Performance assessment of 23 REDD+ initiatives

A tree cover change perspective

SBSTA side event 18 May 2016

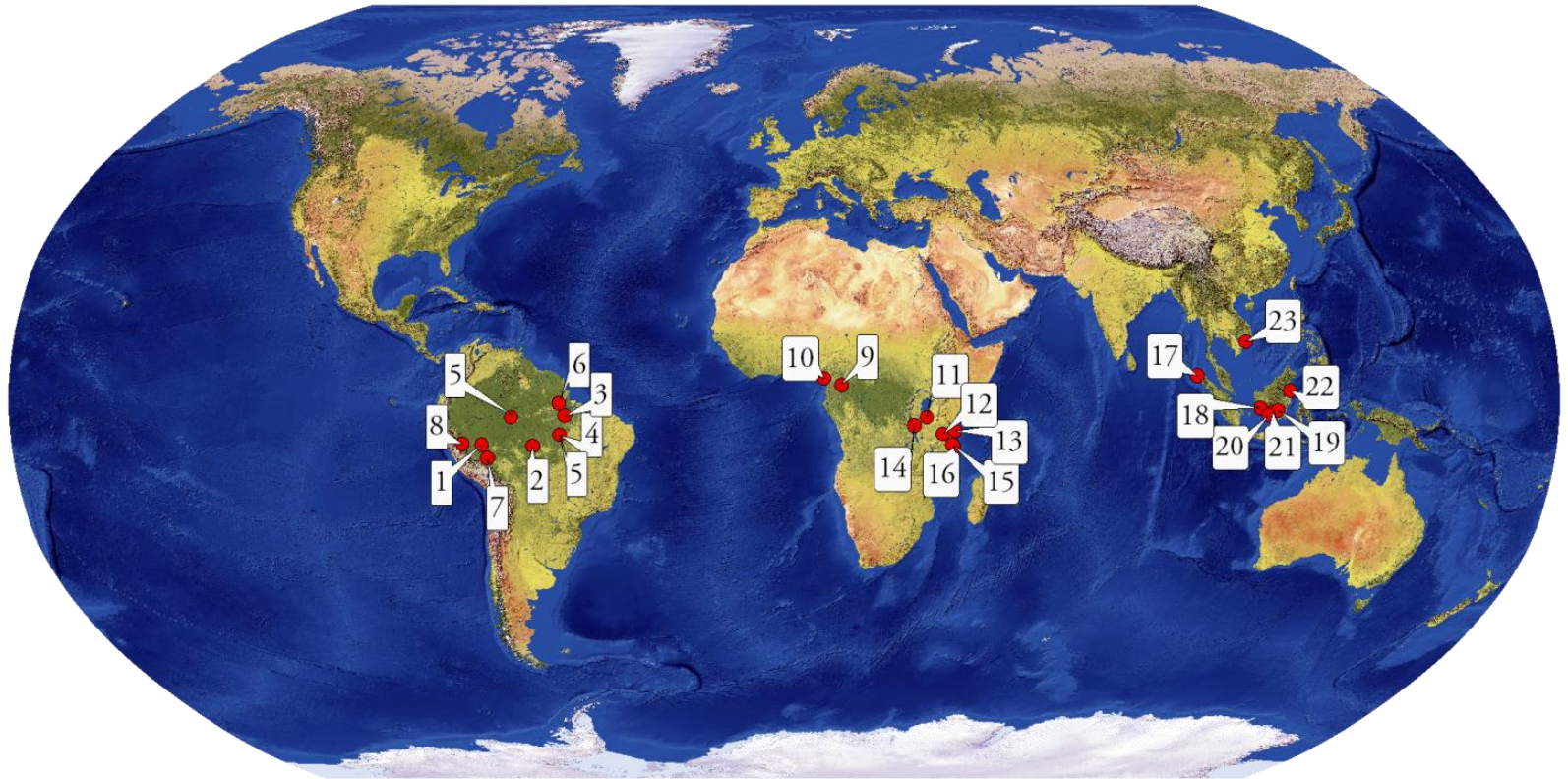## Astrid Bos

CIFOR Global Comparative Study on REDD+
Module 2: subnational initiatives in 6 countries

|				
1 Brazil1	7 Peru1	11 Tanzania1	17 Indonesia1	23 Vietnam1
2 Brazil2	8 Peru2	12 Tanzania2	18 Indonesia2	
3 Brazil3		13 Tanzania3	19 Indonesia3	
4 Brazil4	9 Cameroon1	14 Tanzania4	20 Indonesia4	
5 Brazil5	10 Cameroon2	15 Tanzania5	21 Indonesia5	
6 Brazil6		16 Tanzania6	22 Indonesia6	

