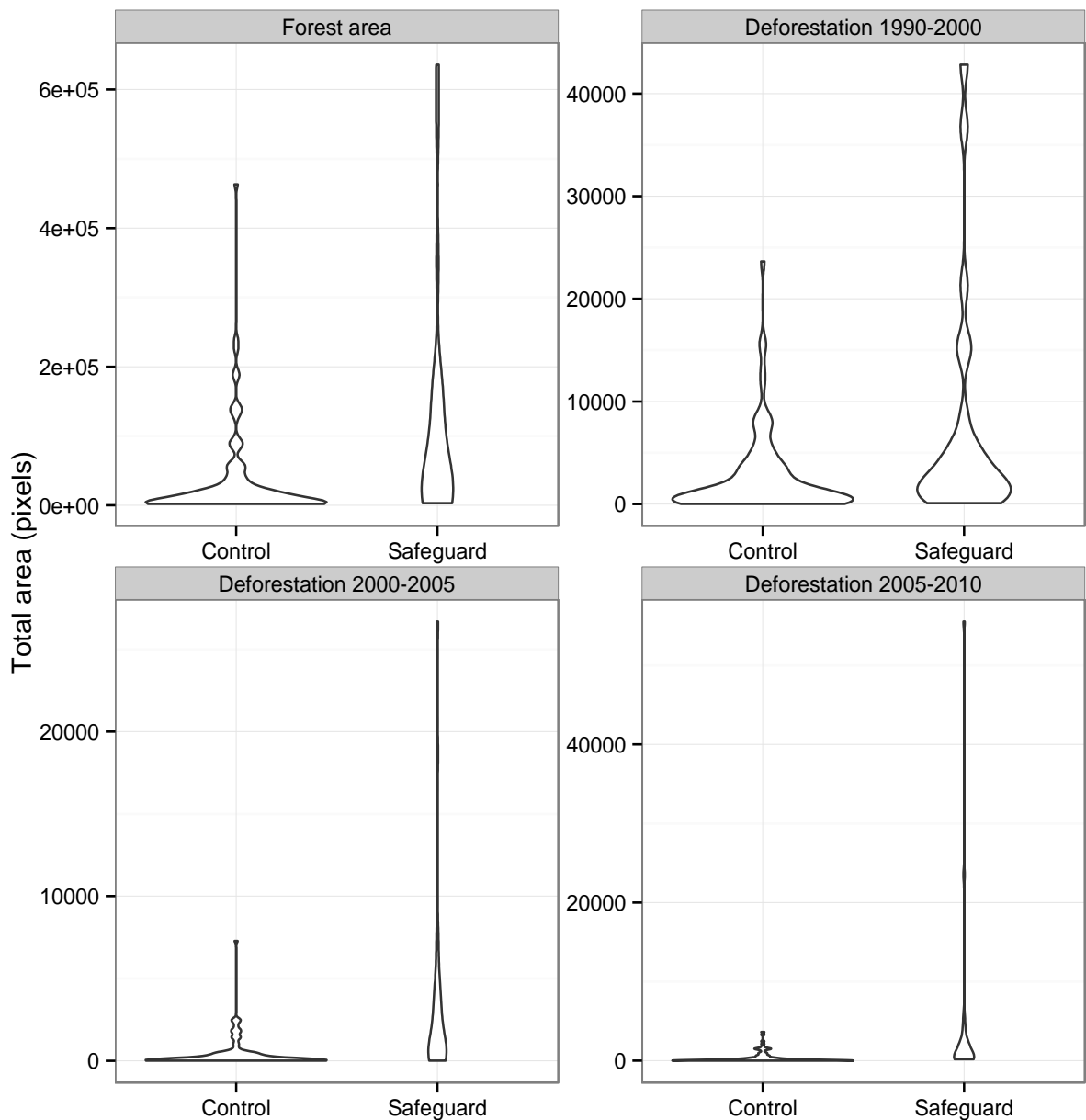






■ Figure 3. Spatial distribution of deforestation by proportion of fokontany





**Figure 4. Total forest area and deforestation by fokontany for all fokontany overlapping the protected area. For all variables the distributions are significantly different at the  $P < 0.05$  level using a 2 sample KS test.**

