



Challenges and approaches in data management of LTE trials in tropical field sites: Experiences from two trials in India and Bolivia

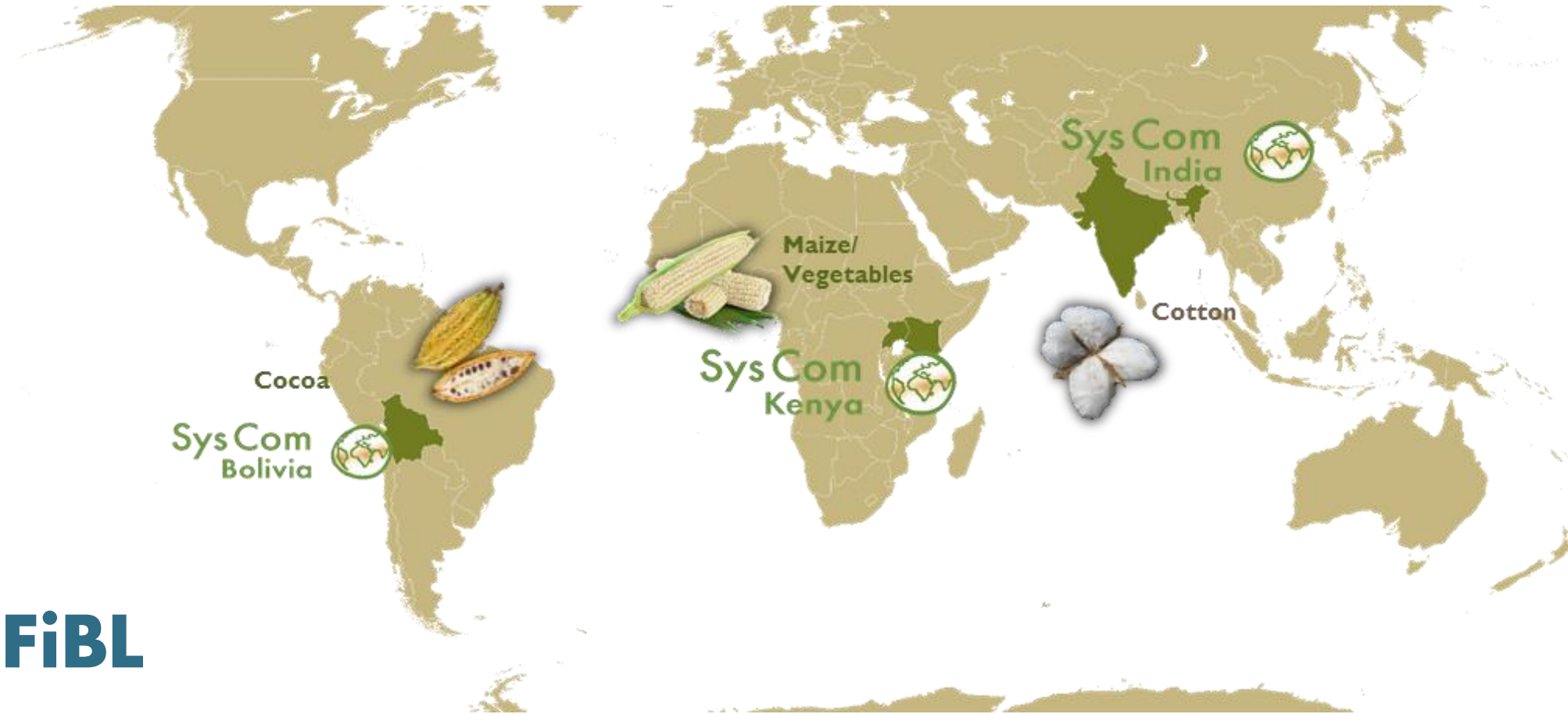
Chigusa Keller, Johanna Rüegg, Ulf Schneidewind, Laura Armengot, Eva Goldmann

LTE conference Rothamsted Research, 21. June 2023







SysCom: long-term farming SYStem COMparison in the Tropics

Objectives

- › Contributions to global knowledge on the comparative performance (agronomic, economic and environmental) of organic and conventional farming systems
- › Contributions to local innovation in organic crop production.