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Performance assessment
Reference levels vs. Before-After/Control-Intervention
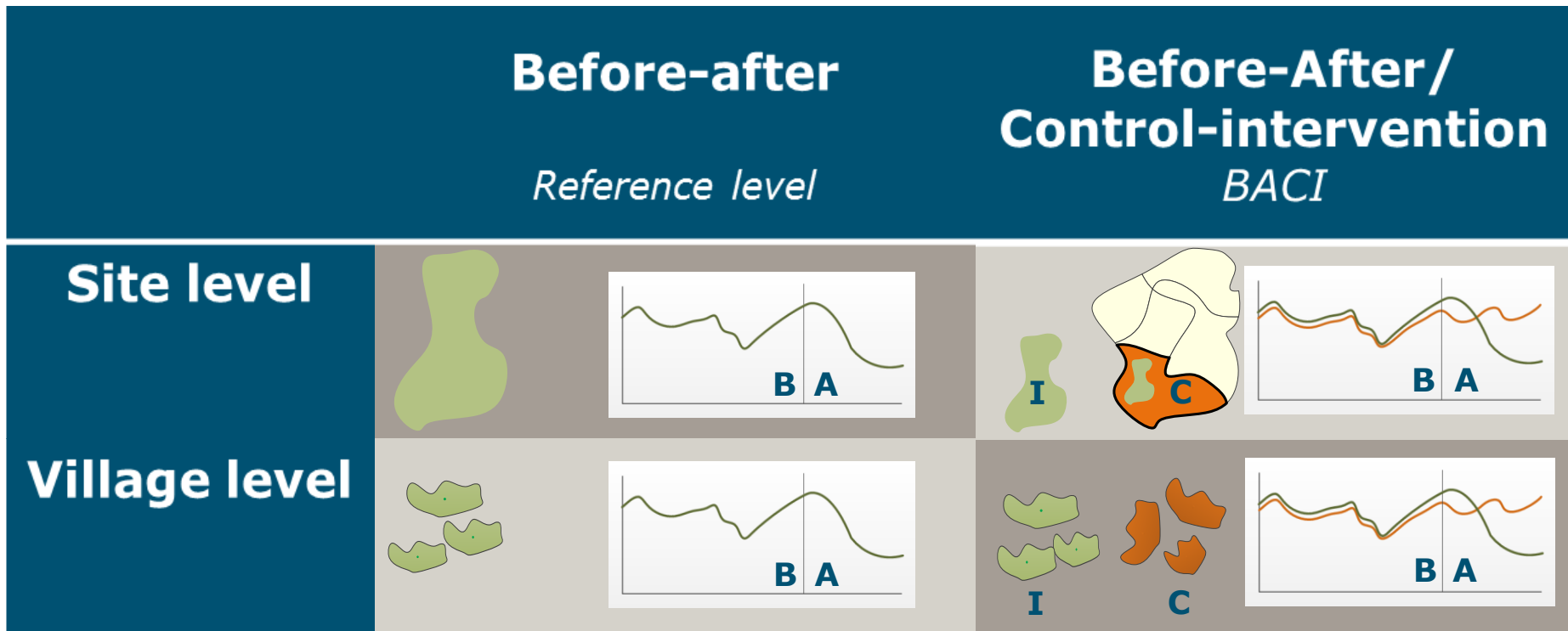

$$BACI\ ratio\ \beta = (\bar{x}_{AI} - \bar{x}_{BI}) - (\bar{x}_{AC} - \bar{x}_{BC})$$

