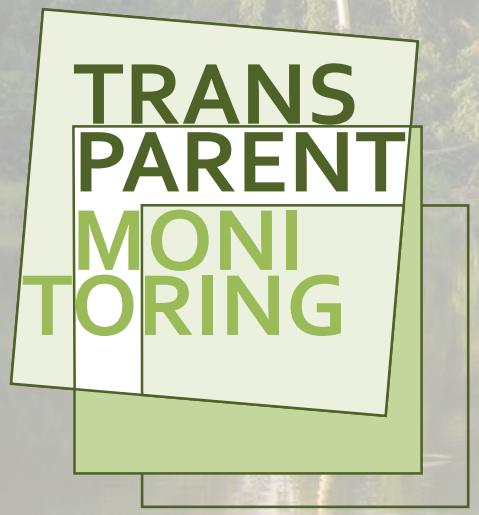
The future of land monitoring – technologies, trends, transparency?



Welcome!

Öko-Institut e.V. CIFOR IIASA FAO National Wildlife Federation Wageningen University & Research

The future of land monitoring – technologies, trends, transparency?

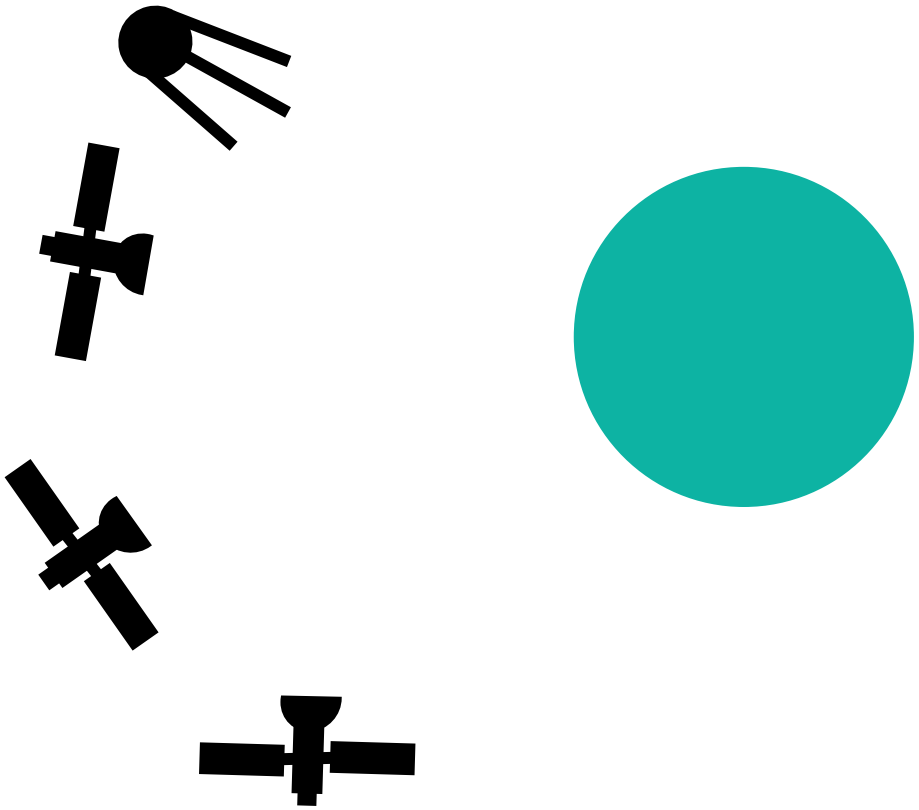
Transparent monitoring in practice: Supporting post-Paris land use sector mitigation

Scientific Workshop, 5 June 2023 in Bonn and via Zoom

On behalf of
Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety
of the Federal Republic of Germany