SysCom: long-term farming SYStem COMparison in the Tropics

	Bolivia	Kenya	India
Climate	Sub-humid	Semi-arid	Tropical-humid
	 	 	 
Crops	Cacao-based systems, cacao trees with plantain, coffee and timber trees	Maize-based systems, 3-year crop rotation with maize, vegetable and potato	Cotton-based systems, 2-years crop rotation with cotton, wheat and soybean
Systems	Organic vs conventional as monoculture or agroforestry	Organic vs conventional at low and high input level	Organic and biodynamic vs conventional with/without GMO

Program Coordination

FiBL

project management &
donor engagement

data analysis, publication
& dissemination of
scientific findings

shared resp.

design & planning of trials

SAB

NSAB

data validation

dissemination of practical
findings and innovations

Country Partners

India



Remei
India

Bolivia



ECOTOP



FUNDACION
PARA EL DESARROLLO SOSTENIBLE
PIAF-EL CEIBO

Instituto de
Ecología



implementation &
agronomic management
of field trials

data collection

Who is responsible for what?

Challenges of SysCom Data Management

Limited resources (staff, etc.) and staff changes

Remote field sites in the tropics

System comparison in 3 different semi-static LTE trials

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- staff changes: knowledge about project history and continuity of data management system at risk

How are we addressing these challenges?

Limited resources

- one person per country at FiBL
 - staff changes & risk of lost knowledge and continuity of data management
- more staff in country teams, with focus areas (incl. data management)
 - relatively stable field teams
 - standardization & organization of older trial data
 - comprehensive (and concise) documentation

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- sharing trial results and common interpretation of findings with field team
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- Data-responsible persons both at FiBL side and field team side
- basic automatic data validation included within Excel data sheets

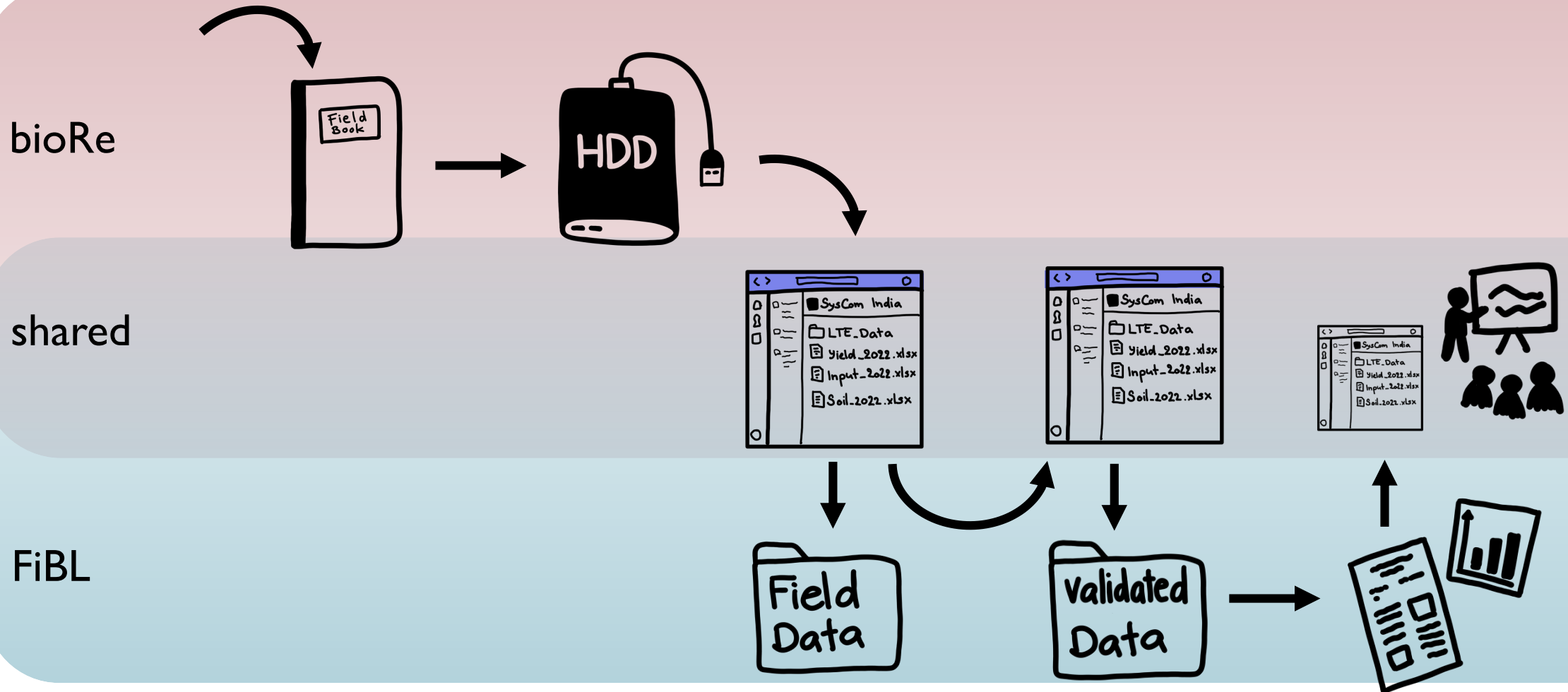
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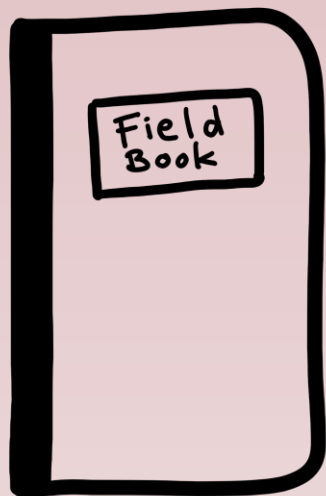
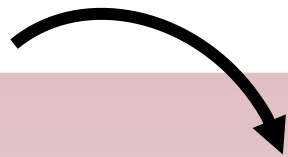
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Data Workflow SysCom India