$$with\ \bar{x}_{AI} = \frac{1}{n_a} \sum_{i=1}^{n_a} x_i$$

where $\bar{x}_{AI}$ represents the average annual deforestation rate in the period after the intervention started and n_a is the number of years in the period after the intervention started
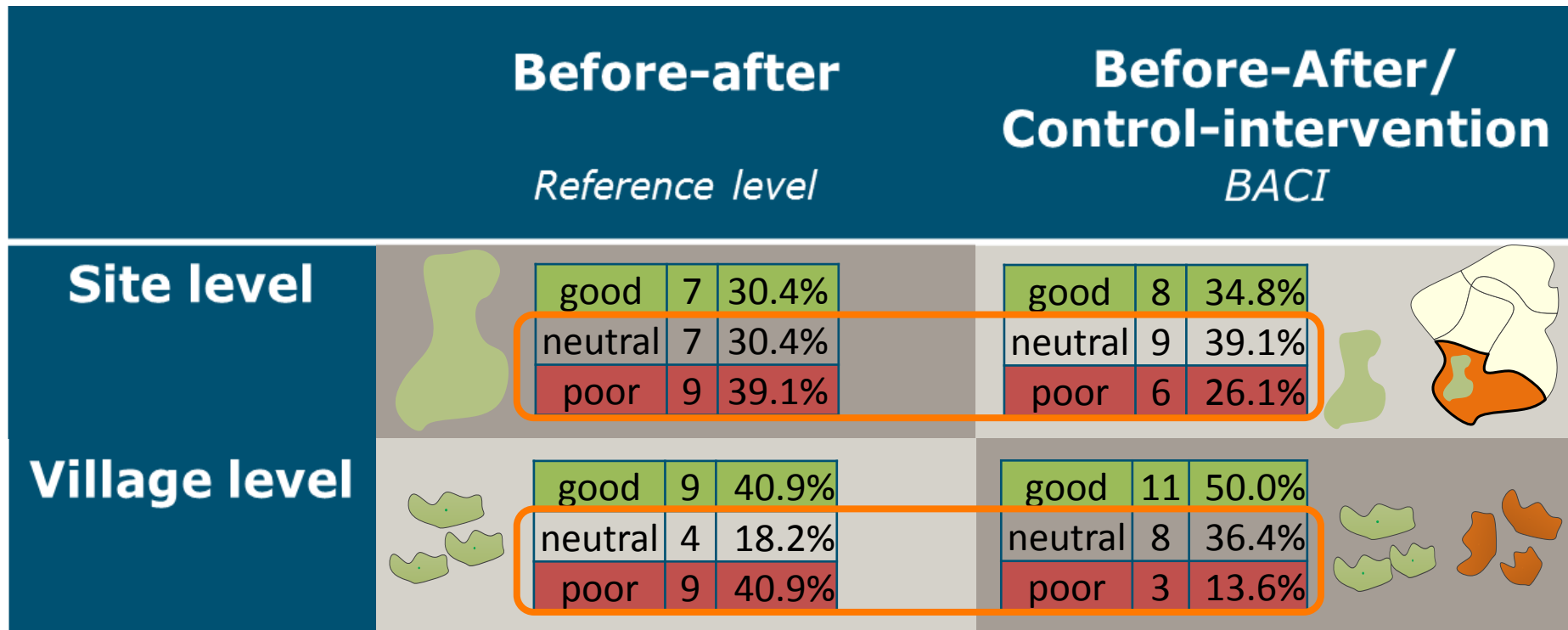
Data: Tree cover and tree-cover change

- Global Forest Change 2000–2014 (Hansen et al., *Science* 2013)
- Forest definition: 10% tree cover (FAO)
- Regional uncertainty → no effect on local trend analysis

