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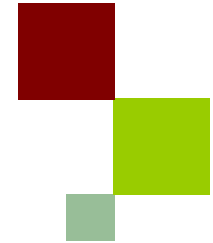
REDD+ projects and Geo-Information Technologies



Methodological requirements, stakes and limits

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Introduction



When and for which purpose(s) geo-information technologies are used?

- **Early uses...**

- To develop the project REDD+ strategy
- To assess forest carbon stocks
- To measure and analyze historical land use changes



Emissions baseline scenario



- **Post validation uses...**

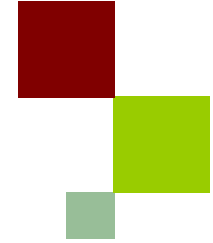
- To monitor and control project efficiency over the long term
- To adjust the project following contextual changes



Monitoring sessions and baseline adjustment



Presentation outline



- Development and monitoring of REDD+ Projects are submitted to specific requirements that should be seen in the perspective of constraints and limits.

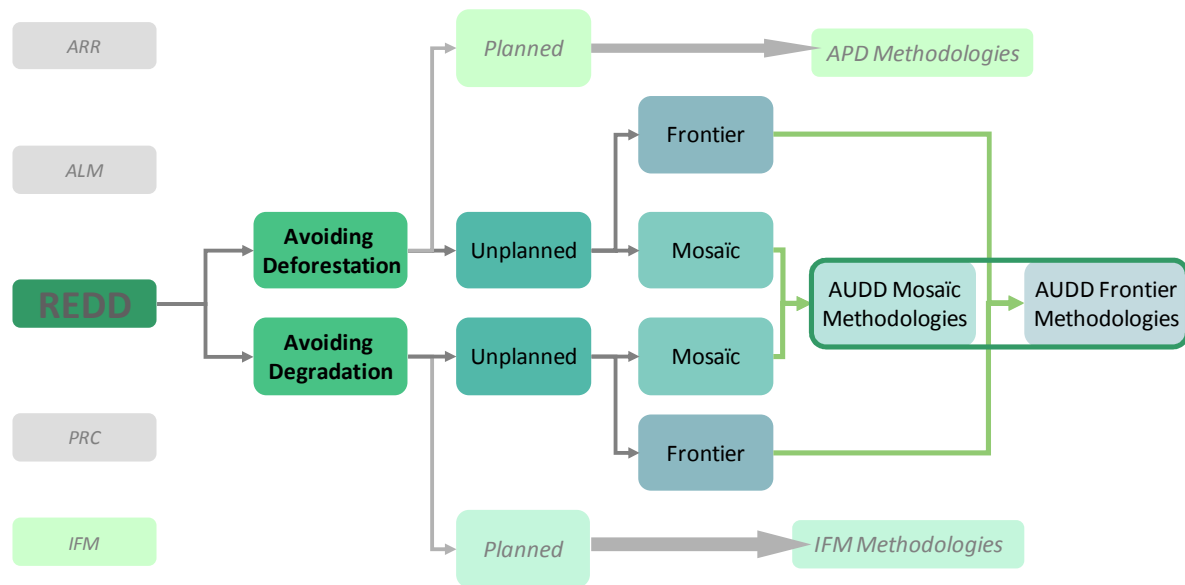
- **1. Methodological requirements**

- **2. Stakes and limits**

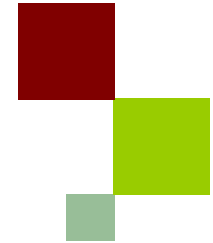
- Project sensibility to remote sensing data interpretation
 - Economical and chronological constrains
 - Strategic issue of scale articulation

REDD+ Methodologies (focus on VCS)

- Different methodologies depending on initial context and activities to be implemented
 - 10 validated methodologies (5 REDD and 5 IFM)
 - 4 under validation methodologies (3 REDD, 1 IFM)
 - 8 AFOLU non-REDD methodologies (1 AR, 7 SALM)



Methodological requirements



- Issues on which methodologies have specific requirements or criteria:

Type and nature of final products
Minimum Mapping Unit
Type and resolution of data sources
Number and years of data coverage
Level of accuracy
Frequency and years of post-validation monitoring

- Most of methodologies are based on similar approaches but different compliance criteria
 - Exception of methodology VM0009 – *Methodology for Avoided Mosaic Deforestation of Tropical Forests* (based on cumulative deforestation model)

VM00015

Methodology for Unplanned Deforestation



- *Methodology for Estimating Reductions of GHG Emissions from Unplanned Deforestation*
 - Scope: Mosaic and Frontier deforestation
 - Developer: BioCF / IDESAM / CDI/ FAS