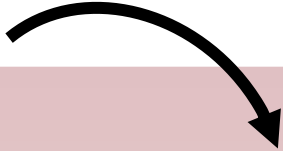
data collection



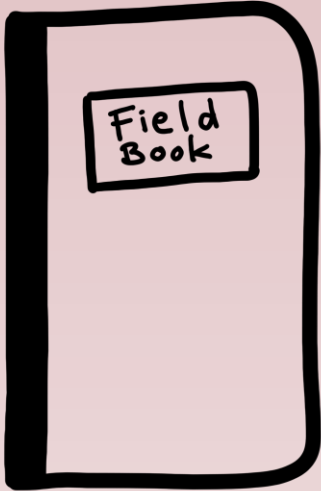
bioRe

shared

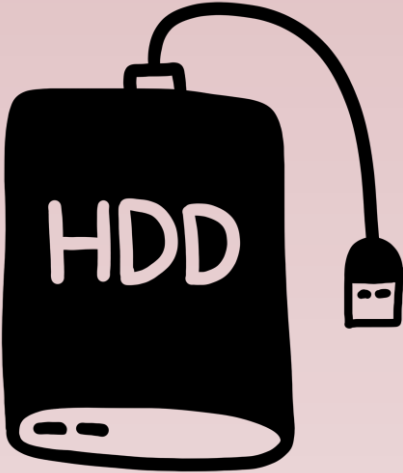
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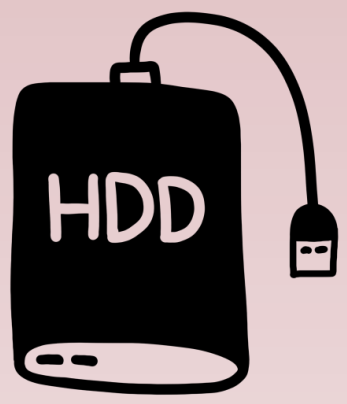


data transcription

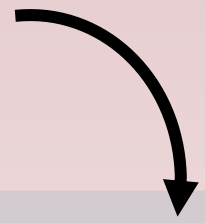


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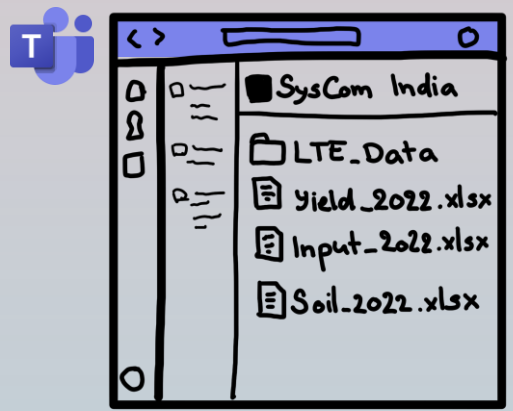
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data validation
& entry