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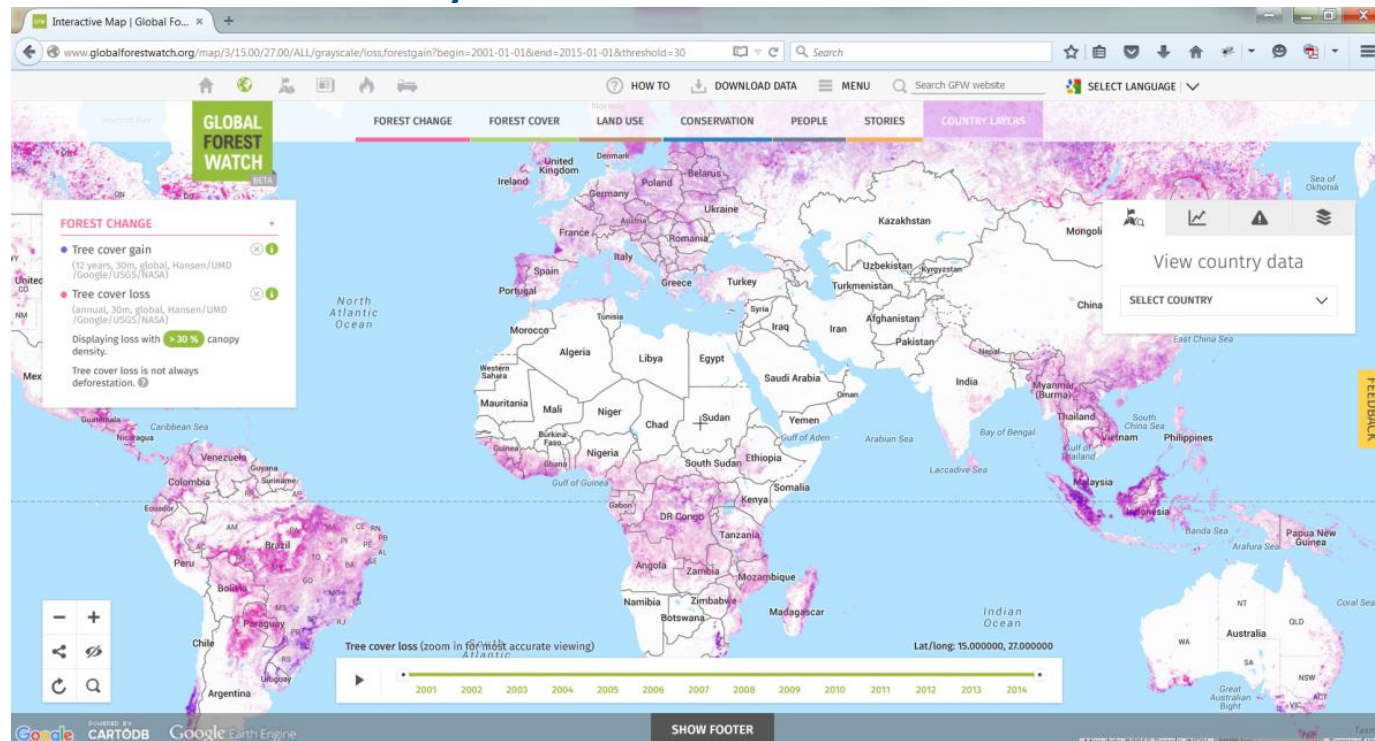
Results
difference *Before-After* & *Before-After/Control-Intervention* ratio

	Before-after			Before-After/ Control-intervention		
	Reference level			*BACI*		
Site level	good	7	30.4%	good	8	34.8%
	neutral	7	30.4%	neutral	9	39.1%
	poor	9	39.1%	poor	6	26.1%
Village level	good	9	40.9%	good	11	50.0%
	neutral	4	18.2%	neutral	8	36.4%
	poor	9	40.9%	poor	3	13.6%

Results explained
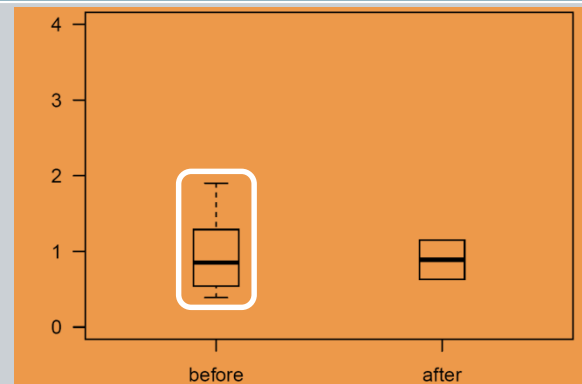## (1) **Bias** in before period