Öko-Institut e.V.
CIFOR
IIASA

Dimensions of transparent monitoring in the land-use sector



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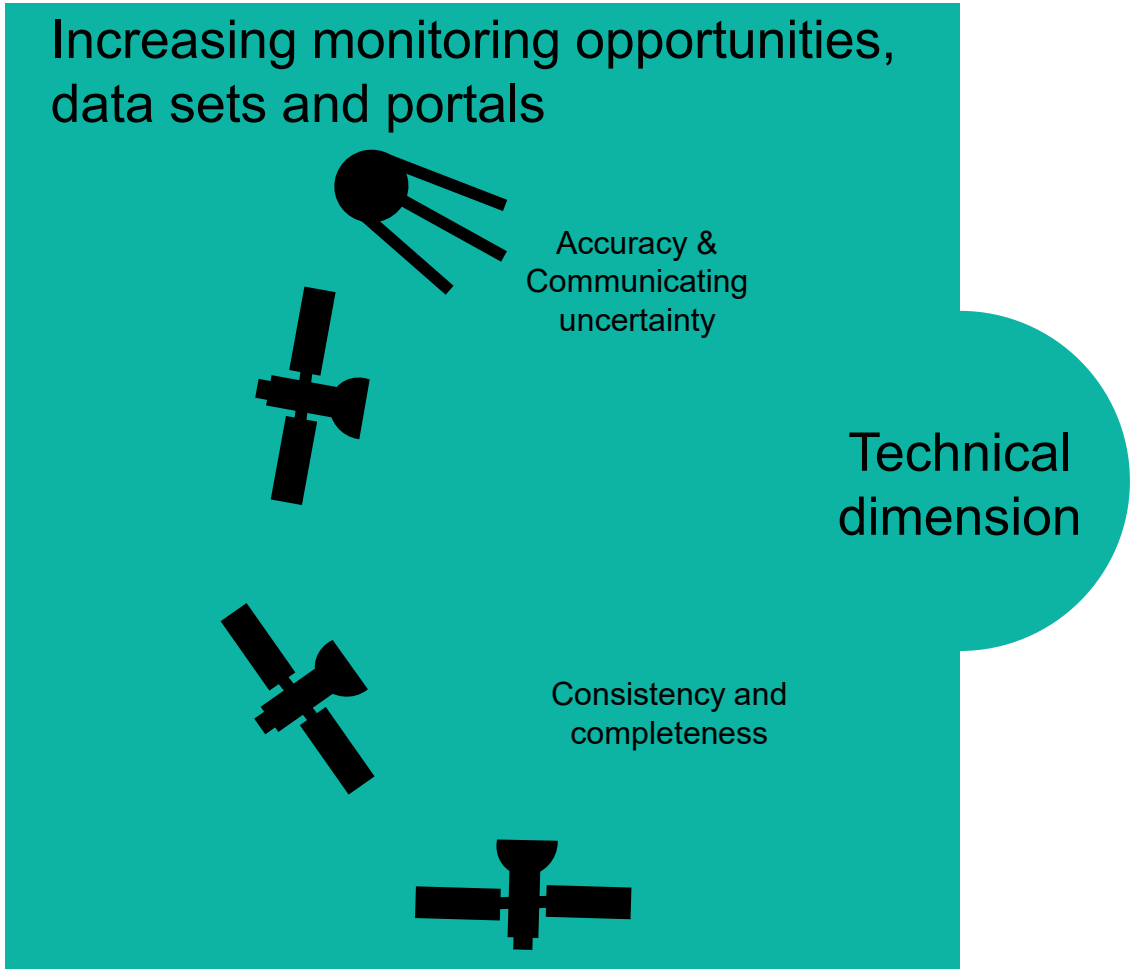


OPENFORIS

GFOI Global Forest Observations Initiative

OPEN MRV

REDDcompass

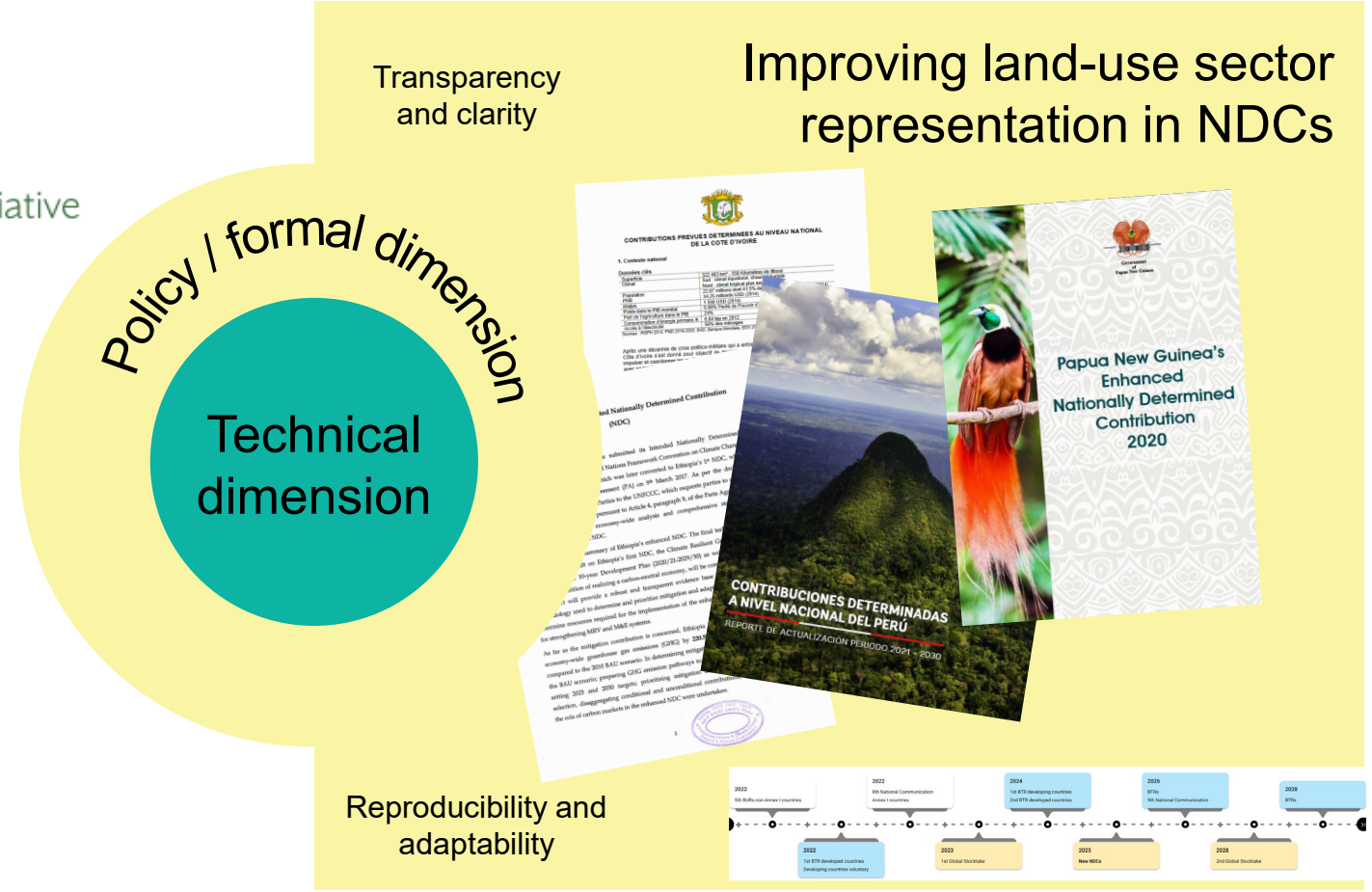
Dimensions of transparent monitoring in the land-use sector