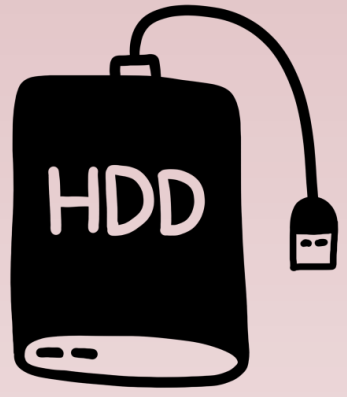


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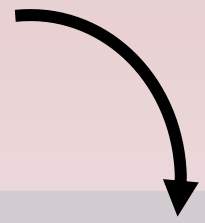


FiBL

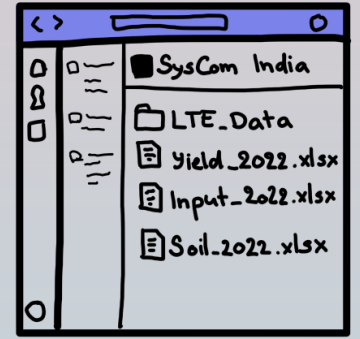
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shared



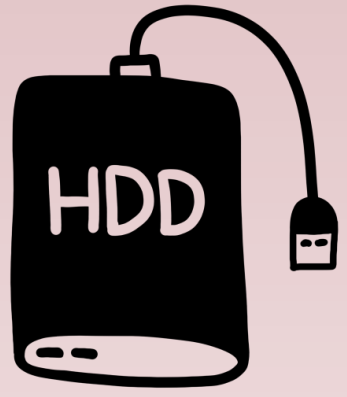
back up
field data



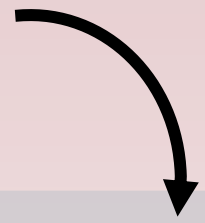
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shared



data
validation

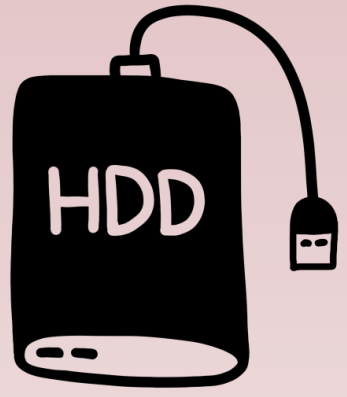


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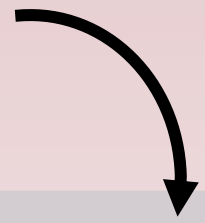


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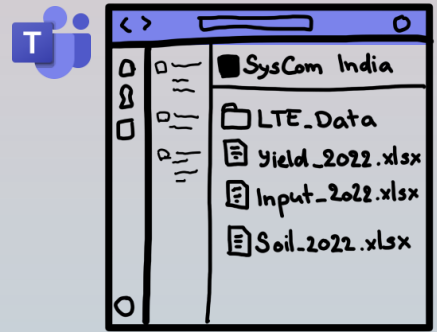
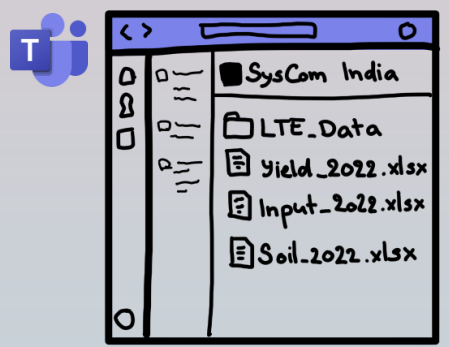
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data validation
& entry