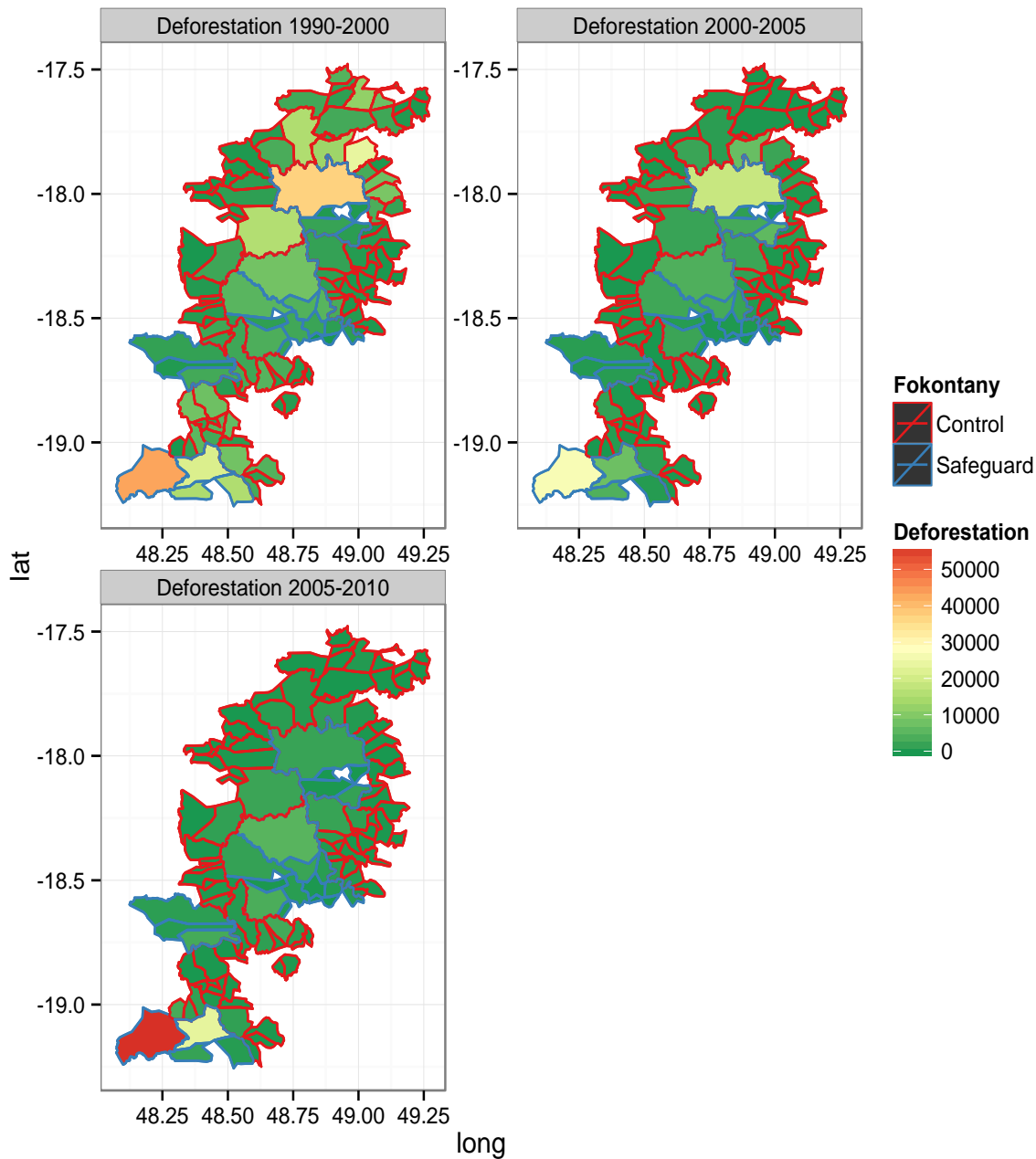
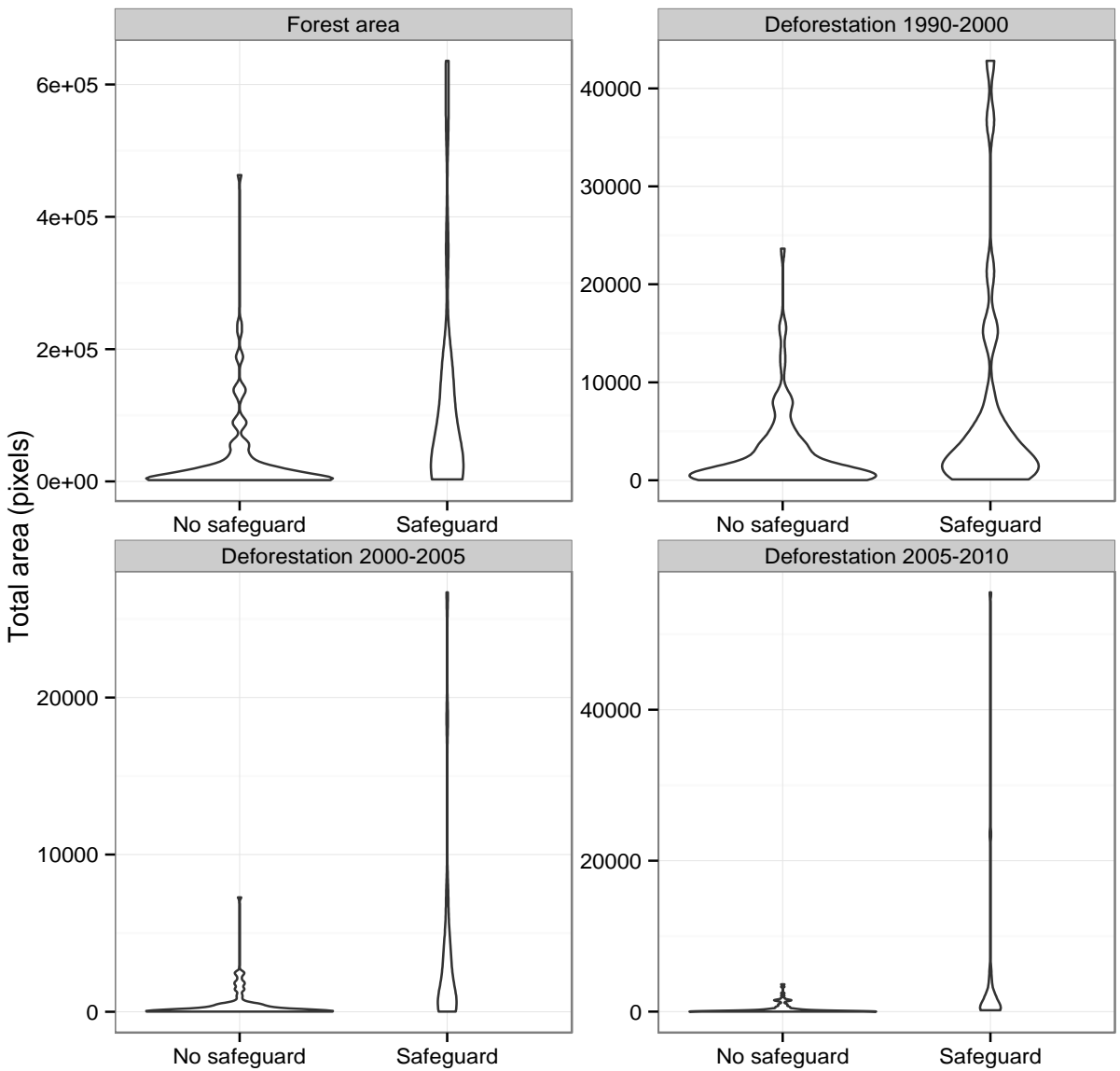