- Deforestation intervention **>** control   REDD+ in frontier (e.g. Brazil_3)
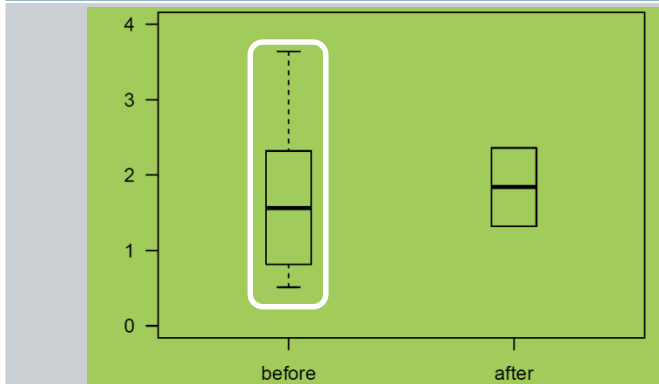
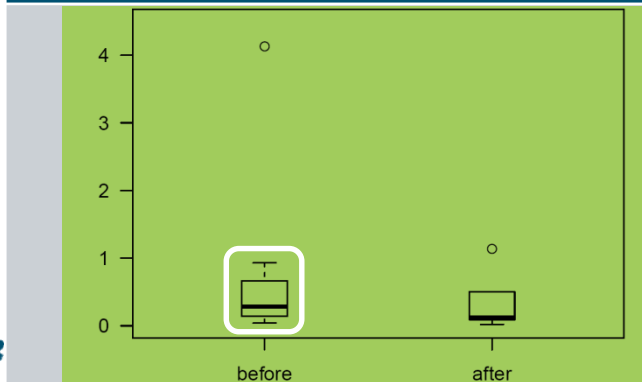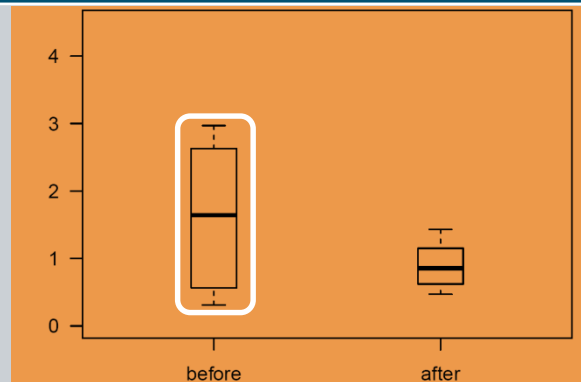| Average annual deforestation rate in **intervention area** (initiative boundaries)	Average annual deforestation rate in **control area** (district)

- Deforestation intervention **<** control   Conservation area (e.g. Indonesia_4)

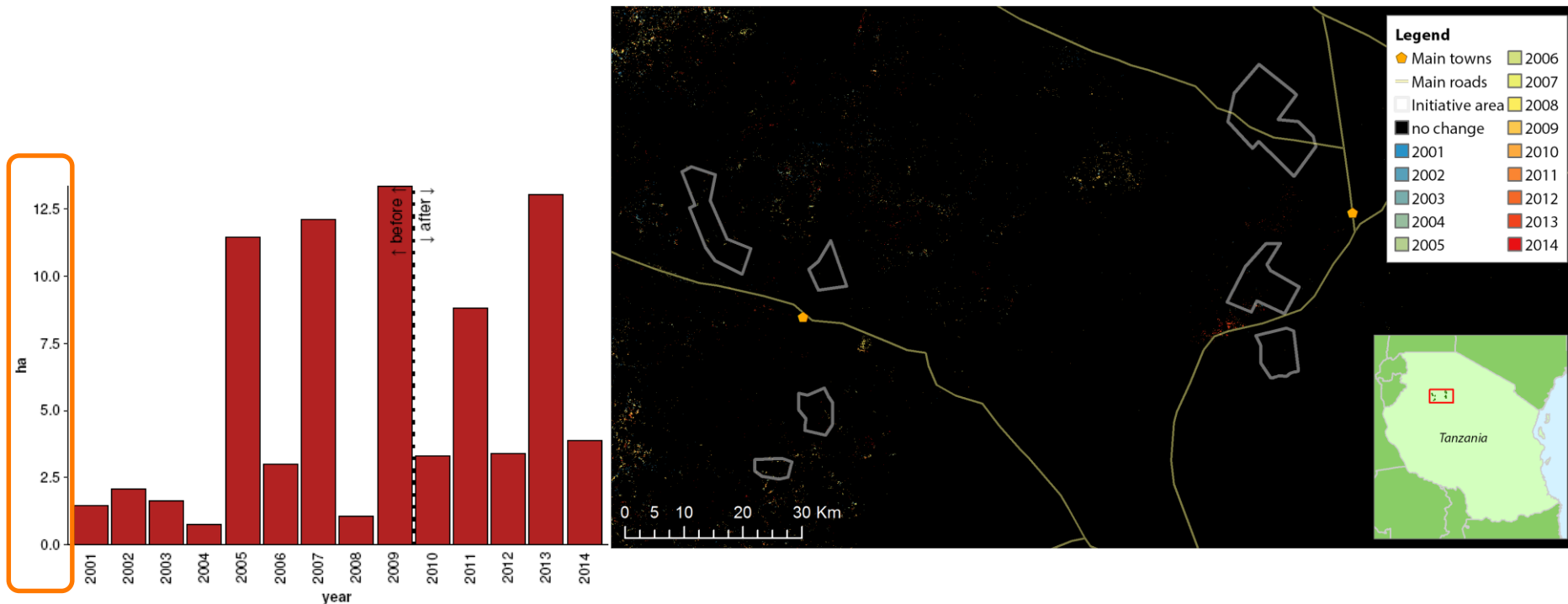| Average annual deforestation rate in **intervention area** (initiative boundaries)	Average annual deforestation rate in **control area** (district)