shared



data
validation



back up
field data



back up
validated data

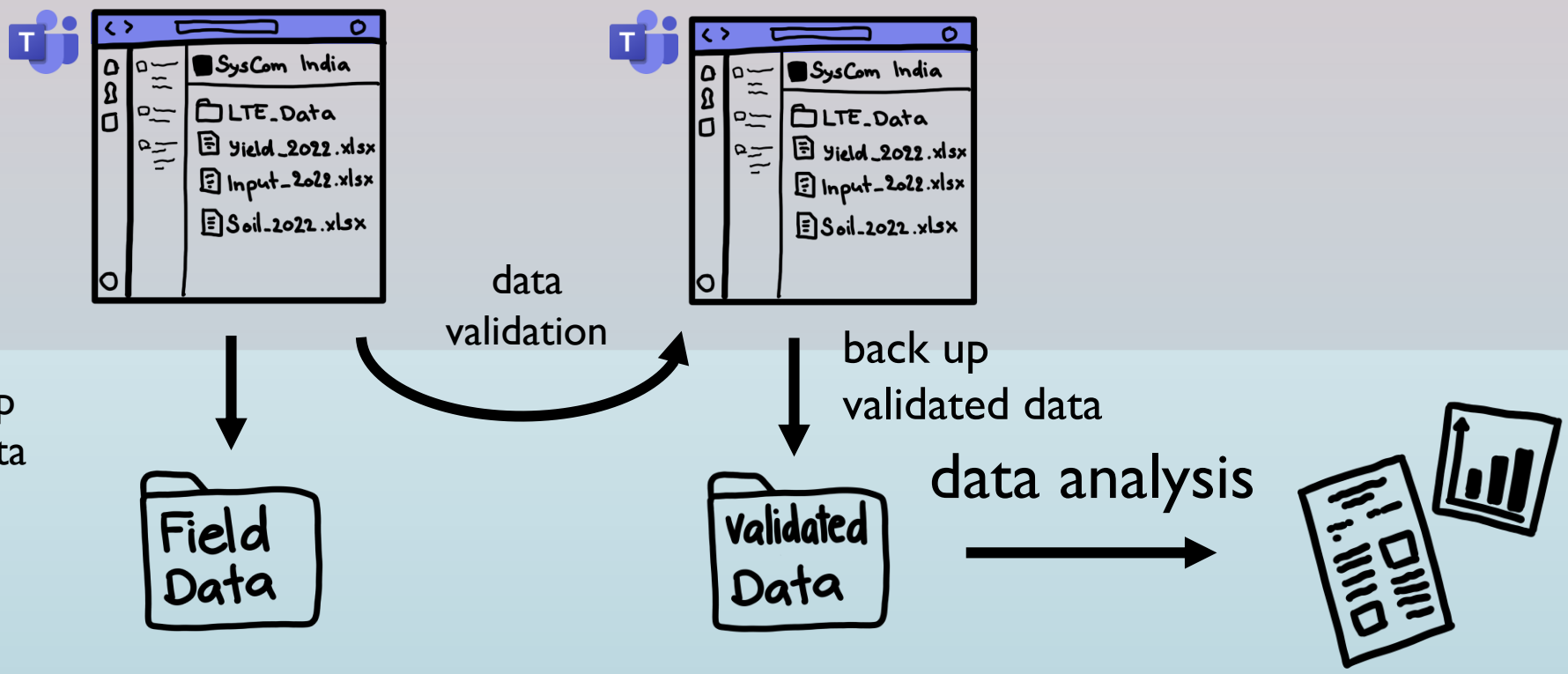


FiBL

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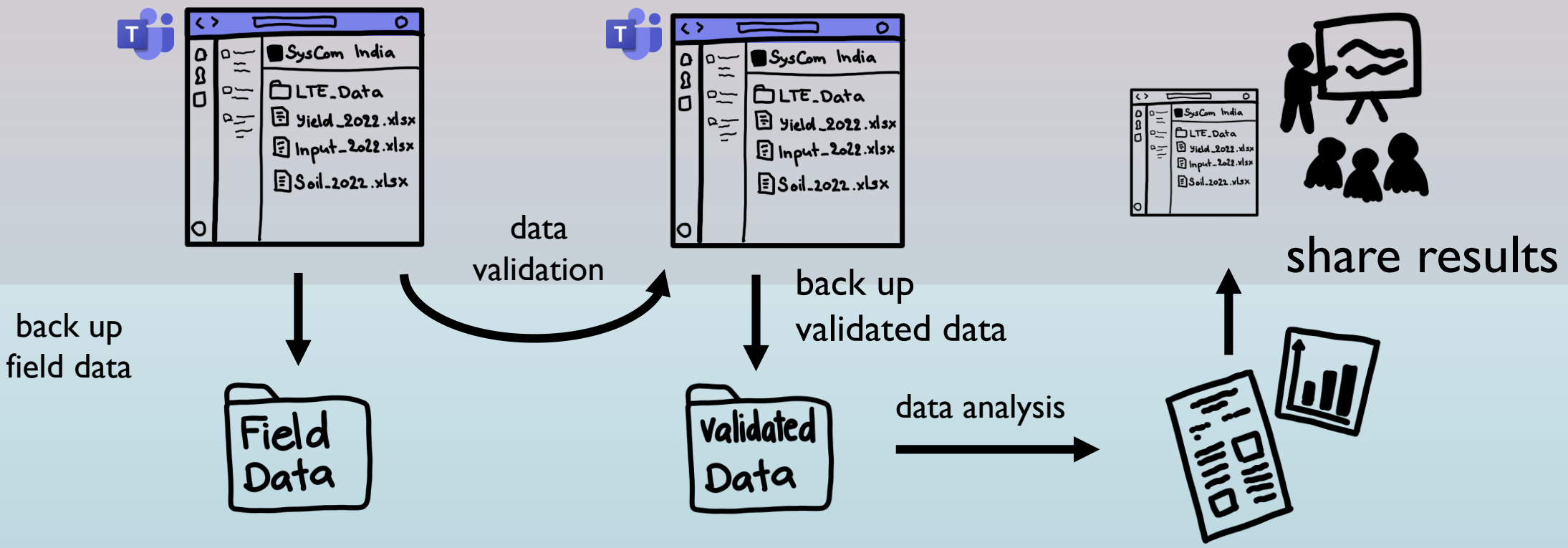
FiBL