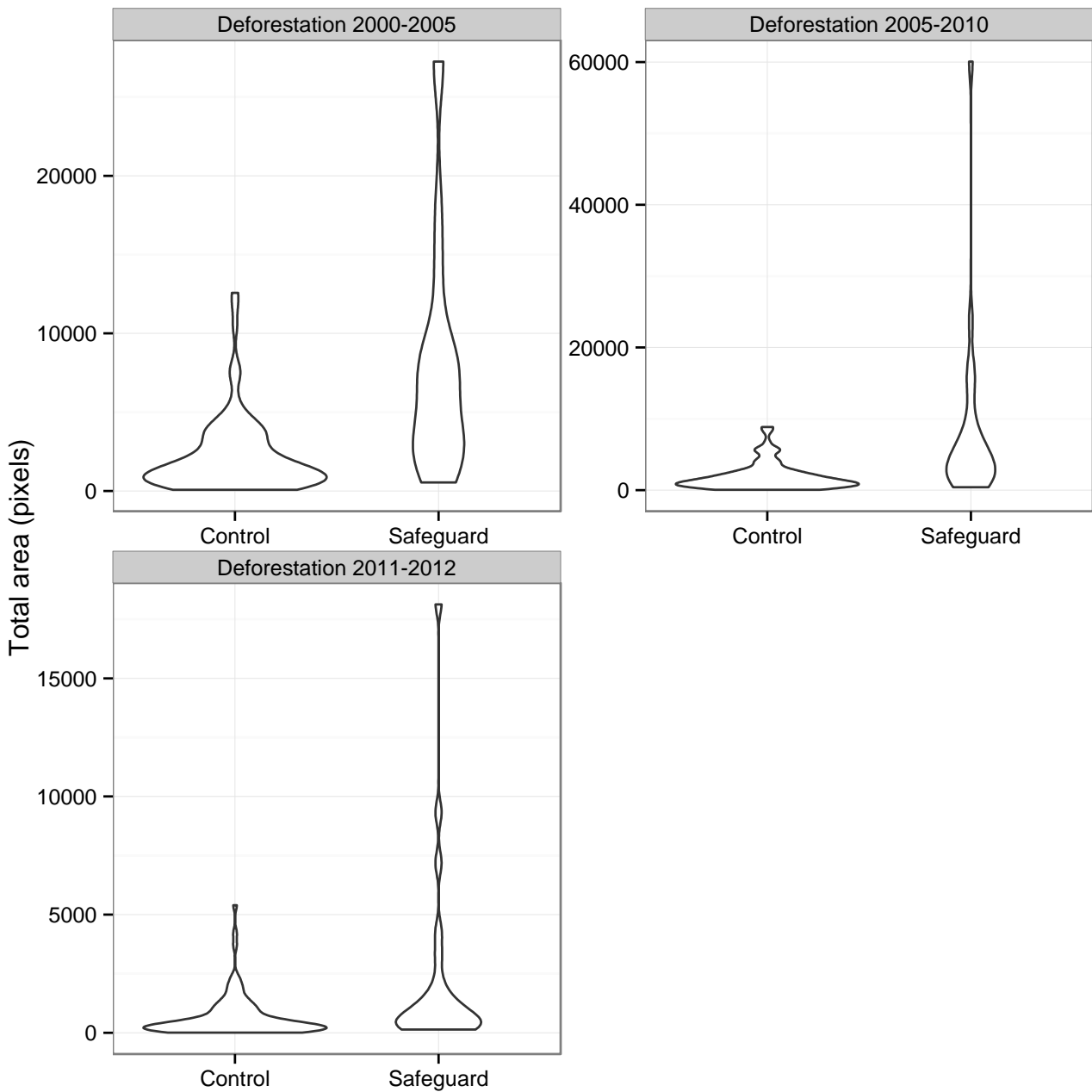