Results explained
(2) **Low absolute** deforestation

▪ small differences → high uncertainty → big influence on score (e.g. Tanzania_1)
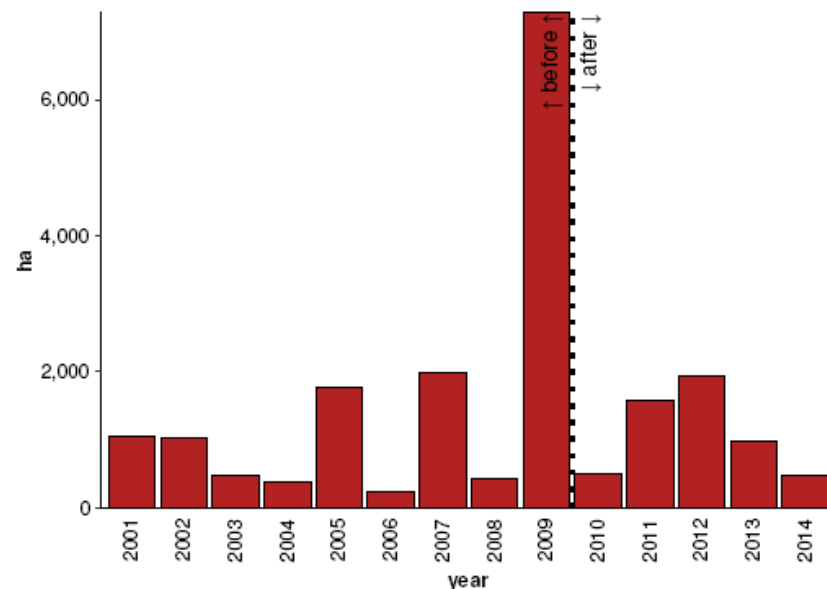
Results explained
(3) **Peak** years

■ In *before* period (in control area)
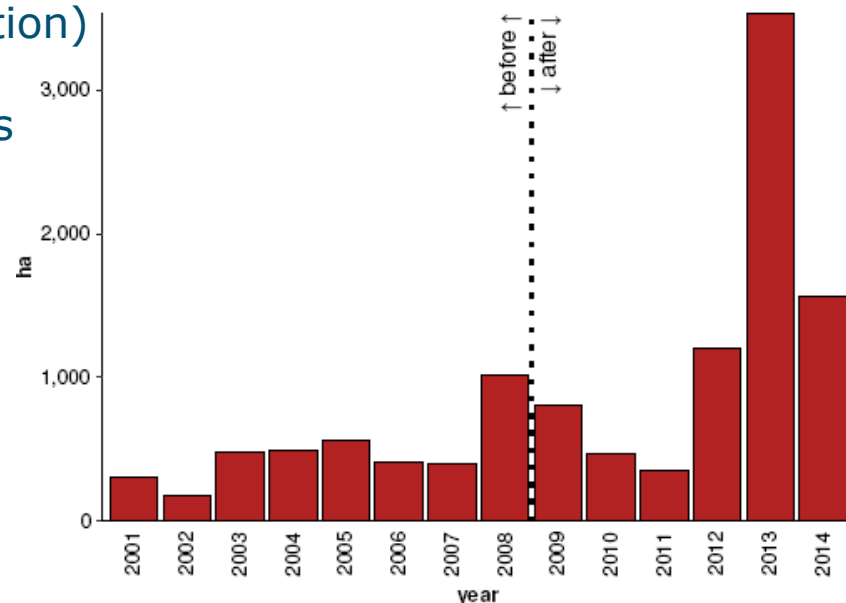→ "better" Before-After score for control
→ "poorer" BACI

(e.g. Brazil_1/Tanzania_1/Tanzania_6)

Tanzania_1 control area (district)