GFOI Global Forest Observations Initiative

trase

moja global

REDDcompass



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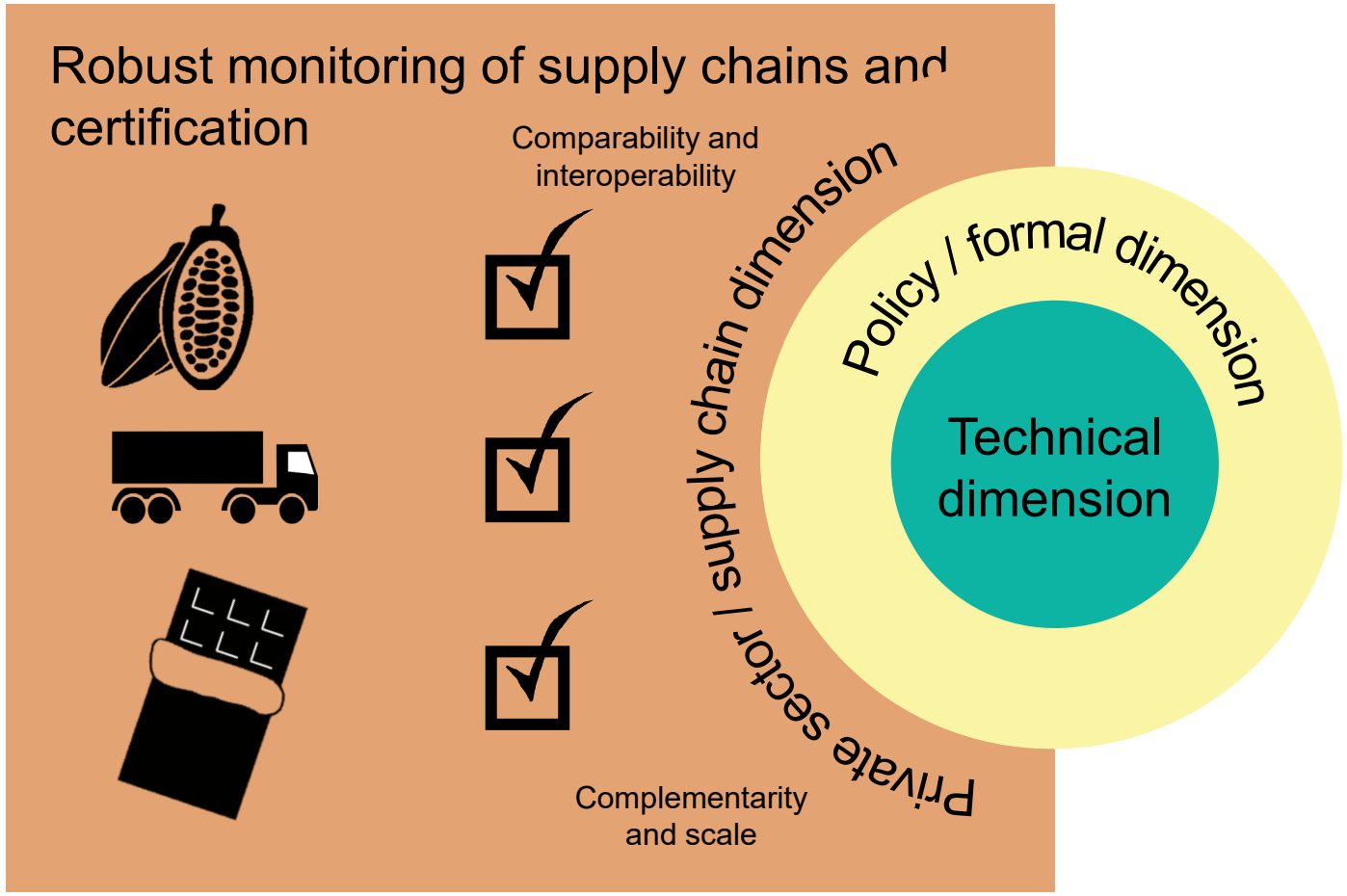