Figure 5. Spatial distribution of absolute deforestation by fokontany.

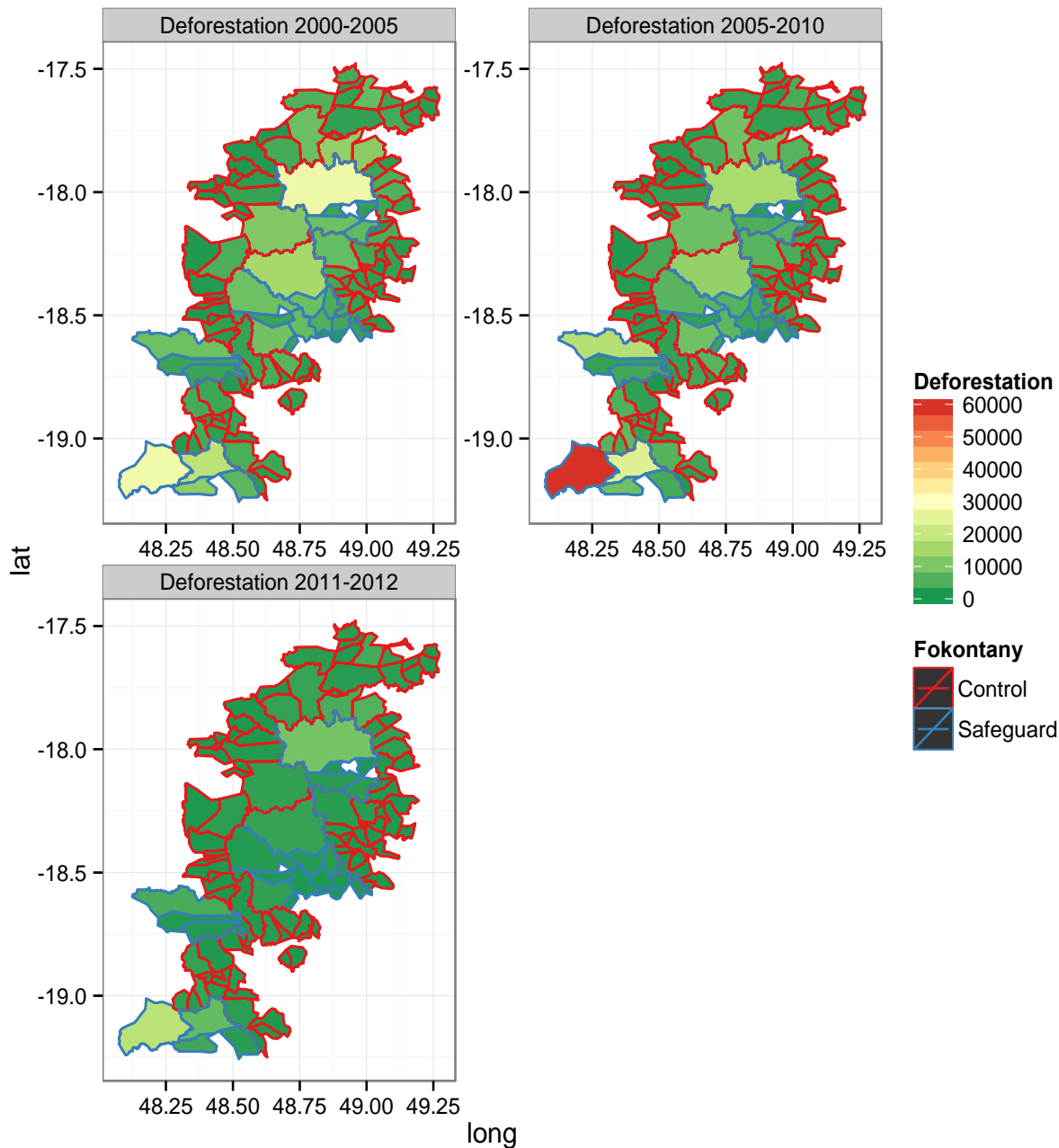


- Absolute rate of deforestation by fokontany based on CI data.