■ In *after* period (both control & intervention)
Poor performance?
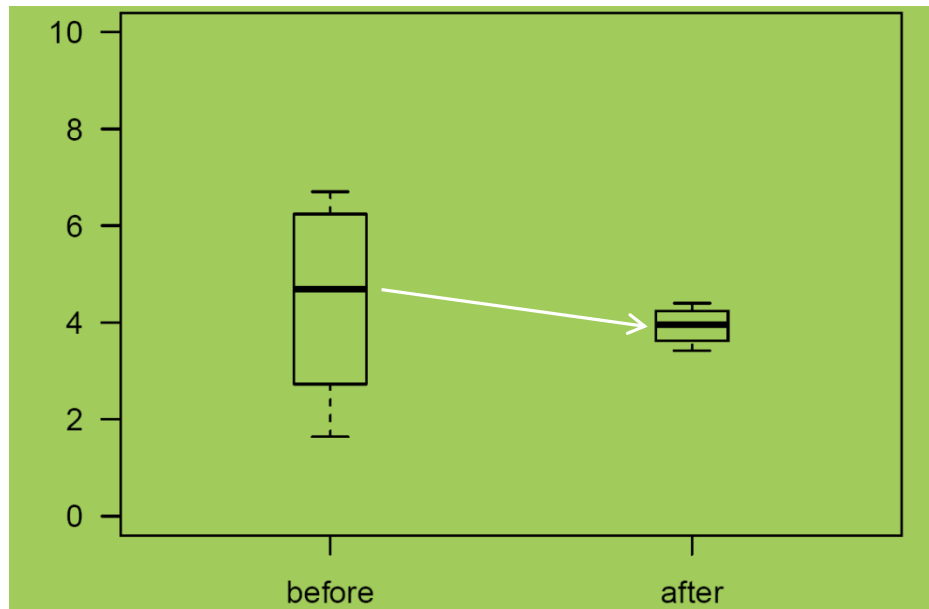REDD+ not addressing big event drivers

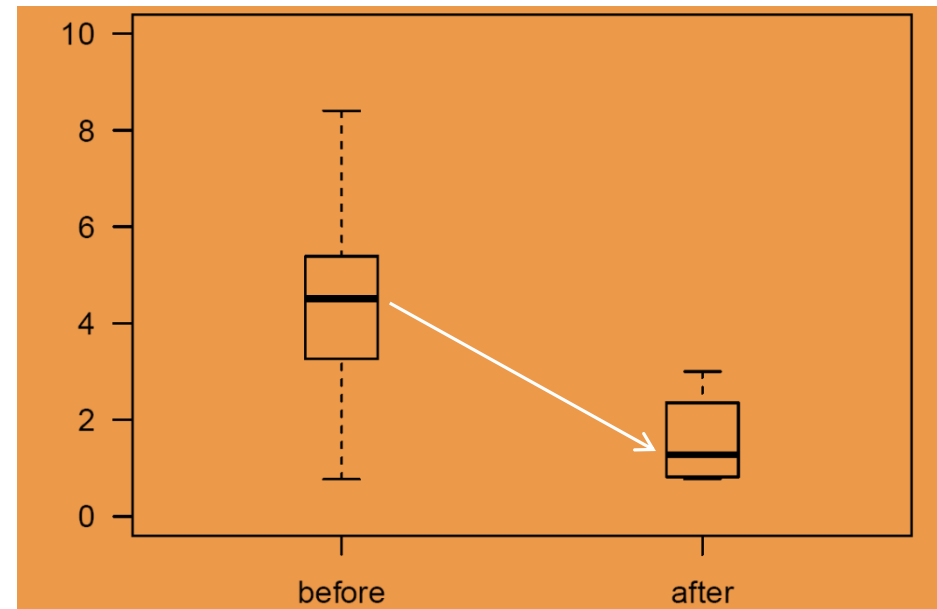(e.g. Tanzania_5)

Tanzania_5 intervention area (initiative)

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Results explained
(4) Limited **additionality**

- Decrease in deforestation, but **limited additionality**
  (control area performs even better than intervention villages) (e.g. Brazil_2)