Type and nature of final products

- A Forest Cover Benchmark Map
- A Land-Use and Land-Cover Map
 - Deforestation Map
- A Land-Use and Land-Cover Change Map
- A Land-Use and Land-Cover Change Matrix

Minimal Mapping Unit

- Equal or above the minimum area threshold used for “forest” definition (0.25 to 1.5 ha) but not above 5 times this value

Type and resolution of data sources

- Medium resolution data (10m*10m to 100m*100m)
 - Optical and non-optical sensor system
- High resolution data (<5m*5m) for field observations and ground-truth validation

VM00015

Methodology for Unplanned Deforestation



Number and years of data coverage (depending on context)

- Minimum 3 time points about 3-5 years apart
- Covering the past 10-15 years

Type and number of strata

- Forest / Non-Forest (required)
- Forest-land strata (if appropriate, depending on carbon densities)
- Non-Forest land strata (if appropriate)

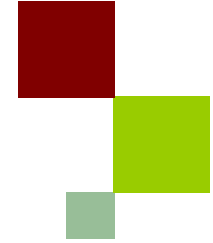
Level of accuracy for validation

- 80% for the Land-Use and Land Cover Map and Land-Use and Land-Cover Change Map
- 90% for the Forest Cover Benchmark Map

Frequency and years of post-validation monitoring (VCS recommendation)

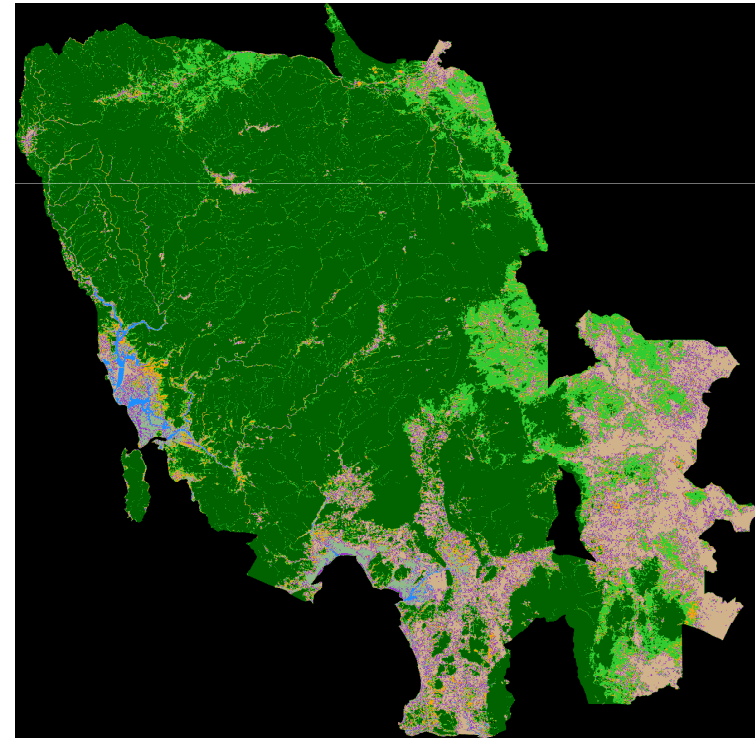
- Maximum every 5 years (recommended and linked to non-permanence buffer)

Example in Cambodia

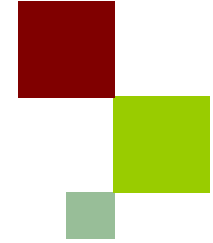


- Initially 9 strata (based on existing stratifications and field data):
 - Evergreen Forest
 - Deciduous Forest
 - Vegetation in Transition
 - Savannah woodland and scattered trees
 - Bare soil
 - Flooded forest
 - Mangrove
 - Water

- Necessity to merge strata in order to reach the 80% good validation



Presentation outline



- Development and monitoring of REDD+ Projects are submitted to specific requirements that should be seen in the perspective of constraints and limits.

- **1. Methodological requirements**

- **2. Stakes and Limits**

- Project sensibility to geo-informations
- Technical difficulties due to multi-temporal analysis
- Economical and chronological constrains
- Strategic issue of scale articulation