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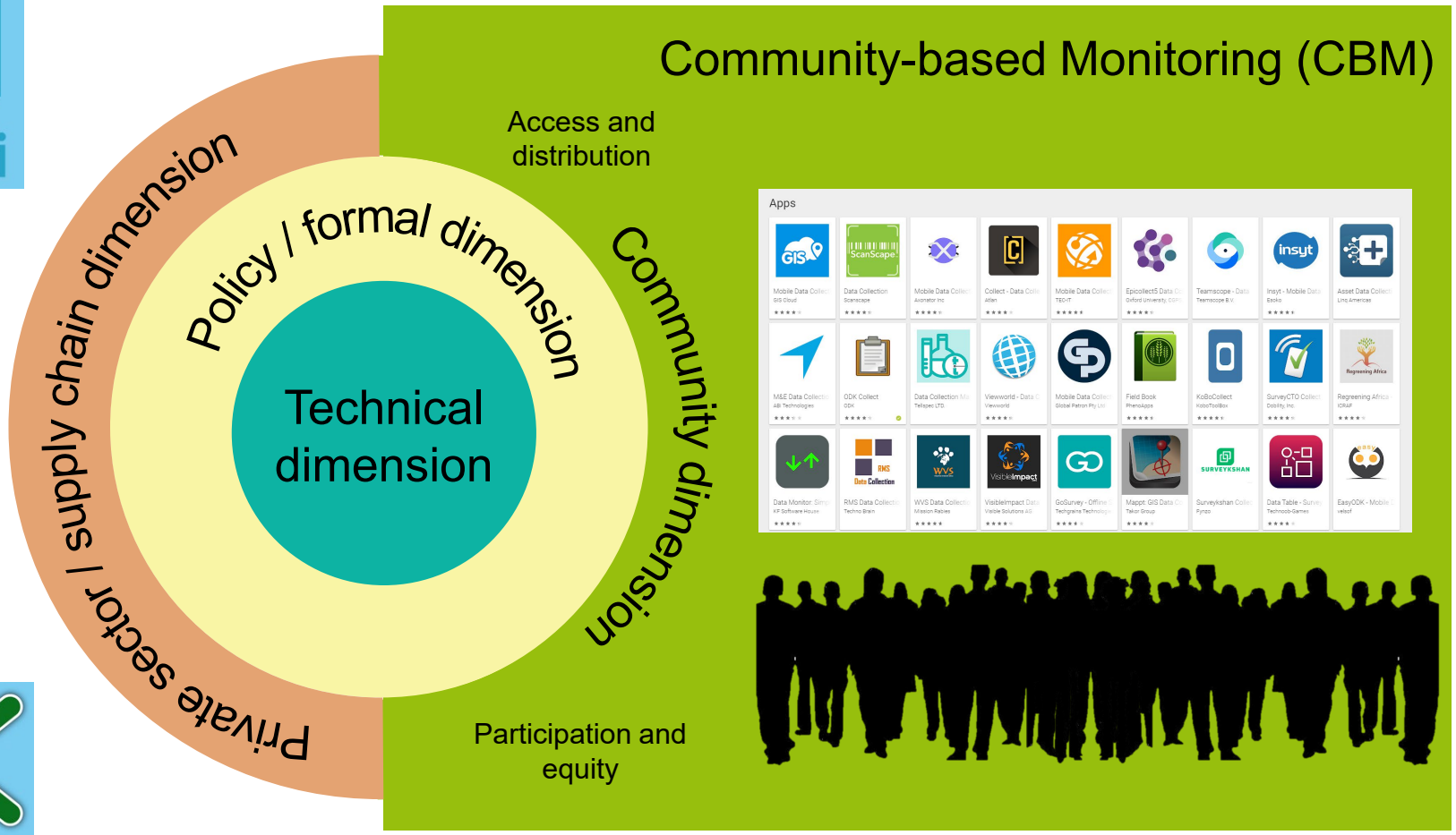
Chloris Geospatial

mundialis

Dimensions of transparent monitoring in the land-use sector



Towards increased transparency

Case study Peru

- Improved level of transparency in UNFCCC reporting in the country
- Developed higher Tier emission factors in land use sector and cost-efficient methods for GHG monitoring and accounting