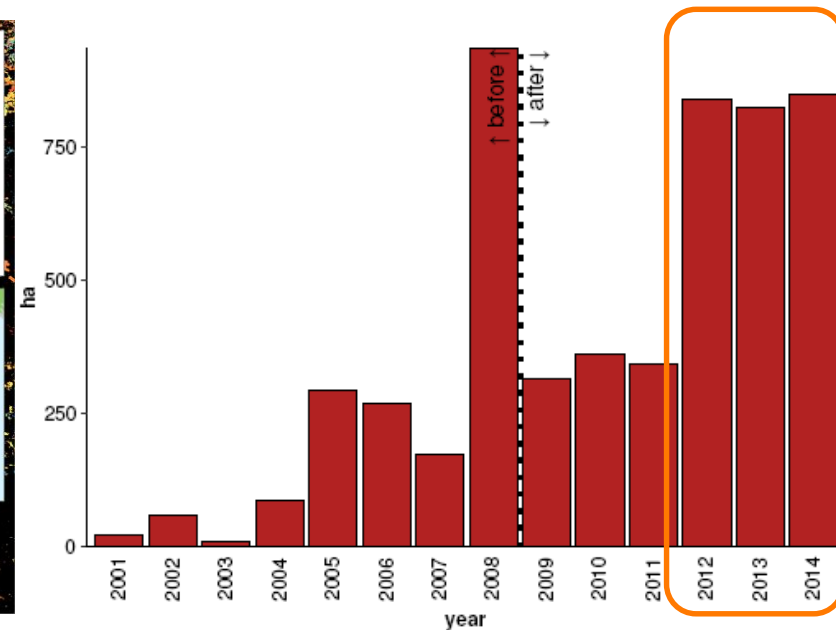Brazil_2 intervention (villages)
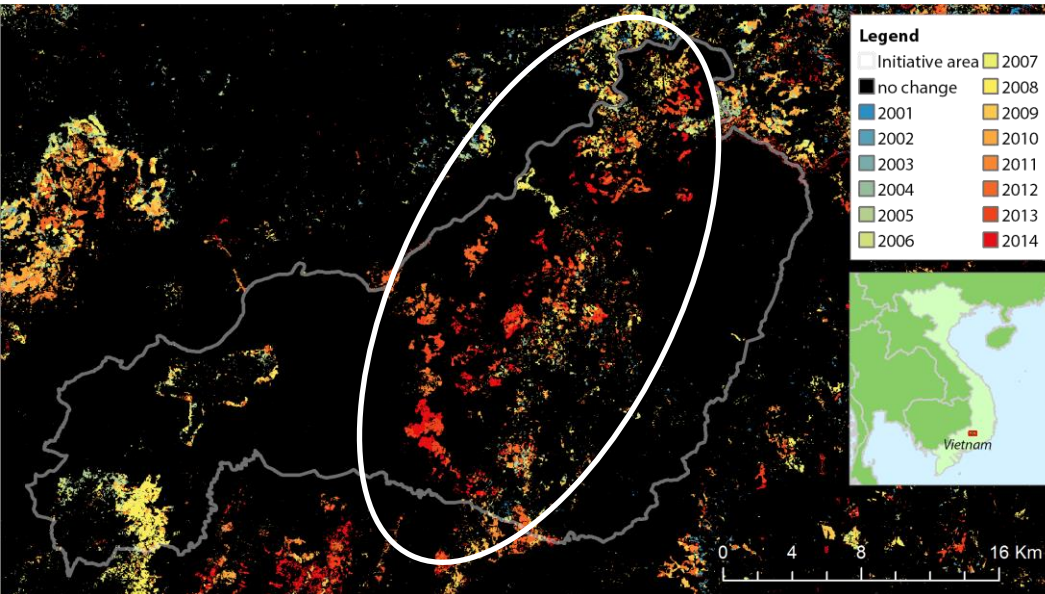
Brazil_2 control (villages)

Results explained
(5) **Poor** performance?

- **Poor performance?**
  3 consecutive years in after period in intervention area with high deforestation
  Vietnam_1 ceased project in 2012

Conclusions (preliminary)

- Performance *measure* itself has implications on results

- Overall, REDD+ sites perform *relatively* well when compared to control units (here: only relative change is analysed)

- Causes of "poor" BACI score vary widely
  - Random/contextual factors
    - Bias
    - Low absolute deforestation
    - Peaks
  - Limited additionality
  - Poor performance (incl. cease initiative)

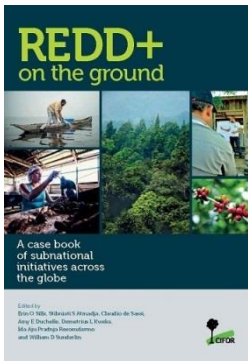- For result-based finance, it is important to understand *causes* of change

Thank you

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More information:

www.cifor.org/gcs

 Sills et. al (2014)

www.cifor.org/redd-case-book

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