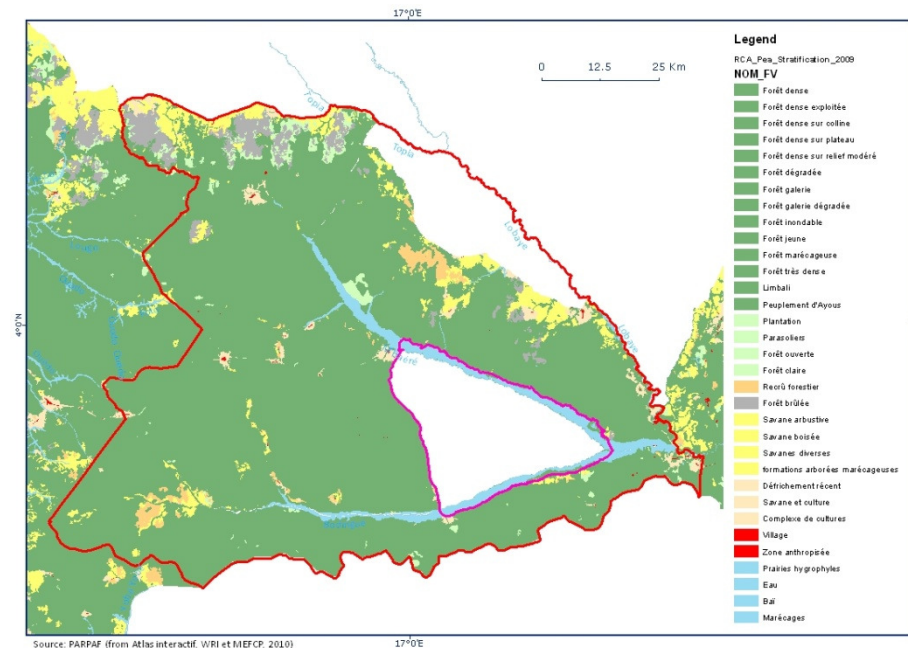
REDD+ Project sensibility to geo-information products



- Historical analysis of deforestation is impacting
 - Project additionality
 - Methodological choices
 - Financial feasibility
 - REDD+ strategy
- For most of VCS methodologies, liable estimates are not possible before final and validated LULC map / deforestation map / LULC and Change map
 - Risk of under or over estimate of deforestation (even based on historical estimates)
 - E.g. MMU impact

Economical and chronological issue

- Geo-information technologies provide informations that will help decision to be taken at all project stage
 - Identification / Opportunity
 - Feasibility
 - Monitoring
- E.g. Project in CAR (Ngotto Forest)
 - 1995-2000 data but no 2010 data
 - More than 30 strata
 - Natural regrowth and forest lost
 - Is it worth investing in REDD+ Project development (PDD)?
 - How threatened the area is?

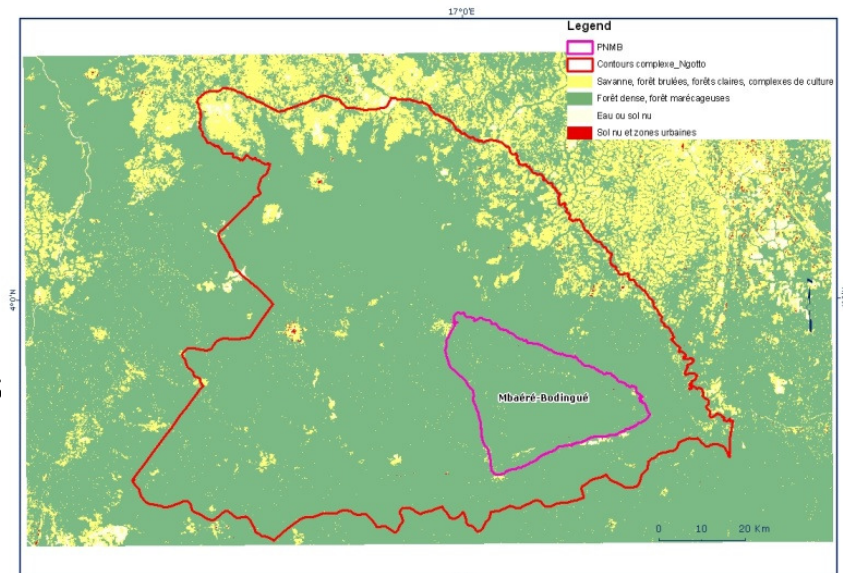


Economical and chronological issue

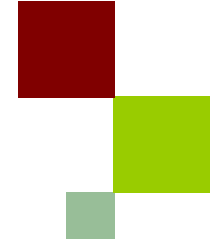
- Solutions and indicators in Geo-Information Technologies
 - Use of low resolution or non-optical data (ex: radar – problem of data availability over time)
 - Use of other methodologies (sampling)
 - Use of secondary data
 - ...

Problem of products that will not be usable for the PDD (methodological requirements)

- Simplification of products and expectations
- **Rely on indicators convergence**



Conclusion



- Need to compile approaches and methodologies and to encourage experience sharing
- Need to find a common comprehension of REDD+ (project developers, images and GI services providers, methodology writers...)
- ... and governments and international institutions

- Geo-Information Technologies are a must for REDD+ project development
 - Prior basis to help decision making
 - Tool to assess project aditionality
 - Tool to help scale articulation



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