Case study Côte d'Ivoire

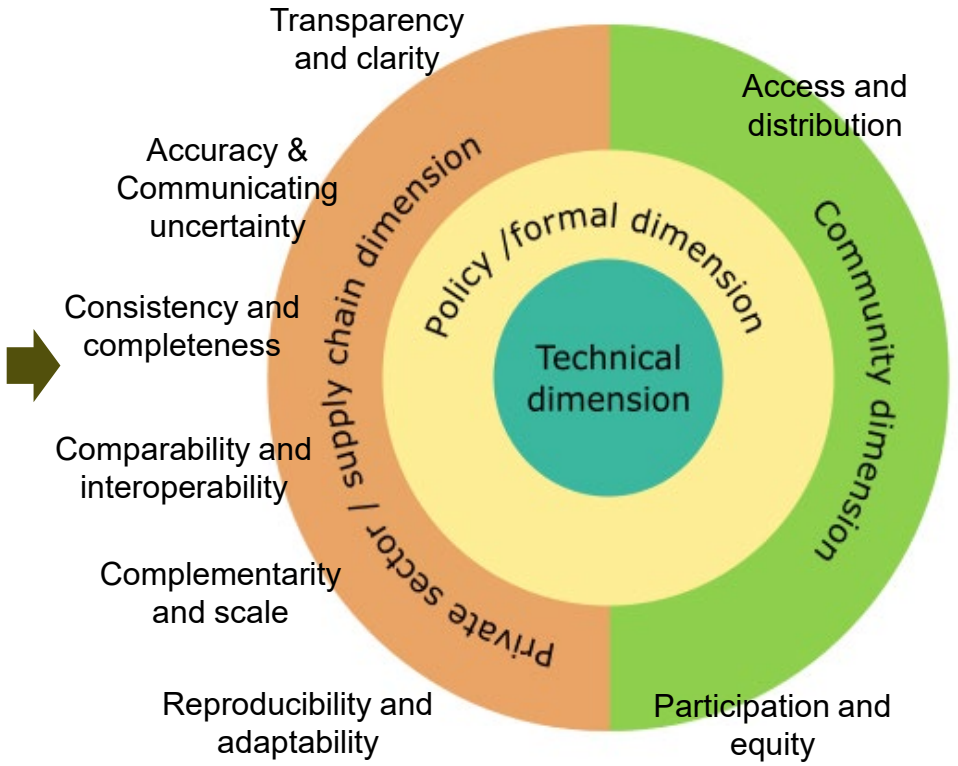
- Côte d'Ivoire is the world's largest producer of cocoa
- Engage with stakeholders in the region to improve transparency in the monitoring of cocoa driven deforestation

Case study Ethiopia

- Guidance on improving communities' participation in reporting activity data from forest restoration
- Using open access data to improve data sets for monitoring of drivers of deforestation using machine learning

Case study PNG

- Participation of indigenous peoples and local communities in MRV
- Prepare for UNFCCC review processes
- Actions to improve transparency in all the national system elements



- Responsibility
- Accountability
- Trust
- Legitimacy
- Scale

→ Land sector emissions reduced

→ Paris Agreement Trans-parency Framework supported

Activities

Impacts

Gaps and factors hindering transparency

Lack of information and data | Lack of access to information and data | Lack of confidence and trust

Working definition of transparent monitoring

Transparent monitoring: approaches for increased openness in climate change mitigation in the land use sector that

- improve processes related to data generation, reporting and sharing,
- assess and resolve uncertainties and potential discrepancies between data sets,
- support actors in accessing, planning, implementing, and evaluating climate action

leading towards building shared understanding, building trust, and facilitating collaboration across multiple levels of governance and actors.