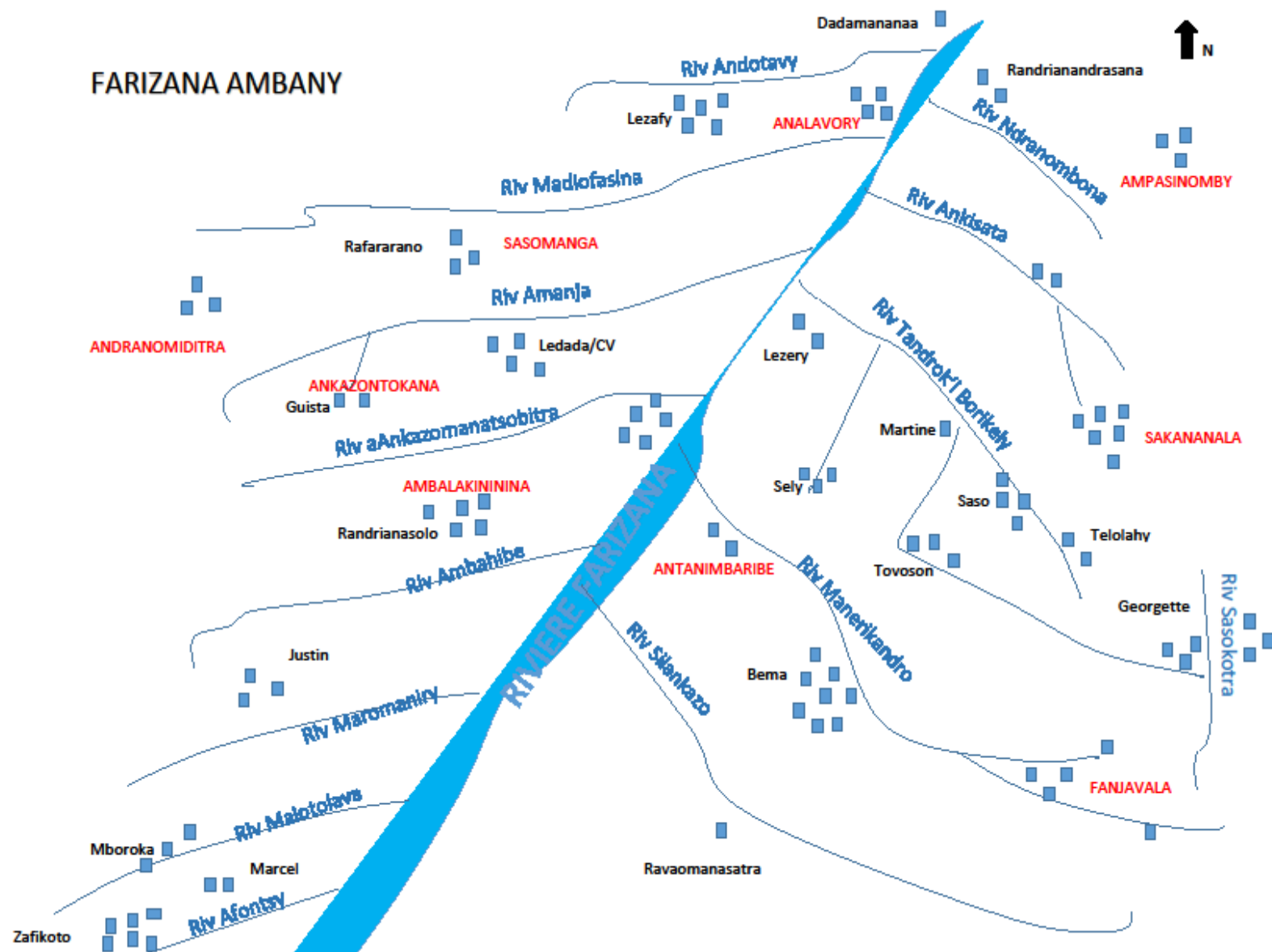


▪ Absolute rate of deforestation by fokontany based on Maryland data.