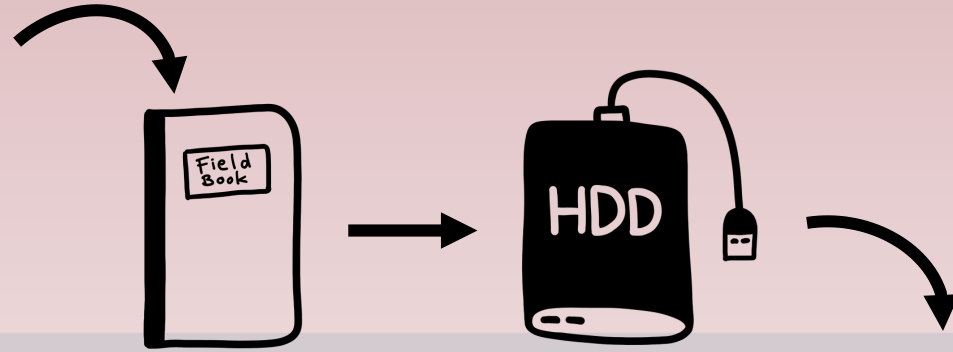
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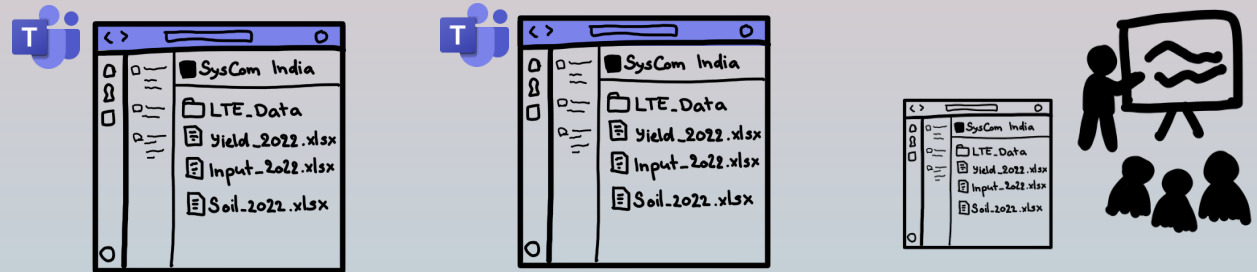
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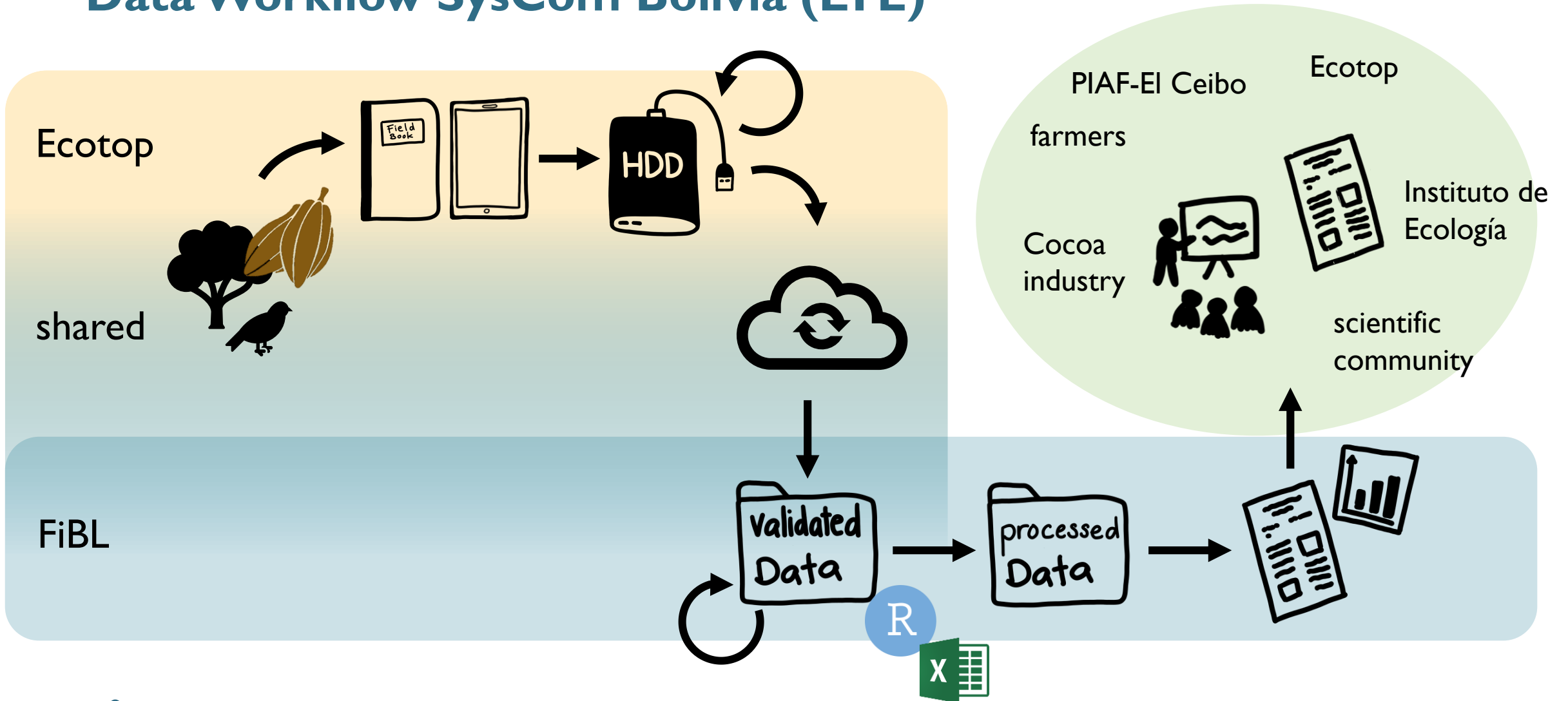
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FiBL



Data Workflow SysCom Bolivia (LTE)



How are we addressing these challenges?

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- workflow improvement for shorter time gaps between data collection and validation / transfer
- shared database for Bolivia
- automated quality checks for India

System comparison in 3 different semi-static LTE trials

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- standardization & organization of older trial data
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Conclusion / Recommendation

- Do not underestimate resources needed for data management
- Set up data management strategy and system before starting the trial
- Good communication between field team & «desk researchers»
- Have a system & workflow that is understood by everyone → «simple is better»
- Consistency and continuity are key success factors (team members, folder structure, naming conventions, tools used)
- minimise time gap between data collection & validation

Thank you for you attention!



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FiBL

Partners in India and Bolivia