Project aims and outputs

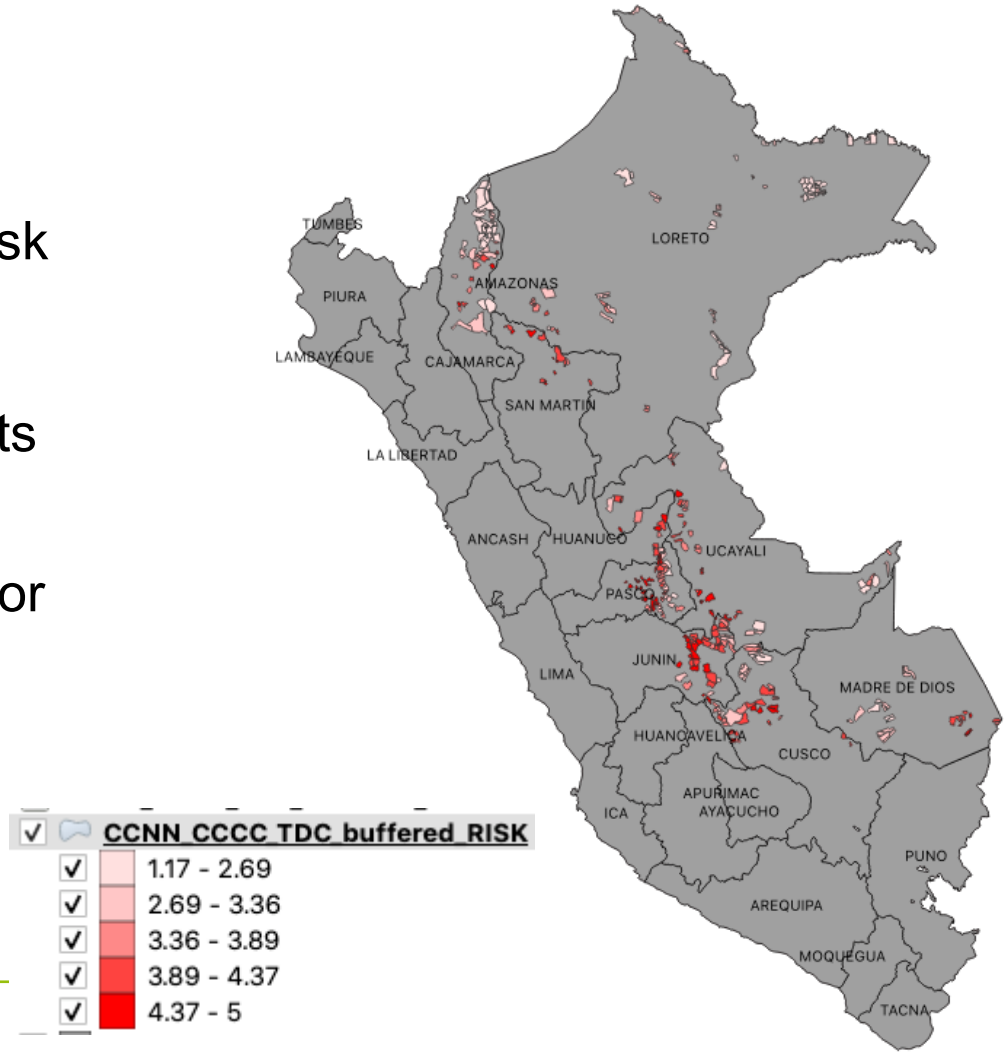
- Develop guidance and recommendations for transparent monitoring approaches in land use sector with participating countries
- Review available datasets, methodologies and tools for transparent monitoring approaches and identify gaps
- Pilot transparent monitoring approaches for land use sector mitigation in case studies with different stakeholders
- Identify opportunities identified for transparent monitoring in participating countries and develop strategies for implementing such approaches for national reporting

Peru: Aims of case study

- Improve level of transparency in UNFCCC reporting in the country (enabling conditions, near real-time monitoring)
- Develop higher Tier emission factors in land use sector and cost-efficient methods for GHG monitoring and accounting (focus on forest and oil palm plantation)

Peru: Expected results

- Research in 8 communities: interviews, experience with conservation, incentives, monitoring
- Database of communities with deforestation risk
- Mobile app for community monitoring
- Analysis of GHG emissions from soils in forests and oil palm plantations
- Analysis of community data: 9 best practices for improved Community Based Monitoring



Côte d‘Ivoire: Aim of case study

- Côte d'Ivoire is the world's largest producer of cocoa
- Engage with stakeholders in the region to improve transparency in the monitoring of cocoa driven deforestation