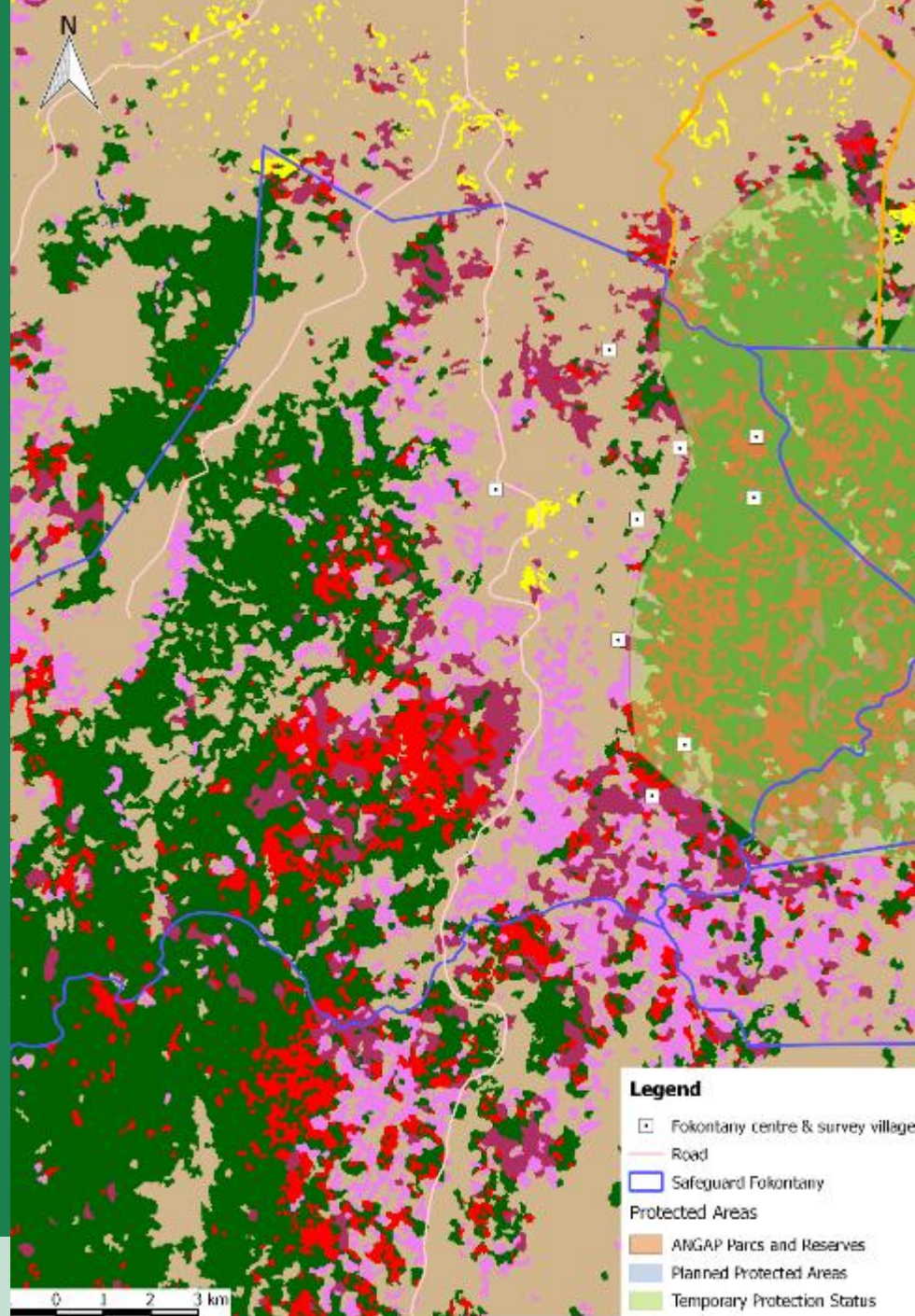
- Spatial distribution of deforestation based on the Maryland data.