Source: Prince Lartey Lawson

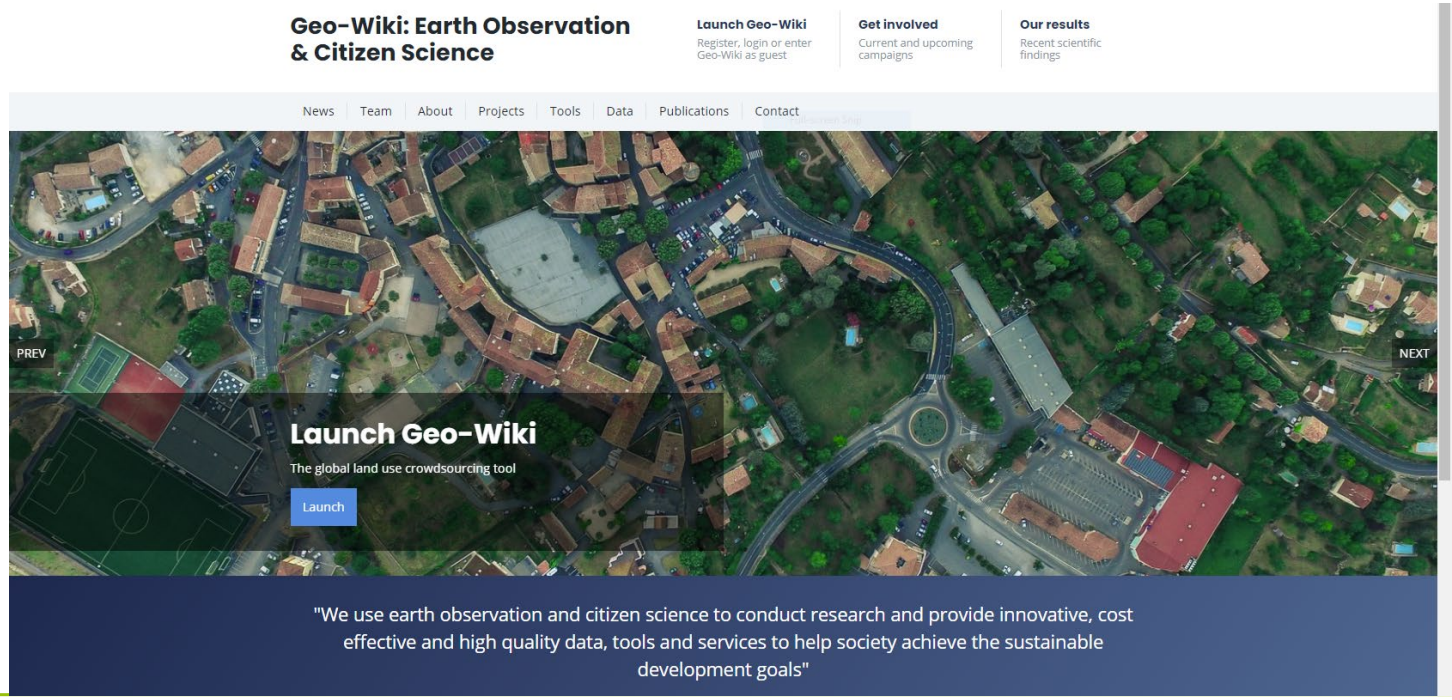
Côte d‘Ivoire: Expected results

Cocoa branch on Geowiki.org

Online tool for comparing and validating existing cocoa maps

Highlight and explain observed common ground and differences between maps

- National map
- IMAGES tool – Vivid Economics
- Satelligence
- ETH Zürich
- JRC/Uni Würzburg



Ethiopia: Aims of case study

- Guidance on improving communities' participation in reporting activity data from forest restoration
  - Motivation to participate in MRV for local communities
  - Data flow across governance levels
- Using open access data to improve data sets for monitoring of drivers of deforestation using machine learning

Ethiopia: Expected results

- Assessment of role of local stakeholders in restoration, reporting system in place and needs for improvements
- Identification and assessment of multi-level data actors involved in data flows for monitoring forest carbon and safeguards
- Improved methods and map of drivers of deforestation in Ethiopia [1)]

1) Masolele et al. 2022: “Using high-resolution imagery and deep learning to classify land-use following deforestation: a case study in Ethiopia” https://doi.org/10.1080/15481603.2022.2115619

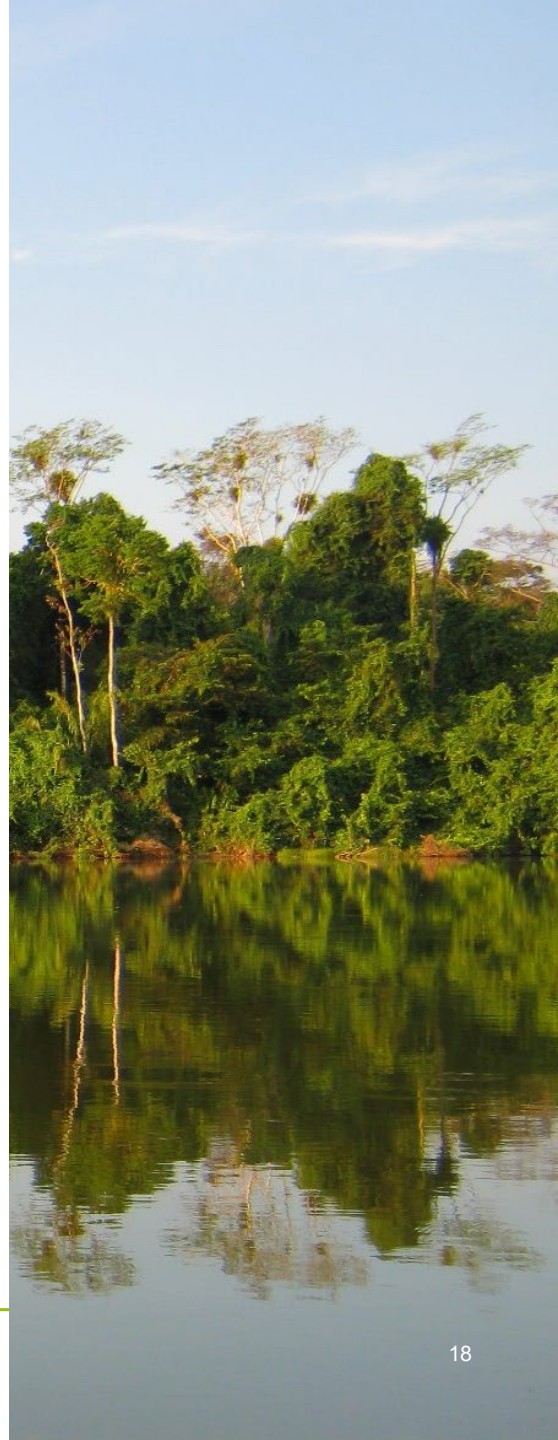
Workshop questions

1) How to bridge the gap and achieve consistency between global data, project level information, private sector initiatives and finally national GHG reporting under UNFCCC?

2) What advancements in monitoring technologies can be expected for the future and what do they mean for transparency at the community, company and national level?

Workshop agenda

10:30	**Transparent monitoring - Reporting, carbon accounting and earth observation** **•Earth observation and space borne sensors** **Frank Martin Seifert**, ESA: *The future of earth observation* **Gopika Suresh**, Unique: *Role of SAR in transparent MRV* **•Reporting and carbon accounting** **Giacomo Grassi**, JRC: *Harmonizing land-use fluxes from global models and national inventories* **Neha Hunka**, University of Maryland: *Harmonizing global forest maps for reporting* **Comment by Steve Leonard,** Rationale Advisors **Panel discussion**
13:00	Break (network lunch)
14:00	**Transparent monitoring - Turning data into information** **•Data into information for national reporting** **Robert Masolele**, Wageningen University: *Scaling up a machine learning for assessing land use change* **•Data into information for private sector, communities, and NGOs** **Douglas Bwire**, CIFOR: *Community led drone monitoring* **Asger Strange Olesen**, moja global: *UNFCCC consistent public and private Land Sector MRV* **Comment by Ruth Irlen,** BMUV Germany **Panel discussion**
16:00	Break and reflection
16:15	**Discussion**



What do you think?

1) Which challenges do you see ahead for transparent monitoring?

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What do you think?

1) Which challenges do you see ahead for transparent monitoring?

2) Which elements of transparent monitoring do you consider most relevant?

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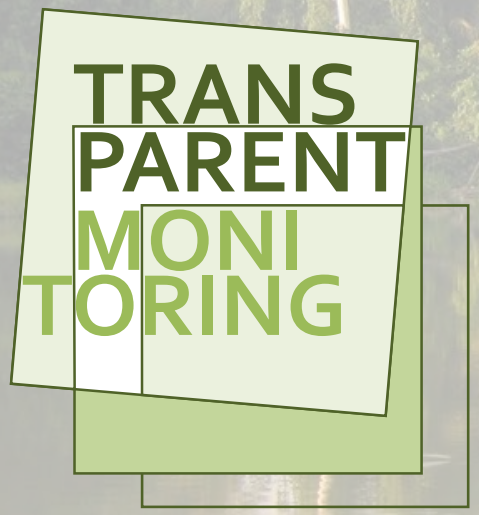
Reporting, carbon accounting and earth observation

The future of land monitoring – technologies, trends, transparency?



Break until 14:00

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Afternoon session

Transparent monitoring - Turning data into information

The future of land monitoring – technologies, trends, transparency?

TRANS PARENT MONI TORING

Short coffee break

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What do you think?

1) Which are the most promising trends for transparent monitoring?

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What do you think?

1) Which are the most promising trends for transparent monitoring?

2) Are there other trends that will shape transparent monitoring?

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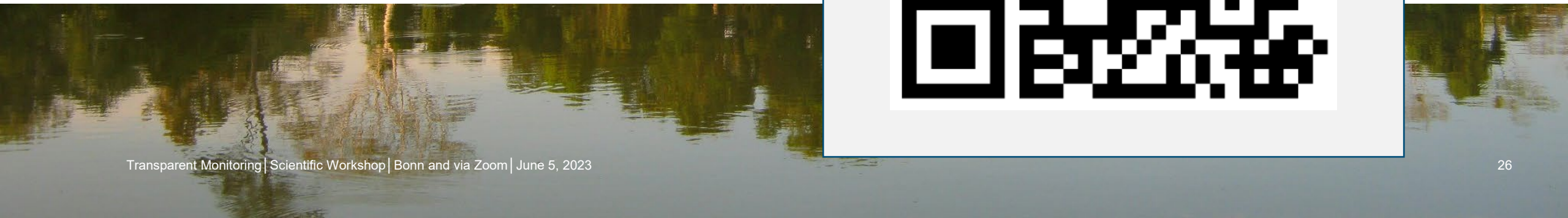

Discussion – gap or no gap?

- It seems there is **no data gap** (in the future)
- There are **capacity gaps** in countries (unfortunate that their role was underrepresented at the workshop)
- There are "**mind gaps**" with the experts in all bubbles (especially with the scientific community, limited motivation to engage with inventory world)
- There is a **funding gap** (despite many data being freely available, few donors)
- There is a **decision gap**, many other reasons in public sector not to adopt new technologies

Discussion – opportunities ahead

- IPCC guidance development
  - Get scientists to contribute data but also time to give feedback
  - Round table exercises: who is needed at the table to make a change?
- UNFCCC review process
  - 2025 will require many (new) review capacities
  - Need to win scientists for this role, how to increase motivation?
- Strict policies as drivers for change, e.g EU law on deforestation-free products
- Citizen science, “it is also a sensor”