## FARIZANA AMBANY





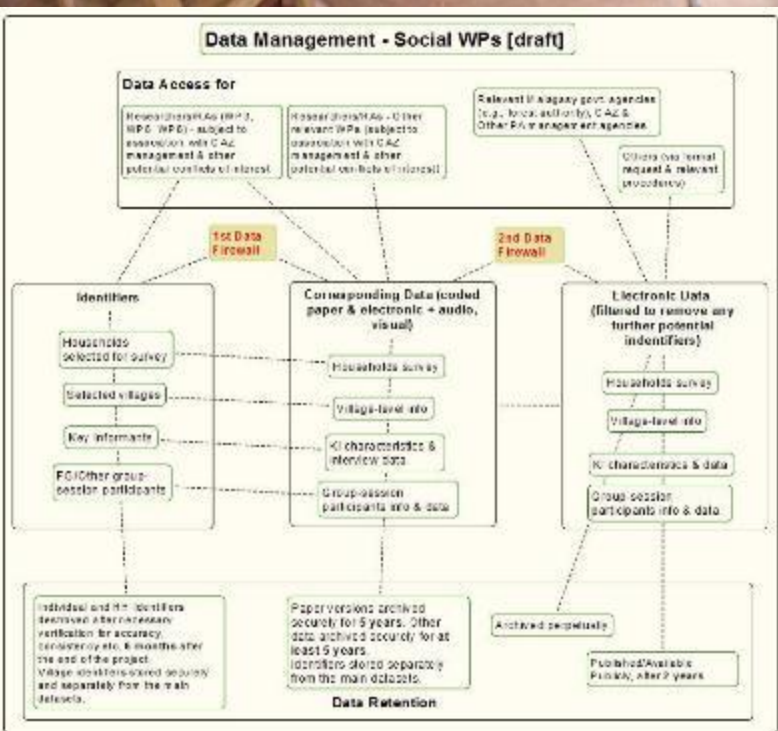
World Bank considers social issues related to CAZ were addressed in the safeguard mitigation activities planned under EP3 (integrated safeguards data sheet appraisal stage)





Everyone in the p4ges project has had ethics training-encouraging us to reflect on the ethical implications of collecting such sensitive data

We have a well developed management plan (with data firewalls to protect anonymity of informants) – within the project and external to the project.







We spent a lot of time explaining the research and building relationships and trust locally

We had to ensure that they understood that their information was safe, and that participation was voluntary.

These ethical considerations took 25-35% of the total interview time

- Man days: 15 X 5 sampling frame ie 75 days, 20X5 survey ie 100 man days (not counting Mahesh)
- 175 man days total (200 man days with Mahesh)

And 4 fokotany who  
(according this  
remotely sensed  
data) had zero  
deforestation were  
identified as  
containing PAPs

